



**BHARATI VIDYAPEETH
(DEEMED TO BE UNIVERSITY), PUNE**

**Faculty of Medical Sciences
Fellowships
New Syllabus**



**Bharati Vidyapeeth Deemed to be University,
Pune**

Faculty of Medical Sciences

Curriculum for Fellowships

Fellowship in Neonatology

Preamble:

- i. The current syllabus for postgraduates in Pediatrics gives insufficient exposure to the subject of Neonatology. They are therefore unable to meet the increasing demand for treating the newborns, with sufficient expertise or skill especially in semi urban and rural India. This results in increasing referral of critically ill or low weight Newborns to a tertiary care center in a city.
- ii. There is high mortality among Newborns. India's Neonatal mortality is one of the highest in the world. Majority of these deaths occur in rural India, due to lack of basic care and expertise.
- iii. There are very few centers in India, that provide an opportunity to learn Neonatal care of sufficient quality to enable pediatricians to practice Neonatology with confidence, in such a rural/semi urban setting.

Aims and objectives:

- i. The objective of this fellowship program is to provide an insight into both basic and advanced Neonatal care so as to equip the postgraduates in pediatrics with sufficient knowledge and skill to provide tertiary care in any peripheral center in India.
- ii. This fellowship will enable us to contribute to reducing the Neonatal mortality rate in India.
- iii. This will make us one of the few centers of its kind in India that provide such training and fellowship. It will also improve the quality of patient care and academics at both centers.
- iv. The reason for training at two distant centers in India is to enable the Fellow a learning experience in different clinical settings across India.
- v. The fellowship will provide a viable alternative to the current two-year course of DM (Neonatology), which is unavailable to the majority of postgraduates in pediatrics. It will emphasize on the same curriculum in a concise manner in the stipulated one-year period.
- vi. The faculty and infrastructure developed would pave the way for super specialty course of DM (Neonatology) at our centers in the near future.

Terms and conditions:

- i. The fellowship shall involve eligible teachers appointed by both organizations as faculty for the Department of Pediatrics, BVDU Medical College and Department of Neonatology, MOSC Medical College, Kolenchery- Kochi – 682311, Kerala.
- ii. Prof. K. K. Diwakar, HOD of Neonatology MOSC Medical College, Kochi will be the Director of this clinical fellowship program.
- iii. The faculty shall include individuals with sufficient post- MD or DNB (pediatrics) experience Neonatology (DM / overseas training/ long standing

experience in pure Neonatology as a teacher). The final deciding authority shall be the BVDU.

- iv. The training center at Department of Neonatology, MOSC Medical College shall be accredited by the members appointed by the Bharati Vidyapeeth Deemed University, Pune for recognition as a postgraduate fellowship-training center.
- v. **Any future collaboration with other national or international institute related with this fellowship shall be between that institute and BVDU and MOSC jointly.**
- vi. Six candidates shall be selected per year, which shall be done at BVDU Pune with representatives of BVDU & MOSC jointly comprising the panel of selectors. The selected candidates shall be sent to the specific centers for the 6 monthly rotation training.
*An exception to this procedure is being made from the year 2004 resulting in independent selection at the MOSCMCH medical college & at BVDU. **However MOSCMCH shall accommodate candidates selected by the BVDU subject to the availability of vacancy for the Fellowship at MOSCMCH medical college Hospital.**
- vii. The duration of this course is 12 months for MD / DNB candidates and duration will be 18 months for DCH candidates .
- viii. Of the total 12 months of this residential fellowship, six months shall be with the Department of Neonatology, BVDU Medical College, Pune 411043 and six months with the Department of Neonatology, MOSC Medical College, KOCHI – 682311 for MD / DNB Candidates

For DCH candidates from 18 months duration, nine months shall be with the Department of Pediatrics, BVDU Medical College, Pune 411043 and nine months with the Department of Neonatology, MOSC Medical College, KOCHI – 682311
- ix. The first term of this twinning at BVDU medical college will tentatively be from 15th September every year
- x. The period of shifting shall be after “6 or 9 months of scheduled training”.
- xi. The examination shall be held in the October every year.
- xii. Each candidate selected shall pay a course fee of rupees 60,000/- (MD/DNB candidate) or Rs.90,000/- (DCH candidate) payable to Bharati Vidyapeeth deemed university. **Stipend will be of Rs.30,000/- per month.** At the end of the year 50% of the fees shall be disbursed to Malankara Orthodox Surian Church Medical College, Kolenchery, Kochi - 682311, Kerala.
- xiii. The respective training center shall pay selected candidates a stipend of rupees 30,000/- per month for the stipulated six / nine months of training.
- xiv. Examination & evaluation Fees: As applicable.
- xv. Shared hostel accommodation shall be provided at free cost to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.

- xvi. This MOU is valid for a period of three years w.e.f _21.02.2004 and can be renewed by mutual consent on completion of the above mentioned period.

Eligibility:

- i. Candidates must have passed the MD(pediatrics)/DNB(pediatrics)/Postgraduate Diploma in Child Health from a MCI recognized institution/College of Physicians and surgeons Mumbai. Preference will be given to persons who have worked for at least 6 months after their post-graduation in a pediatric unit. Additional credit will be given to candidates who have worked in a Neonatal unit.
- ii. Age: Normally not over 30 years.

TRAINING PROGRAM:

AIMS:

- 1) Familiarize with neonatal resuscitation and general care of the newborn
- 2) Provide an exposure to neonatal care in outreach health centers
- 3) Introduction to advanced neonatal care.
- 4) Preparation of scientific papers in Neonatology.

The training period shall be continuous and simultaneous involving the following program. The entire academic program including the symposia shall be similar at both the centers. The one-year training shall be comprehensive and involve the following,

CLINICAL/PRACTICAL TRAINING;

- i. The trainee shall be included in the regular duty roster of the postgraduates posted to the NICU. This will include attending the normal deliveries and caesarean section... This will provide an exposure to basic neonatal care.
- ii. The training shall also include 1) Introduction to basic ventilator settings 2) interpretation of blood gases of ventilated infants. Procedures like arterial line Cannulation, ventricular tap etc. will be permitted, under supervision

THEORY:

Theoretical training shall be based on symposia and seminars in pure Neonatology. Once a week general Clinics in Neonatology will be conducted in the NICU. The trainee will be expected to present a seminar once a month. Topics for the seminars will be provided in advance. In addition to these, daily ward rounds will provide opportunities for clinical and theoretical discussions.

The detailed curriculum will be provided at beginning of the course.

Scientific Paper:

The trainee is expected to present at least ONE scientific paper in Neonatology at any of the state or national forum. **This will be considered a mandatory requirement for granting the certificate of training.**

Research credit will be jointly given to both centers.

Internal assessment:

Proposed Internal Assessment

Twenty percent of the total marks shall be for internal assessment which includes

Personal attributes*

Clinical skills and performance

Academic activity (journal club, seminars, case discussion)

*Availability, Sincerity and motivation, Diligence and performance, Inter-personal skills

Certification examination:

The trainee shall have to present himself for a Theory examination consisting of two papers of 100 marks each on day one followed by a practical and viva voce session to a constituted board, to be conducted at Bharati Vidyapeeth deemed university medical college. The constituted board would include one internal assessor from either of the center and one external assessor. The certificate would be granted after the SATISFACTORY completion of ONE year's training and examination.

Practical exam: OSCE pattern. And Viva Voce

Candidate would have to pass independently in both theory and practical to be eligible for certification.

The theory papers shall be for 3 hours each; comprising of 10 short notes of 10 marks each

Paper ONE: Basic neonatology, neonatal nursing, resuscitation, common neonatal problems (eg infectious diseases, jaundice, seizures, metabolic disturbances etc. postnatal management of these problems, community neonatology.

Paper TWO: Advanced neonatal care, Intensive care with an overview of neonatal organ systems eg, Neonatal nephrology, cardiology; Neonatal Ventilation; Recent advances.

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term.

Books and study materials: both centers shall extend all assistance regarding library facilities for preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows. They shall be as follows:

Textbooks in Neonatology (the minimum):

- i. Assisted Ventilation of the Newborn. Eds. Goldsmith JP, Karotin EH. Philadelphia, WB Saunders and Company, Latest Edition
- ii. Textbook of Neonatology. Ed. NRC Robertson. London, Churchill Livingstone, (latest edition)
- iii. Neonatology – Pathophysiology & Management of the newborn Eds. Avery GB, Fletcher MA, Macdonald MG. 4th edn. (Or later edition) JB Lippincott Company, Philadelphia

Journals:

- (a) Clinics in Perinatology
- (b) Archives of Diseases in Childhood (British Edition)
- (c) Journal of Perinatology (US publication)
- (d) Acta Paediatrica Scandinavia.

Specific parts of the books, when required can be photocopied and sent to the either center library.

The journals shall be circulated to MOSCMC library from the BVP library or vice versa on a regular basis not later than 2 months after receipt and the same shall be sent back to the respective library after a retaining period of not more than 2 months per journal. When required for research purposes 'back editions of journals' will be requested for and obtained as an inter-library transfer between the 2 institutions. The mailing cost shall be born by the sender.

**(23) Special arrangements for Clinical Fellows trained by faculty at cochin/
Faculty at BVDUMC exclusively *.**

Candidates (maximum one from each center per year) working under the guidance of at Cochin / Faculty at BVDUMC exclusively, for ONE year shall be permitted to appear for the BVP deemed university certification examination subject to the fulfillment of the following conditions

- (a) The candidate should have worked for a continuous period of not less than ONE year at the Department of Neonatology of the associate institution (MOSC Medical College Hospital/ BVDUMC) as Clinical Fellow under the guidance of at Cochin / Faculty at BVDUMC respectively.
- (b) On completion of the one year period, He / She should be certified as Satisfactory by the guide.
- (c) The Candidate should have paid the examination fees notified by the BVP deemed university.
- (d) The candidate shall attend the written examination and viva voce of the BVDU at his / her own expense at the time prescribed and notified by the university.

Since BVDU will be using their Share of academic fee toward payment of the faculty members at our center, MOSC Medical College, Kochi – 682311, Kerala will utilize its funds towards the same.

Fellowship in Pediatric Critical Care

1. The BHARATI VIDYAPEETH DEEMED UNIVERSITY, PUNE 411 043 will conduct this one-year certificate course.

This course will involve training of twelve months in Paediatric ICU

Preamble:

- i. The course is being started with the view to augment the exposure in the super specialty of Pediatrics i.e. Pediatric Critical Care.
- ii. This will facilitate hand on experience to the in-house faculty as well as Pediatricians from in and around Pune to improve the exposure in treating the critically ill children.
- iii. Certificate course will be utilizing mostly the infrastructural facilities which are available over and above the minimum requirements of MCI prescribed for teaching undergraduate and postgraduate diploma and degree course in pediatrics.
- iv. There is a high mortality among children under the age of five. India's Neonatal and under five mortality are amongst the highest in the world. Majority of these deaths occur in rural India, due to lack of basic care and expertise. Significant proportion of these can be prevented by training pediatricians to handle emergencies in any peripheral setup.
- v. There are very few centers in India, that provide an opportunity to learn Pediatric intensive care of sufficient quality to enable pediatricians to practice Critical Care Paediatrics with confidence, in such a rural/semi urban setting.

Aims and objectives:

- i. The objective of this certificate program is to provide an insight into Pediatric critical care so as to equip the postgraduates in pediatrics with enhanced knowledge and skill to provide expert care at any peripheral center in India.
- ii. This certificate course will enable us to contribute to reducing the Under Five mortality rate in India.
- iii. **This will make us one of the few centers of its kind in India that provide such training and certification.** It will also improve the quality of patient care and academics at our center.
- iv. The certificate course will provide a viable alternative to the fellowship program offered outside India, which is unavailable to the majority of postgraduates in Paediatrics. It will emphasize on the same curriculum in a concise manner in the stipulated one-year period.
- v. The faculty and infrastructure developed would pave the way for super specialty course of DNB paediatric critical care/Diploma in Pediatric Critical Care course of Indian Society of Paediatric Critical Care Medicine at our center in the near future.

Terms and conditions:

- i. The fellowship shall involve eligible teachers appointed by BVDU as faculty for the Department of Pediatrics, BVDU Medical College.
- ii. Professor and Head of Department of Pediatrics will be the Director of this Certificate program.

- iii. The faculty shall include individuals with sufficient post- MD or DNB (Pediatrics) experience in Paediatric Critical care (DM / overseas training/ long standing experience in Paediatric Critical care as a teacher). The final deciding authority shall be the BVDU.
- iv. **Three** candidates shall be selected per year, which shall be done at BVDU Pune with representatives of BVDU and the Faculty for teaching comprising the panel of selectors.
- v. The duration of this course is 12 months for MD / DNB candidates and duration will be of 18 months for DCH candidates. .
- vi. The first term of this will be from 15th September every year.
- vii. The examination shall be held in October every year.
- viii. Each candidate selected shall pay a fee of rupees 60,000/- (MD/DNB candidate) or Rs.90,000/- (DCH candidate) per year payable to Bharati Vidyapeeth deemed university. Stipend will be Rs.30,000/- per month.
- ix. Examination & evaluation fees : as applicable
- x. Shared hostel accommodation shall be provided at free cost to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.

Eligibility:

- i. Candidates must have passed the MD(pediatrics)/DNB(pediatrics)/Postgraduate Diploma in Child Health from a MCI recognized institution/College of Physicians and surgeons Mumbai. Preference will be given to persons who have worked for at least 6 months after their post-graduation in a pediatric unit. Additional credit will be given to candidates who have worked in a Pediatric critical care facility.
- ii. Age: Normally not over 30 years.

TRAINING PROGRAM:

AIMS:

- 1) Familiarize with paediatric resuscitation and care of seriously ill child
- 2) Introduction to advanced Paediatric care.

The training period shall be continuous and simultaneous involving the following program.

CLINICAL/PRACTICAL TRAINING;

- i. The trainee shall be included in the regular duty roster of the postgraduates posted to the PICU.. This will provide an exposure to basic and advanced pediatric intensive care.
- ii. Understand the principles of emergency medical services for children (EMS-C),
 - a. Describe the organization of emergency medical systems in the area, including:
 - Pre-hospital care. Rapidly assess urgent patients:
 - Recognize respiratory failure and/or shock.
 - Formulate a diagnosis quickly, especially with respect to conditions which may need respiratory or cardiovascular support or an immediate intervention (e.g., tension Pneumothorax, emergent cerebral edema, and cardiac tamponade).
 - Assist in evaluating and stabilizing a child with multiple trauma.
 - b. Establish and manage airway for infants, children, and teens.
 - Demonstrate proficiency in: Bag - valve - mask ventilation b) Nasal and oral airways c) Endotracheal intubation d) Mechanical ventilation
 - Explain indications and describe technique for and complications of a) Nasotracheal intubation b) Emergency cricothyrotomy
 - c. Identify priorities for vascular access, establish access, and perform fluid resuscitation. Demonstrate proficiency in:
 - a) Cannulation of peripheral veins b) Intraosseous needle insertion c) Umbilical vessel Cannulation
 - Explain indications and describe technique for:
 - Central venous access
 - Arterial access
 - d) Demonstrate proficiency at cardiopulmonary resuscitation:
 - Obtain certification as a provider of Pediatric Advanced Life Support.
 - Understand how to manage common illnesses and injuries presenting emergently.
 - e) Make a decision regarding discharge from the ED, admission, or transfer.
- iii. The training shall also include 1) Introduction to basic ventilator settings 2) interpretation of blood gases of ventilated infants. Procedures like arterial line Cannulation, ventricular tap, chest drain, peritoneal dialysis etc. will be permitted, under supervision.
- iv. Attending and managing emergencies like status asthmaticus and epilepticus, hypertensive crisis, renal and hepatocellular failure; septic, hypovolumic and cardiogenic shock, endocrine emergencies, poisonings and envenomation. Emphasis will be on resuscitation and stabilization

THEORY:

Theoretical training shall be based on symposia and seminars in Pediatric critical care. Once a week general Clinics in PICU will be conducted. The trainee will be expected to present a seminar once a month. Topics for the seminars will be provided in advance. In

addition to these, daily ward rounds will provide opportunities for clinical and theoretical discussions.

The detailed curriculum will be provided at beginning of the course.

EVALUATION AND EXAMINATION

ASSESSMENT METHODS

INTERNAL ASSESSMENT:

- Twenty percent of the total marks shall be for internal assessment which includes
Personal attributes*
Clinical skills and performance
Academic activity (journal club, seminars, case discussion)
**Availability, Sincerity and motivation, Diligence and performance, Inter-personal skills*
- The topics for academic activity will be given well in advance and the assessment will be done by the faculty at the end of the presentation.
- Assessment of the candidate for other attributes would be an on going process.
- All the help and advice required for the betterment of academic activity will be extended by the faculty.
- At the end of the term compilation of all the marks will be done as the marks for internal assessment.

CERTIFICATION EXAMINATION:

The trainee shall have to present himself for a Theory examination consisting of two papers followed by a Objective Structure Clinical Examination (OSCE) to be conducted at Bharati Vidyapeeth deemed university medical college. The constituted board would include one internal assessor and one external assessor. The certificate would be granted after the SATISFACTORY completion of ONE year's training and examination.

1.Paper One will cover topics in basic sciences as applied to Pediatric critical care

2.Paper Two will cover advanced Pediatric Critical care and recent advances

3.Practical exam will be Objectively Structured Clinical Exam pattern

Candidate would have to pass independently in both theory and practical to be eligible for certification.

Practical exam: OSCE pattern. And Viva Voce

Candidate would have to pass independently in both theory and practical to be eligible for certification.

The theory papers shall be for 3 hours each.

Comprising of 2 essay type questions of 25 marks each. : Descriptive pattern.
and 5 brief answer questions of 10 marks each with stress on analytical questions and deductive problems.

Paper ONE: Basic Sciences as applied to Pediatric critical care like nursing, resuscitation, common pediatric problems (eg infectious diseases, jaundice, seizures, fluid electrolyte balance, shock, toxicology, trauma, metabolic disturbances etc..

Paper TWO: Advanced pediatric care, Intensive care with an overview of organ systems eg, respiratory nephrology, cardiology; Ventilation and Recent advances.

Professional insurance: The candidate must possess a Professional insurance cover.

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term.

Books and study materials: BVDUMC shall extend all assistance regarding library facilities for preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the candidates . They shall be as follows:

Textbooks in paediatric critical care (the minimum):

- i. The ICU Book Paul Marino latest edition
- ii. Mechanical ventilation Tobin latest edition
- iii. Respiratory Physiology Nunn latest edition
- iv. Text book of nephrology Holliday& Barrat

Journals:

- a) Critical care medicine
- b) Paediatric critical care medicine
- c) Pediatrics
- d) Chest The American College of Chest Physicians

- (a) The candidate shall attend the written examination and viva voce of the BVDU at his / her own expense at the time prescribed and notified by the university.



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE,
PUNE**



**PEDIATRIC EPILEPSY-NEUROLOGY UNIT
DEPARTMENT OF PEDIATRICS**



**FELLOWSHIP IN PEDIATRIC EPILEPSY AND NEUROLOGY
2023-2024**

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BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of Deemed University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE, PUNE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 950 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric sub-specialty services viz. Epilepsy & Neurology, Hemato-oncology, Endocrinology, Neonatology, Pediatric Rheumatology, Pediatric Infectious Diseases, Pediatric Orthopedic, High risk newborn clinic etc. The Department runs post-doctoral certificate courses in Neonatology, Pediatric Critical Care, Epilepsy & Neurology, Endocrinology, Pediatric Hematology-Oncology, Pediatric Infectious Diseases, Development and Behavioral Pediatrics, Pediatric Genetics and Metabolic Disorders etc.

PEDIATRIC NEUROLOGY- EPILEPSY UNIT

The Pediatric Neurology- Epilepsy unit was established in 2004. The aim was to provide diagnostic and treatment modalities to children with seizures and other neurological disorders. Postgraduate courses in pediatrics fall short of capacity building in neurology and thus they do not have sufficient expertise in this field. Super-specialty courses available (DM Pediatric Neurology) are of three years duration and very few centers offer them.

Ours is one of the few centers in India to impart training in the field of Pediatric Neurology with a curriculum that covers the entire gamut of developmental, neurological and epileptic disorders in children. Video-EEG facility, Bedside EEG facility immensely help in evaluation and management of Status epilepticus and encephalopathic patients in PICU and NICU. Ketogenic Diet is being managed by trained dietician with rich experience. Under the umbrella of Bharati hospital, other services needed for such patients are provided in the same campus, including other co-specialties like Audiology and speech therapy, Child Guidance Clinic, Occupational and Physiotherapy, along with a dedicated social worker.

Since the clinic started, more than 7000 new patients have been registered. The faculties attached to the clinic have constantly endeavored to keep abreast with the latest knowledge and impart evidence based care to the children referred to us from all over Maharashtra. Every referred patient is thoroughly evaluated by detailed history taking, neurophysiological and neuroradiological (and if needed neurogenetic) evaluation followed by management offered at a very affordable price.

The unit also boasts of hosting several regional as well as national level pediatric neurology conferences / symposia on focused topics. The unit is also involved in several multicentre research projects at national and international level. Many of our projects have been published in reputed international peer reviewed journals, as well as have won awards for best papers at several national and International conferences. Thus, the unit boasts of strong foundation building in clinical care, academics and research aptitude amongst the students enrolling our fellowship programs.

The Neurology Chapter of **Indian Academy of Pediatrics** has accredited the unit to conduct the Fellowship in Pediatric Neurology from January 2013. Initially it was 1 year course, since 2017 onwards, the IAP Neurology Chapter has made it a 2 year course for better learning and completion of study projects, which was not possible in 1 year duration earlier. Twenty fellows have passed from the institute, all are doing well as child neurology practitioners, many of them have now occupied important positions in child neurology bodies of India.

DEPARTMENT OF PEDIATRICS

Dr. Sanjay K Lalwani, MD, DNB

Vice Principal,
Professor and Head

Dr. Vijay Kalrao, MD

Professor

PEDIATRIC NEUROLOGY UNIT FACULTY

Dr. Kavita Srivastava (GUIDE),

MD, Fellowship in Pediatric Epilepsy

Professor

Incharge & Co-ordinator Fellowship Program

Dr. Umesh Kalane,

DNB Pediatrics,

Fellowship in Clinical Neuro-physiology and Pediatric Neurology

Dr. Brig. Sankar Prasad Gorthi,

MD (Medicine), DM (Neurology)

Dr. Suyog Doshi,

MD (Medicine), DM (Neurology)

Aims and Objectives of the Fellowship Program

The duration of course shall be for a period of one year.

Program Goals: To train a postgraduate fellow in Pediatric Epilepsy and Neurology

- To practice as a Consultant in Pediatric Epilepsy and Neurology equipped with appropriate knowledge and skills necessary to care for the child with various types of acute and chronic seizure disorders.
- To practice Pediatric Epilepsy and Neurology in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- Understand how to diagnose and manage epileptic and neurological disorders, which generally do not need referral.
- Understand how to diagnose and initiate management of epileptic and neurological disorders which generally need referral.
- Understand the presentation and prognosis of various types of epilepsies and neurological disorders in children and adolescents.
- Understand the appropriate methods of diagnosis and management of a child with these disorders.
- Understand the indications and complications related to the use of various drugs.
- Understand the pediatrician's role in the prevention of neurological disorders.
- To gain an insight into various other overlapping neurological disorders
- Problems encountered in the management of epileptic and neurological disorders.

Program objectives

The objectives to be fulfilled at the completion of the course are:

Knowledge:

- ❑ Describe, identify and monitor normal patterns of development, which occur in the neonate, infant, child and the adolescent.
- ❑ Describe etio-pathogenesis, principles of clinical diagnosis, investigations and treatment of diseases of Nervous System in childhood.
- ❑ Demonstrate an understanding of Basic (Pre and Para clinical) Sciences and its application to the normal and abnormal processes, with reference to the nervous system in children.
- ❑ Analyze clinical and investigation data approach and manage the epileptic manifestations of the nervous system in children.
- ❑ Identify and understand socio-economic, environmental and cultural factors in healthcare in diseases of the nervous system in children.

Skills: Clinical

- ❑ Elicit an appropriate clinical history.
- ❑ Demonstrate appropriate clinical and physical and neurological examination skills on children to identify motor and mental age as well as co-morbidities requiring intervention.
- ❑ Plan, decide upon and interpret appropriate cost effective investigations.
- ❑ To be able to do an EEG independently along with interpretation for management of epileptic disorders, including neonatal, video and bedside EEG.
- ❑ To be able to do EMG, NCV, VEP independently along with interpretation for management of neuromuscular and vision disorders.

Skills: Technical

- **Electro-encephalography**, including Video-EEG, bedside EEG in NICU and PICU.
- **EMG, Nerve Conduction Velocities, BAER and VER**-knowledge & clinical correlation.
- Be able to do and interpret CSF examination, including advanced studies.
- Be able to interpret a Cranial USG, CT Scan, MRI Brain , etc
- A working knowledge of the various molecular and cytogenetic methods e.g., Genetics, PCR, Thrombo-philia profile, Metabolic workup etc. and its application to Epilepsy and Neurology.

Communication and Attitudes:

- Communicate appropriately with guardians and children, assisting in their health care and decision-making.
- Practice child health care at the highest ethical level, protecting the child at all costs.
- Apply the highest level of ethics in Research, publication Reference and Practice of Pediatrics.

LOGBOOK FOR
FELLOWSHIP IN
EPILEPSY and NEUROLOGY



BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

PUNE (INDIA)

Grade 'A' Accreditation by NAAC

Competency Framework for Sub-Specialty
Fellowship Training in Pediatric Epilepsy and Neurology
[Document valid until October 2024]

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

.....

4. Name of the Guide

5. Name of the Head of the Department

.....

Signature of the Candidate

Date.....

.....

Signature of the Guide

Date.....

.....

**Signature of the Head of the Department,
Department of Pediatrics,**

Bharati Vidyapeeth Deemed to be University Medical College, Pune

General Rules and Regulations

Eligibility:

- i. Candidates should be MD/ DNB (Pediatrics) with work experience in Pediatric Neurology
- ii. Age not over 35 years

Professional insurance: The candidate must possess a Professional insurance cover. Professional liability insurance coverage is the responsibility of the fellow, proof of which must be provided within one week of joining the course.

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination. The fellow is not permitted for any festival vacation.

Books and study materials: All assistance is available for library facilities e.g. preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows.

The books have been kept in the Neurology clinic itself for easy access and are available for reference on request and making the necessary entry in outward register. The fellows are expected to take due care of the reference textbooks or journals and return them in time. Few of the books are available in the Central library also.

Core Curriculum for Fellowship in Pediatric Epilepsy-Neurology

CURRICULUM STRUCTURE

1. **Basic Neurology:** Neuro-anatomy, Neuro-pathology, Neuro-pharmacology
2. **Neuro-Physiology:** EEG, EMG, NCV, Evoked Potentials.
3. **Clinical Neurology-** Epilepsy-EEG OPD, Inpatient, Critical Care, Speciality clinics like Child Guidance Clinic, Audiology, Speech Therapy, Ophthalmology, Rehabilitation Physiotherapy.
4. **Neuro-Diagnostics:** Lumbar puncture, Neuro-USG, CT Scan, MRI, MRA, MRS, Genetic, Metabolic, Thrombotic Profile, Nerve and muscle biopsy etc.

CURRICULUM CONTENT

I. Clinical Evaluation

1. General aspects of neurological history.
2. Neurological examination of neonate
3. Neurological examination of infant
4. Neurological examination of older child and adolescent

II. Lab Evaluation

1. Pediatric and Neonatal EEG and Evoked potentials
2. EMG, NCV
3. Spinal fluid examination

III. Disease Categories

1. Epilepsy in children:
 - Types of seizures
 - Causes of seizures
 - Neonatal seizures
 - Febrile seizures
 - Epileptic Syndromes at various ages
 - Approach to Management and counseling
 - EEG and Neuro-imaging
 - Role of other investigations
 - Pharmacologic treatment
 - Refractory epilepsy
 - Other modalities of treatment eg. Ketogenic diet
 - Non-epileptic equivalents
 - Status epilepticus
 - Genetics of epilepsy
 - Epidemiology of Epilepsy
- EEG :
 - Basics, Procedure, activation methods
 - In neonates at various gestational ages
 - In awake state and sleep in children
 - In partial and generalized epilepsies
 - In epileptic/ non-epileptic encephalopathies
 - In brain death

- Neurological disorders:
 - Mental Retardation
 - Speech and Language Disorders
 - Headache, including Migraine
 - Gait and Movement disorders
 - Cerebral Palsy
 - Congenital malformations of CNS
 - Genetic and chromosomal Disorders
 - HIE in newborn
 - Encephalopathy/ Coma
 - Increased intracranial tension
 - Inborn Errors of metabolism
 - Infections of the nervous system
 - Cerebro-vascular disorders
 - Traumatic Brain injury
 - Determination of brain death in children
 - Grey and white matter degeneration
 - Neuro-cutaneous syndromes
 - Learning Disabilities
 - Attention deficit Hyperactivity disorders
 - LMN disorders of clinical importance
 - Disorders of neuro-muscular junction
 - Principles of Rehabilitation
 - Neuro-surgery

Acquisition of practical competence is the keystone of fellow's medical education. The learning should essentially be self-directed and emanating from clinical and academic work.

A candidate has to cater to the hospitalized inpatient in the wards everyday besides looking after outpatients in the various OPDs like Epilepsy, Audiology, Physiotherapy and Child Guidance Clinic so that they develop a complete understanding of entire spectrum and natural course of the disorders .

The fellows will primarily be posted in Epilepsy –EEG OPD where the major part of learning will take place through clinical case discussions, didactic lectures, grand rounds, seminars, journal clubs etc. along with rotational postings in the other sub-specialties relevant to the field of Pediatric Epilepsy.

Continued emphasis on scholarship and learning is essential for development and maturation of the fellow into the field of child epilepsy. To optimize time, concurrent training agendas have been planned.

It is mandatory to use electronic data management systems, The trainee is expected to be conversant with the use of computer and network to enhance learning and storage and recovery of data. The early clinical assignments will be based on direct patient responsibility for a limited number of patients. Subsequent assignments will place the fellow in a position of taking increased responsibility for patients in a liaison relationship with the faculty staff. In case of extramural referral, the referring doctors should be communicated about the child's investigations and the tentative treatment plan.

Evaluation:

The theory examination will be held in October every year.

Final Evaluation would be based on:

Internal assessment (including logbook): 100 marks

Final Examination: Theory: 200 marks

Final Examination: Practical: 200 marks.

Final Examination: Theory: 200 marks

There shall be two papers of 100 marks each -

Paper-I: 100 marks:

Part I- Pediatric Epilepsy (50marks)

Part II- Pediatric EEG (25 marks)

Part III -Co-morbidities (25marks)

Paper-II: 100 marks:

Part I- Pediatric Neurology (50 marks)

Part II- Basic Sciences (25 marks)

Part III- Recent advances (25 marks)

Duration of examination: three hours for each theory paper.

Final Examination: Practical: 200 marks

Part I: Case presentations: 1 long case (40 marks) : 30 minutes

2 short cases (2 x 20 = 40 marks) : 15 minutes each.

4 OSCE (case scenarios,) (4x 5=20 marks): 5 minutes each.

4 spot diagnosis- (photos, EEG, MRI etc.): (4x5= 20 marks): 5 minutes each:

Part II: Procedures: To do him/herself:

(1) EEG Technique and interpretation: 20 marks

(2) EMG/NCV/VEP Technique and interpretation: 20 marks

Viva based on thesis: 20 marks

Viva based on diagnosis and management (External): 20 marks.

Log Book

During his / her training, the candidate should maintain the Log Book.

The purpose of the Log Book is to:

- a) Help to maintain a record of the work done during training.
- b) Enable the consultant to have first hand information about the work done and to intervene whenever necessary.
- c) Use it to assess the clinical experience gained periodically.

Records should include:

1. Recording of Pediatric, Bedside and neonatal EEG/ EMG/NCV/VEP done by him/her.
2. Supervised and independent interpretation of EEG/EMG/NCV/VEP done by him/her.
3. The diagnosis and classification of various epilepsies and epileptic syndromes and other neurological disorders with rational use of available therapies- the cases that are following up in the Pediatric epilepsy clinic on fixed days.
4. Case presentations (Epilepsy / Neurology), Grand rounds, Guest Lectures, Journal clubs and Seminars.
5. Duration and work done in postings in other specialties like Neuro-physiology (EMG-NCV), Audiology & Speech Pathology, Child Guidance Clinic, Neuro-Radiology, Neuro-anatomy etc.
7. Any CME/ workshop/ conference (related to the specialty) attended
8. Protocol writing, mid-term and final presentation on the assigned thesis or project work.

The entries in the Log Book should be made on a “daily basis” and should be signed by the faculty every month. Prior to the final examination the logbook should also have to be certified by the Head of the Department of Pediatrics.

Month – wise Distribution of Curriculum

October : **Orientation to the Epilepsy- Neurology clinic, EEG Basics**

November : **Neuro-anatomy lectures**

Allocation of thesis topic

Didactic lectures- EEG

Types of seizures in children

December-January: Posting in Audiology and Speech therapy

Neuro-Radiology

Types of epileptic syndromes in children

Case Discussions, Seminars

Classification of Epilepsy cases with

Supervised interpretation of EEGs (100/ month)

Performing independent EEG (5 Pediatric)

Performing and interpreting EMG/NCV/VEP.

February-March: Posting in Child Guidance Clinic

Case discussions, Seminars, Journal and Drug reviews

Classification of Epilepsy cases with

Supervised interpretation of EEGs (100/ month)

Performing independent EEG (4 Pediatric, 2 neonatal)

Performing and interpreting EMG/NCV/VEP.

April-May : Posting in Neuro-ophthalmology, Neurosurgery

Performing Independent EEGs (3 Pediatric, 2 neonatal,

2 bedside) along with independent interpretation

Mid-term Thesis presentation

Rest same as previous month

June-July: Posting in Neuro-rehabilitation (OT/PT/High risk Clinic)

August-September : Thesis submission, Compilation of data

1. The candidate is required to make e-folders (including history, investigations, photos/videos etc) for all interesting neurological patients.

2. He/she will have to contribute to data entry of the OPD, IPD patients on daily basis.

3. He/she will present cases of interest at Neuro-meets, Pune on every 3rd Saturdays of month.

Targets for the candidates:

1. Performing and interpret EEGs independently- Pediatric 18, Neonatal 6, Bedside 4
2. Able to perform EMG, NCV, VEP and interpret them independently.
3. Classifying and recording 1000 cases of seizures referred to the Epilepsy OPD 100/ month- both new and old cases)

Topics included in the Syllabus

(To be covered by didactic lectures followed by case discussions, seminars)

EEG Syllabus:

1. Technical basics – Amplifiers, Voltage, Time, Space, References, Filters, Electrodes, Localization principles, Montages, Artifacts, Activation procedures.
2. Normal EEG – 3 months to 3 years; Posterior dominant rhythm, Background, changes in drowsiness and various stages of sleep.
3. Normal Variants- Skull defects, posterior slow waves, etc.
4. Abnormal patterns- IRDA, Periodic waves, Coma patterns
5. Generalised epileptiform patterns, Focal epileptiform patterns
6. Epileptic encephalopathies, Brain death
7. Neonatal EEG at various gestational ages
8. How to read and report an EEG- Components of a report
9. Correlation of EEG findings with type of epilepsy.

Epilepsy Syllabus:

1. Types of seizures, Acute symptomatic seizures
2. Neonatal seizures
3. Febrile seizures
4. Epilepsies and epileptic syndromes at various ages
5. Approach to management and counseling
6. Role of investigations – EEG, Neuro-imaging, others
7. Pharmacologic therapy
8. Other modalities of therapy in refractory epilepsy
9. Non-epileptic equivalents
10. Status epilepticus
11. Epidemiology and genetics of epilepsy

Neurology Syllabus:

Exposure to the following specialties:

1. Audiology - including OAE, Audiometry, BERA and speech therapy
2. Child Guidance Clinic- DQ/IQ, identification and management of various behavioral disorders, learning disabilities, autism etc.
3. EMG/NCV/ VEP/ SSEP (neuro-physiology) –procedure and application
4. Principles of rehabilitation by OT/PT
5. Neuro-anatomy and Neuro-radiology(MRI,MRA, CT, DSA, MRS, PET)
6. Genetics –application to neurology

Neurological Disorders (covered through case discussions / seminars)

1. Mental retardation, Learning disabilities, ADHD, PDD
2. Gait and movement disorders
3. Cerebral palsy, Speech and language disorders
4. Headache, Migraine
5. Congenital malformations of brain and spine
6. Genetic and chromosomal disorders
7. Encephalopathy/ Coma, Increased Intracranial tension
8. Inborn errors of Metabolism
9. Infections of the nervous system
10. Cerebro-vascular disorders
11. HIE in newborn
12. Traumatic brain injury
13. Determination of brain death in children
14. Grey and white matter degeneration
15. Neuro-cutaneous Disorders
16. Floppy infant
17. Hydrocephalus

Grading and Evaluation of Performance- key indicators:

The grades will be entered by the guide every month for the following –

1. Level of Neurophysiology performance and reporting
2. Level of understanding of epilepsy and neurological disorders in children
3. Level of case discussions, Seminars, Journal and Drug reviews
4. Progress of thesis work

These grades will be entered in the prescribed format as given in the following pages.

Grading of Neurophysiology:

Date, Case number	Application of Electrodes	Artifacts Recognition	Settings & Recording	Activation	Report
1					
2					
3					
4					
5					
6					
7					

Grading of EEG Training (Reporting) levels

Level 1:

If the trainee has achieved the following goals –

- # Understand the physiological basis of EEG potentials and waveforms
- # Understand the technology of EEG recording
- # Aware of the ontogeny of EEG between infancy and adolescence
- # Able to interpret an EEG in the clinical context
- # Aware of the role and limitations of EEG in Epilepsy
- # Aware of normal and abnormal EEG

Level 2:

In addition to level 1, the trainee has achieved the following goals –

- # Able to read and interpret EEG studies in infants and children
- # Able to independently identify the various EEG phenomena mentioned
- # Able to report and interpret EEG findings in clinical context
- # Correctly localize focal epileptiform discharges and slow activity
- # Able to supervise a technician for a private practice

Level 3:

In addition to Level 2, the trainee has achieved the following goals –

- # Able to interpret Video – EEG studies
- # Able to interpret Bedside EEG studies
- # Able to interpret Neonatal EEGs according to the gestational age

Candidate's Report and Grading should be done monthly –

Total number of EEGs reported (S if supervised, I if independent)

Total number of EEGs performed (S if supervised, I if independent)

Finally, the breakup of the types of EEG done, including:

Video EEG

Neonatal EEG

Bedside EEG

Target:

Total EEGs to be performed- 25: (Neonatal-6, Bedside-4)

Total EEGs to be reported -1000 (old plus new cases) along with the classification of the cases.

Classification of the cases of Epilepsy (1000 cases):

These include the ongoing as well as old cases of seizures referred for evaluation. The cases should be evaluated and recorded in a register. This register should be checked by the guide weekly and graded monthly. The register entries should be made in the following format-

1. EEG Number
2. Name of the patient
3. Age
4. Sex
5. Onset of seizures since what age
6. Exact seizure semiology
7. Full seizure history along with treatment taken
8. Perinatal history
9. Developmental history
10. Family history
11. EEG findings (to interpret under supervision initially)
12. Neuro-imaging findings (if any)
13. Any other investigations
14. Axis 1: Type of seizure
15. Axis 2: Type of epilepsy
16. Axis 3: Type of epileptic syndrome
17. Axis 4: Etiology
18. Axis 5: Co-morbidities
19. Management Strategy

The grading will be done on the basis of following - (monthly)

Level 1: Understanding of the types and cause of seizures and epilepsy

Level 2: Understanding of the epileptic syndrome and **etiology**, to be aware of the natural course of the various types of syndromes.

Level 3: Application of the above knowledge to solve clinical problems of epilepsies, forming rational management strategies, management of co-morbidities, ability to counsel regarding the course and problems encountered in treatment of epilepsy

Level 4: Ability to prognosticate, manage Epileptic encephalopathies and manage refractory and difficult to treat cases in epilepsy.

Grading of EEG Reporting and Classification of Epilepsy cases

(Monthly grading on the basis of entries made by the candidate in the register) - 100 cases to be evaluated per month: total 1000 cases.

Date of assessment	Number of EEGs reported	Average level of EEG reporting	Number of Cases of epilepsy classified	Average level of understanding of epilepsy
Oct 2023				
Nov 2023				
Dec 2023				
Jan 2024				
Feb 2024				
Mar 2024				
Apr 2024				
May 2024				
Jun 2024				
Jul 2024				
Aug 2024				
Sept 2024				

Grading of Progress of Thesis Work

(Monthly after allocation of thesis topic)

Grades: Satisfactory, Unsatisfactory.

Date of review	Progress	Level of work
Oct 2023	Allocation of thesis topic	-
Nov 2023		
Dec 2023		
Jan 2024		
Feb 2024	Mid-term presentation	
Mar 2024		
Apr 2024		
May 2024		
Jun 2024		
Jul 2024	Submission of thesis	
Aug 2024		
Sept 2024		

Postings in Co-specialties:

Neuro-anatomy

Neuro-Radiology

Audiology & Speech therapy

Child Development and Guidance

Child Psychiatry

Pediatric Genetics

EMG/ NCV /VEP Clinic

Rehabilitation / High Risk Clinic

Neuro-ophthalmology

Neuro-surgery

Other Co-specialty Guest lectures

Date	Topic	Faculty
	Neuro-endocrine	
	Hemato-oncology	
	Genetics	
	Nuclear medicine	

Evaluation Form : Seminar

	1.	2.	3.
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Evaluation Form : Seminar

	4.	5.	6.
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Evaluation Form : Seminar

	7.	8.	9.
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Evaluation Form : Seminar

	10	11.	12.
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Evaluation Form : Seminar

	13	14	15
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Evaluation Form: Seminar

	16	17	18
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Case Presentation

1.

2.

3.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Case Presentation

4

5.

6.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Case Presentation

7

8.

9.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Case Presentation

10

11.

12.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Case Presentation

13

14.

15.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Case Presentation

16

17.

18.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Journal Club

1.

2.

3.

Date			
Article presented			
Choice of article relevant			
Cogency of presentation			
Whether understood and conveyed the purpose of the article			
How did he / she defend article			
Whether cross references have seen consulted			
Understood explained basics of statistic in article			
Whether relevant information mentioned from other similar articles			
Use of audio visual aids			
Presentation			
Response to questioning			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Journal Club

4.

5.

6.

Date			
Article presented			
Choice of article relevant			
Cogency of presentation			
Whether understood and conveyed the purpose of the article			
How did he / she defend article			
Whether cross references have seen consulted			
Understood explained basics of statistic in article			
Whether relevant information mentioned from other similar articles			
Use of audio visual aids			
Presentation			
Response to questioning			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Clinical Work Quarterly review (01 Oct 2023 to 31 Dec 2023)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:
12. Knowledge of Epilpesy & EEG as a subject:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Clinical Work Quarterly review (01 Jan 2024 – 31 March 2024)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:
12. Knowledge of Epilepsy & EEG as a subject:

Guidance for Scoring	0	1	2	3	4

	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Clinical Work Quarterly review (01 April 2024 – 30 June 2024)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:
12. Knowledge of Epilepsy & EEG as a subject:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Clinical Work Quarterly review (01 July 2024 – 04 October 2024)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:
12. Knowledge of Epilepsy & EEG as a subject:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Overall Grading at the end of the Term:

1. Level of Neurophysiology Performance-

.....

2. Level of Neurophysiology

Reporting.....

3. Understanding of childhood neurological disorders

4. Understanding of co-specialties

5. Academic presentations.....

6. Personal attributes (sincerity, commitment etc.).....

7. Thesis work.....

Signatures:

.....

Dr. Kavita Srivastava (GUIDE),

MD, Fellowship in Pediatric Epilepsy

Professor

Coordinator Fellowship Program

.....

Dr. (Prof.) Sanjay K Lalwani

Vice Principal

Medical Director

Professor -Department of Pediatrics

.....

**CERTIFICATE COURSE IN
DUAL FELLOWSHIP IN
NEONATOLOGY AND PEDIATRIC CRITICAL CARE**

1. The BHARATI VIDYAPEETH DEEMED UNIVERSITY, PUNE 411043 will conduct this one and half year (18 months) certificate course in Dual Fellowship in Neonatology and Pediatric Critical Care.
2. This course will involve training of nine months in Neonatal ICU and nine months in Pediatric ICU.

Preamble:

- i) There is high mortality among Newborns and children under the age of five. India's Neonatal and under five mortality is one of the highest in the world. Majority of these deaths occur in rural India, due to lack of basic care and expertise. Significant proportions of these deaths can be prevented by training pediatricians to handle emergencies in any peripheral set up.
- ii) There are very few centers in India that provide an opportunity to learn Pediatric and Neonatal Intensive Care of sufficient quality to enable pediatricians to practice Critical Care Pediatrics with confidence in such a rural/urban setting.
- iii) The course is being started with a view to augment the exposure in the subspecialty of Pediatrics i.e. Neonatology and Pediatric Critical Care.
- iv) This will facilitate hand on experience to the in-house faculty as well as opportunity for the pediatricians all around the country to improve the exposure in treating the critical ill children.
- v) Certificate course will be utilizing mostly the infrastructural facilities which are available over and above minimum requirements of M.C.I. prescribed for teaching undergraduate and postgraduate diploma and degree course in pediatrics.

Aims and objectives:

1. The objective of this certificate program is to provide an insight into both Pediatric and Neonatal Critical Care so as to equip the postgraduates in pediatrics with enhanced knowledge and skill to provide expert care at any peripheral center in India.
2. This certificate course will enable us to contribute to reducing the Neonatal and under five mortality rate in India.
3. This will make us first center of its kind in India that provides such training and certification. It will also improve the quality of patient care and academics at our center.
4. The certificate course will provide a viable alternative to the fellowship program offered outside India, which is unavailable to the majority of postgraduates in Pediatrics. It will emphasize on the same curriculum in a concise manner in the stipulated one and half years.

5. The faculty and infrastructure developed would pave the way for super-specialty course of DM (Neonatology) / DNB Pediatric Critical Care / Diploma in Pediatric Critical Care course of Indian Society of Pediatric Critical Care Medicine at our center in the near future.

Terms and Conditions:

1. The fellowship shall involve eligible teachers appointed by BVDU as faculty for the Department of Pediatrics, BVDU Medical College, Pune
2. Professor and Head of Department of Pediatrics will be the Director of this Certificate Course.
3. The faculty shall include individuals with sufficient post – MD or DNB (Pediatrics) experience in Pediatric Critical Care and / or Neonatology (DM / overseas training / long standing experience in pure Neonatology / Pediatric Critical Care as a teacher). The final deciding authority shall be the BVDU.
4. **Six candidates shall be selected per year**, which shall be done at BVDU Pune with representatives of BVDU and the Faculty for teaching comprising the panel of selectors. The selected candidates shall rotate for nine months each in the Neonatal and Pediatric Intensive Care units.
5. The duration of this course is 18 months.
6. The first term if this will begin from 01st January 2014 for the first year of the certificate course.
7. The period of shifting from NICU to PICU and vice versa shall be after 09 months of scheduled training.
8. The examination shall be held in the July / august 2015
9. Each of the six candidates selected shall pay a fees of Rs.30,000/- (Rupees Thirty Thousand Only) per term payable to Bharati Vidyapeeth Deemed University. The Bharati Vidyapeeth Deemed University shall pay selected candidates a stipend of Rs.22,000/- (Rupees Twenty Two Thousand Only) per month for the stipulated eighteen months training.
10. For in-service faculty enrolled for the fellowship, he /she will not be required to pay fellowship course fees but will pay the examination fees.
11. Examination and evaluation fees: As per university norms
12. A single status free hostel accommodation shall be provided to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.

Eligibility:

1. Candidates must have passed the MD (Pediatrics) / DNB (Pediatrics) / Postgraduate Diploma in Child Health from a MCI recognized institution / college of Physicians and surgeons, Mumbai. Preference will be given to persons who have worked for at least 6 months after their post-graduation in a PICU/NICU. Additional credit will be given to candidates who have worked in a Neonatal unit or Pediatric Critical care facility.
2. Age: Normally not over 30years.

TRAINING PROGRAM:

AIMS:

1. Familiarize with neonatal and pediatric resuscitation and general care of the newborn
2. Introduction to advanced Neonatal and Pediatric Care

The training period shall be continuous and simultaneous involving the following program.

Clinical / practical training:

1. The trainee shall be included in the regular duty roster of the postgraduates posted to the NICU and PICU. This will include attending the normal deliveries and caesarean section. This will provide an exposure to basic and advanced neonatal and pediatric intensive care.
2. Understand the principles of emergency medical services for children (EMS-C),
 - a. Describe the organization of emergency medical systems in the area including:
 - i. Pre-hospital care, Rapidly assess urgent patients:
 - ii. Recognize respiratory failure and/or shock
 - iii. Formulate a diagnosis quickly, especially with respect to conditions which may need respiratory or cardiovascular support or an immediate intervention (e.g. tension Pneumothorax, emergent cerebral edema and cardiac tamponade).
 - iv. Assist in evaluation and stabilizing a child with multiple traumas.
 - b. Establish and manage airway for infants, children and teens.
Demonstrate proficiency in:
 - a. Bag – valve – mask ventilation
 - b. Nasal and oral airways
 - c. Endotracheal intubation
 - d. Mechanical ventilation
 - e. Explain indications and describe technique for and complications of
 - i. Nasotracheal intubation
 - ii. Emergency cricothyrotomy
 - iii. Identify priorities for vascular access establish access and perform fluid resuscitation, Demonstrate proficiency in:
 - 1) Cannulation of peripheral veins
 - 2) Intraosseous needle insertion
 - 3) Umbilical vessel Cannulation Explain indications and describe technique for:
Central venous access
Arterial access
 - 4) Demonstrate proficiency at cardiopulmonary resuscitation:
Obtain certification as a provider of Pediatric Advanced Life Support.
Understand how to manage common illness and injuries presenting emergently.
 - 5) Make a decision regarding discharge from the ED, admission or transfer.

3. The training shall also include
 - a. Introduction to basic ventilator settings
 - b. Interpretation of blood gases of ventilated infants, Procedures like arterial line Cannulation, ventricular tap, chest drain, peritoneal dialysis etc. will be permitted under supervision.
4. Attending and managing emergencies like status asthmaticus and epilepticus, hypertensive crisis, renal and hepatocellular failure: septic, hypovolumic and cardiogenic shock, endocrine emergencies, poisonings and envenomation. Emphasis will be on resuscitation and stabilization

Theory:

Theoretical training shall be based on symposia and seminars in pure Neonatology and Pediatric critical care. Twice a week general Clinics in Neonatology/PICU will be conducted. The trainee will be expected to present a seminar once a month. Topics for the seminars will be provided in advance. In addition to these, daily ward rounds will provide opportunities for clinical and theoretical discussions.

The detailed curriculum will be provided at beginning of the course.

Internal assessment:

Proposed Internal Assessment

Twenty percent of the total marks shall be for internal assessment which includes personal attributes *

Clinical skills and performance

Academic activity (journal club, seminars, case discussion)

*Availability, Sincerity and motivation, Diligence and performance, Inter-personal skills

Certification examination:

The trainee shall have to present himself for a Theory examination consisting of two papers of 100 marks each on day one followed by a practical and viva voce & OSCE session to a constituted board, to be conducted at Bharati Vidyapeeth Deemed University Medical College (BVDUMC), Pune. The constituted board would include one internal assessor from BVDUMC, Pune and one external assessor. The certificate would be granted after the **SATISFACTORY** completion on one and half years training and examination

Practical Exam: OSCE pattern and Viva Voce

Candidate would have to pass independently in both theory and practical to be eligible for certification.

The theory papers shall be for 03 hours each
100 marks with 10 short notes

Paper ONE: Basic neonatology and neonatal nursing, resuscitation, common neonatal and pediatric problems (e.g. infectious disease, jaundice, seizures, fluid electrolyte balance, shock, toxicology, trauma, metabolic disturbances etc. community neonatology.)

Paper TWO: Advanced neonatal and pediatric care, Intensive Care with an overview of organ systems e.g. respiratory, nephrology, cardiology, Ventilation, Recent advances

Vicarious responsibilities of the institution: the candidate shall abide by the regulation and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 07 days of paid leave every term.

Book and study materials: BVDUMC shall extend all assistance regarding library facilities for preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the candidates. They shall be as follows:

Textbooks in Neonatology (the minimum)

1. Assisted Ventilation of the Newborn. Eds. Goldsmith JP, Karotin EH. Philadelphia, WB Saunders and Company latest Edition
2. Textbook of Neonatology, Ed.NRC Robertson, London Churchill Livingstone (latest Edition)
3. Neonatology – Pathophysiology and Management of the newborn Eds. Avery GB, Fletcher MA, Macdonald MG 4th edition (or late edition) JB Lippincott Company, Philadelphia

Journals:

- (a) Clinics of Perinatology
- (b) Archives of Diseases in Childhood (British Edition)
- (c) Journal of Perinatology (US publication)
- (d) Acta Paediatrica Scandinavia

Textbooks in Pediatric Critical Care (the minimum)

- (i) Roger's textbok of Pediatric Critical Care
- (ii) The ICU Book Paul Marino latest edition
- (iii) Mechanical ventilation Tobin latest edition
- (iv) Respiratory physiology Nunn latest edition
- (v) Text book of nephrology Holliday & Barrat

Journals:

- (a) Critical Care Medicine
- (b) Pediatric Critical Care Medicine
- (c) Pediatrics
- (d) Chest: The American College of Chest Physician

The candidate shall attend the written examination and viva voce of the BVDU at his / her own expense at the time prescribed and notified by the university.

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

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4. Name of the Guide

5. Name of the Head of the Department

.....

Signature of the Candidate

Date.....

.....

Signature of the Guide

Date.....

.....

**Signature of the Head of the Department,
Department of Pediatrics,**

Bharati Vidyapeeth Deemed to be University Medical College, Pune

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of an University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY) MEDICAL COLLEGE, PUNE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, Nephrology etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 839 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE, PUNE

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric sub-specialty services viz. Epilepsy & Neurology, Hemato-oncology, Endocrinology, Neonatology, Pediatric Rheumatology, Pediatric Infectious Diseases, Pediatric Orthopedic, High risk newborn clinic etc. The Department runs post-doctoral certificate courses in Neonatology, Pediatric Critical Care, Epilepsy & Neurology, Endocrinology, Pediatric Hematology-Oncology, Pediatric Infectious Diseases, Development and Behavioral Pediatrics, Pediatric Genetics and Metabolic Disorders etc.

FACULTY – UNIT HEADS

Dr. S K Lalwani, MD, DNB
Vice Principal,
Professor and Head
Department of Pediatrics

Dr. V. R. Kalrao, MD
Professor
Department of Pediatrics

Dr. Rahul Jahagirdar
Professor in Pediatrics
Incharge – Pediatric Endocrinology Clinic

Dr. Vaman Khadilkar
Consultant Pediatric Endocrinologist

Competency Framework for Sub-Specialty
(Logbook)
Training in Pediatric Endocrinology
[Document valid until September 2024]

The use of the Syllabus, the Competency Assessment and completion of the Portfolio

- The Syllabus defines in detail the knowledge, skills and attributes which define Sub-Specialty Training in Pediatric Endocrinology.
- The candidate should use the Syllabus in consultation with the educational supervisor to plan an individualized training programme.
- There are defined 10 key competencies, derived from the Syllabus, which all sub-specialty trainees will achieve. Each is divided into three levels. All trainees must achieve Level 3 for each key competency.
- The trainee's progression will be assessed by the level of achievement attained every 3 months for one year.
- In addition the candidate's portfolio should provide:
 - _ A record of continuing professional educational activities undertaken(symposia, Journal club etc.) other than the above, including locally organised educational opportunities.
 - _ Copies of abstracts submitted and publications achievement during the trainee's career.
 - _ Reports of statistics & audits performed by the trainee (alone or as part of a team)
 - _ Evidence of certification for courses claimed in the Competency Assessment.

Fellowship in Pediatric Endocrinology

Preamble:

The need for a training program in Pediatric Endocrinology:

Knowledge in the field of pediatrics is now very vast. With the increase in knowledge and concomitant increase in investigative modalities and therapeutic avenues, specialization has become necessary to maintain excellence in health care. Specialist in specific areas of need have now become necessary to fulfill, the need of increased demand of subspecialty training.

Pediatrics has lagged behind in the development of specialties. Pediatric specialists so far have either been trained abroad or have been trained by mentors in the corresponding adult specialty. As a result the country now has in place only a handful of pediatric specialists in teaching institutions, who can now function as the mentors. Among the pediatric specialties, pediatric endocrinology is one of the youngest in India.

Pediatric endocrinology encompasses areas such as growth and puberty, the very child development and pediatrics. Even the appreciation of the normal in these aspects of pediatrics is inadequately taught in general pediatric training. Proper management of disorders such as diabetes mellitus, growth retardation, metabolic bone disease, disorders of sexual differentiation, and other hormonal abnormalities requires specialized training and exposure than is available in a typical pediatrics training program. Relatively newer problems such as childhood obesity, type 1 and 2 diabetes have now become commonplace in routine pediatric practice. To ensure good care of children with these and other disorders in India, there is an urgent need to augment the numbers of trained manpower in the field.

Aims and objectives of the program:

1. Early recognition of pediatric endocrine and growth disorders, improvement in the care of children and adolescents with pediatric endocrine disorders
2. To train postgraduates in pediatrics with sufficient knowledge and skill to recognize and manage growth and pediatric endocrine disorders at peripheral centers in India.
3. To provide an alternative to similar super specialty training programme abroad which are often beyond the reach of a typical pediatric post graduate in India.
4. To provide a viable alternative to much longer DNB of DM courses in endocrinology which are only available as super specialty of adult medicine. The course will aim at emphasizing a similar curriculum in a concise manner in the stipulated one year period.
5. The faculty and infrastructure development would pave the way for similar DNB courses in pediatric endocrinology at our center.

Proposed eligibility and selection of trainee:

Eligibility: Pediatrician holding MD or DNB degree in pediatrics

Number of candidates: One per year. As an exception 2 per year when the extra candidate is a faculty of Bharati Vidyapeeth University Medical College.

Entrance examination and selection: Written test and interview

Training period: 1 year

Terms and conditions:

1. The faculty shall include individuals with sufficient post MD or DNB experience in pediatric endocrinology/overseas training/long standing experience in pediatric endocrinology as a teacher
2. The course duration is of 12 months where the candidate would be posted in dept of pediatrics at Bharati and would rotate with the faculty at other training centers in Pune.
3. He/she will be expected to complete one research paper in pediatric endocrinology during the training programme at least 2 months prior to his completion of the course.
4. The fellowship would start on 01st September 2023.
5. There would be an examination in the month of October (1st / 2nd week). It is mandatory to pass this examination to acquire fellowship certificate.
6. Shared accommodation in the hostel shall be provided to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.
7. Each candidate selected shall pay a fee of rupees 60,000/- per six months, at the start of each term payable to Bharati Vidyapeeth Deemed University Medical College, Pune A/C MD-MS
8. The selected candidate will receive a stipend of rupees 40,000/- per month for the stipulated period of one year of training.
9. Examination & evaluation: as applicable

Course design:***Postings:***

The trainee will spend at least 21 months in clinical pediatric and adolescent endocrinology / diabetes rotation and at least 3 months in the laboratory training. He/she will complete at least one paper acceptable for publication in a peer reviewed journal, and participate in the teaching programs in the department (case presentations, seminar, journal club, radiology/nuclear medicine meetings and pathology/mortality/research project presentation/combined endocrinology surgery meeting).

He/she will be responsible for caring for all inpatient pediatric endocrinology and diabetes admissions, as well as pediatric endocrinology interdepartmental consultations and emergencies. Log book of all cases seen will be maintained. Diabetes education of patients as well as nurses will also be his/her responsibility.

During the laboratory posting he/she is expected to become familiar with the performance and interpretation of laboratory assays.

The candidate is expected to attend Pediatric Endocrine clinic at Bharati Hospital and attend to other endocrine patients along with the faculty at various hospitals and laboratories.

Examination Pattern

The theory examination will consist of two papers of 100 marks each on day one followed by a practical and viva voce session conducted at Bharati Vidyapeeth Deemed to be University Medical College. The constituted board would include one internal assessor and one external assessor. The certificate would be granted after SATISFACTORY completion of ONE year's training, research project and examination.

Practical exam: OSCE pattern. And Viva Voce

Candidate would have to pass independently in both theory and practical to be eligible for certification.

The theory paper shall for 3 hours each comprise of descriptive questions and multiple choice questions.

Professional insurance: The candidate must possess a Professional insurance cover.

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination.

Books and study materials:

Textbooks in Endocrinology (the minimum):

1. Handbook of Clinical Pediatric Endocrinology – CGD Brook, R. S. Brown, Blackwell Publishing, 2008
2. Pediatric Endocrine Disorders – Orient Longman, Editors: Meena Desai, Vijayalaxmi Bhatia, PSN Menon
3. Handbook of Endocrine investigations in children – IA Hughes, Wright publications.

Journals:

1. Journal of Endocrinology and Metabolism Journal of the American Endocrine Society
2. Journal of Pediatric Endocrinology and Metabolism- Journal of the European Pediatric Endocrine Society

Curriculum:

1. Principles of hormone measurement

Principles of RIA/IRMA/ELISA. Definition of sensitivity, specificity, inter and intraassay CV. When to accept or reject an assay -preliminary knowledge. Practically perform at least 2 immunoassays and observe 2 ELISAs and 2 spectrophotometric assays.

2. Principles of hormone action

Categories (and examples) of hormones, type of receptors, second messengers -broad categories with some examples, particularly relevant to disease.

3. Genetics in pediatric endocrinology

Definition of and familiarity with Southern, Northern and Western blots, RFLP, PCR, FISH, karyotyping.

Awareness of genetics forms of pediatric endocrine diseases, for example, hypopituitarism / growth hormone deficiency, childhood thyroid disease, genes in sexual differentiation.

4. Fetal-neonatal

Adult consequences of fetal disease

- neonatal hypoglycemia and IDM
- neonatal hypo and hyper calcemia and magnesemia
- neonatal thyrotoxicosis and hypothyroidism

5. Growth : short and tall stature

-Normal growth – patterns, control of (including details of hormonal control of growth), measurement, bone age and growth charts

-Short stature causes, diagnosis and management

-Tall stature differential diagnosis, treatment, Marfan, Sotos Dysmorphic syndromes –

-Details of Turner, Noonan, Prader Willi, Klinefelter.

-Others – Briefly (Down, Russell Silver, Laurence Moon Beidel)

6. Skeletal dysplasias

Achondroplasia, spondyloepiphyseal dysplasia (SED), SEMD, Morquio, hypochondroplasia, metaphysial dysplasia - clinical and radiological features

7. Disorders of Growth Hormone (GH) production and action and treatment of GH deficiency.

Etiology of GHD including genetic causes, cranial irradiation (GHD) and tumours, clinical features. (Detailed knowledge of problems in GH testing). Detailed knowledge of indications for monitoring of GH therapy. Clinical features and diagnosis of Laron dwarfism and gigantism, of tall stature, differential clinical features and diagnosis of gigantism.

8. Puberty

- Initiation of normal puberty, physical changes in normal puberty
- Delayed puberty, definition, CDGP, hypo and hyper hypogonadotropic hypogonadism. Kallman, Klinefelter and Turner syndromes in detail, diagnosis and management primary and secondary amenorrhoea. Precocious puberty -definition, true puberty, peripheral puberty, precocious thelarche and pubarche, diagnosis and management.
- Gynecomastia-causes and treatment.

9. Periphebertal hyperandrogenism

PCOD – pathogenesis, differential diagnosis and management

10. Thyroid

- Physiology
- Genetic causes of congenital hypothyroidism
- Interpretation of thyroid function tests
- Congenital hypothyroidism-newborn screening, etiology, treatment, outcome studies.
- Goitre in childhood, thyroiditis
- Iodine deficiency disorders- daily requirement, typical syndromes of iodine deficiency
- Graves disease-etiology, clinical features, treatment including permanent ablation.
- Neonatal graves – details of clinical features and treatment -
- Thyroid hormone resistance – preliminary knowledge, types and important clinical features

11. Adrenal

- Steroidogenic pathways – names of intermediary, metabolites and enzymes
- CAH -21 hydroxylase deficiency – genetics, clinical features, management, long term outcome; prenatal diagnosis and therapy – basic knowledge.
- 11 β OH, 3 β HSD, 17OH, 17 β HSD – presentation and management
- Cushing syndrome-clinical features, peculiarities of different etiologies of Cushing's and differences from adults; interpretation of the various screening and definitive tests, imaging, IPSS. Treatment medical, surgical, radiotherapy and outcome. Non Cushing adenoma, carcinoma, incidentaloma

Hypertension with hypokalemia, and differential diagnosis.

Addison's disease – etiology, clinical features and treatment, polyglandular autoimmune syndromes.

Phaeochromocytoma-clinical features, diagnosis (biochemistry, precautions and interpretation), imaging and treatment.

12. Sexual differentiation, Cryptorchidism, Micropenis, Hypospadias

- Normal embryology and hormonal influences.
- Genes involved – basic knowledge of current status.
- Details of clinical features, diagnosis and treatment

13. Pituitary:

- Hypopituitarism
- Diabetes insipidus and SIADH, cerebral salt wasting-basic knowledge of osmoregulation., differentiation of central/nephrogenic/primary polydipsia and treatment
- Craniopharyngionia-detail knowledge of presentation imaging and management

- 14. *Diabetes mellitus and lipids***
Classification, differences between type 1, type 2 and FCPD.
MODY – basic knowledge of differentiating clinical features and management
Type 1-pathogenesis – (basic knowledge) and pathophysiology
Details of clinical features, management, long term follow-up-detail, including complication screening, DKA/hypoglycemia.
Lipids –only basic knowledge relevant to clinically management.
- 15. *Hypoglycemia***
Neonatal hypoglycemia and IDM - details of causes, but only superficial
Knowledge for disorders of fuel metabolism. Persistent hyperinsulinemic hypoglycemia of infancy – details of pathogenesis, clinical features management and outcome.
- 16. *Obesity***
Control of appetite and satiety
Definition – clinically relevant knowledge
Management – strategies and some knowledge of outcome
- 17. *Metabolic Bone Disease, Calcium, Phosphorus and Magnesium metabolism***
Hypocalcemia, especially neonatal hypocalcemia etiology, diagnosis and management.
Hypercalcemia, etiology, diagnosis and management.
Calcium sensing receptor disorders and William syndrome
Rickets – complete details of etiology, clinical features, diagnosis and management.
Bone turnover studies, bone physiology – clinically relevant areas only
Osteogenesis Imperfecta, glucocorticoid induced osteoporosis
Fibrous dysplasia and metabolic bone disease of prematurity-full details of pathogenesis and management.
Pediatric DEXA (bone densitometry): interpretation and use.

Key Competencies

(Sequence of following remains flexible and can be inter changed)

1. Function and chemical nature of hormones

Level 1 _

- a. Synthesis, storage, release and transport of hormones
- b. Hormone actions and feedback

Level 2 _

- a. Biorhythm
- b. Neuroendocrinology and hypothalamic function

Level 3 _

- a. Laboratory methods and hands on training
- b. Molecular basis of paediatric endocrine disorders
- c. Dynamic stimulation tests

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

2. Foetal and neonatal endocrinology

Level 1 _

- a. Hypoglycemia (including neisidioblastosis, PHHI)
- b. Pituitary disorders

Level 2 _

- a. Disorders of determination
- b. Adrenal disorders

Level 3 _

- a. Hypothyroidism congenital & perinatal disorders
- b. Hypothyroid screening
- c. Calcium & Vitamin D metabolism & abnormalities
- d. Infant of diabetic mother

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

3. Normal and abnormal growth

Level 1 _

- a. Physiology of growth
- b. Assessment of growth
- c. Growth charts

Level 2 _

- a. Short stature
 - i. Evaluation
 - ii. Investigations
 - iii. Management
- b. Bone age and adult height prediction
- c. Pharmacological & physiological tests of growth hormone stimulation

Level 3 _

- a. Growth hormone suppression tests
- b. Tall stature and overgrowth syndromes
- c. Skeletal dysplasia's and other dysmorphic syndromes causing short stature

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

4. Disorders of pubertal development

Level 1 _

- a. Physiology of puberty
- b. Dynamic stimulation tests (GnRh stimulation tests, Adrenal stimulation tests)

Level 2 _

- a. Delayed puberty
- b. Precocious puberty (water deprivation test)

Level 3 _

- a. Gynecomastia
- b. Hirsutism
- c. Menstrual disturbances
- d. Turner syndrome

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

5. Thyroid gland

Level 1_

- a. Physiology & development of thyroid gland
- b. Goiter
- c. Iodine deficiency

Level 2_

- a. Congenital hypothyroidism
- b. Juvenile hypothyroidism
- c. Thyroiditis

Level 3_

- a. Hyperthyroidism
- b. Thyroid nodule

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

6. The adrenal

Level 1 _

- a. Physiology & diagnostic test (Stimulation test - urinary tests for adrenal function, adrenal medulla & cortex, Suppression tests)

Level 2 _

- a. Congenital adrenal hyperplasia
- b. Congenital adrenal hypoplasia and insufficiency, Addison disease

Level 3 _

- a. Cushing syndrome and disease
- b. Endocrine hypertension

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

7. Disorders of sexual development

Level 1 _

- a. Child with ambiguous genitalia & DSD

Level 2 _

- a. Micropenis
- b. Stimulation tests (HCG stimulation, LHRH stimulation, Test of 5 alpha reductase , Testosterone / DHT ratio)

Level 3 _

- a. Undescended testes

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

8. Diabetes Mellitus

Level 1 _

- a. Pathogenesis and epidemiology, obesity, metabolic syndrome, type II DM, Normal values, Definition of diabetes, IGT, IFG.

Level 2 _

- a. OGTT, IVGTT
- b. Management of DKA

Level 3 _

- a. Ambulatory management of diabetes
- b. Complications of childhood diabetes

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

9. Hypoglycemia in infancy and childhood

Level 1 _

- a. Glucose homeostasis & metabolic pathways

Level 2 _

- a. Definition
- b. Etiology and clinical features

Level 3 _

- a. Approach and diagnosis
- b. Treatment
- c. PHHI

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

10. Obesity

Level 1 _

- a. Definition and anthropometry & Biochemical parameters (ratios, W/H, Abdomen, BMI)
- b. Nutritional & caloric - Balance & estimation

Level 2

- a. Etiology and Pathophysiology
- b. Clinical features

Level 3 _

- a. Investigations and management
- b. Prevention of obesity
- c. Syndromes associated with obesity

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

11. Procedures & Skills –

1. Anthropometry
2. Plotting of growth charts & interpretation
3. Nutritional calculation - obesity
4. Lab techniques - RIA, ELISA
5. Tanner staging
6. Hirsutism score
7. Insulin - types, delivery system, Technique
8. DEXA scan interpretation - technique
9. Bone age assessment
10. Articles and Paper writing
11. Interpretation of Pediatric pelvic ultrasound
12. Glucometers, CGMS & pumps

12. Academic activities: 01 September 2023 – 29 February 2024

- Seminars
- Case presentation
- Journal review
- Admission and Monthly audit

Date	Topic	Content	Quality	Understanding	Research	Grade

Academic activities: 01 March 2024 – 31 August 2024

- Seminars
- Case presentation
- Journal review
- Admission and Monthly audit

Date	Topic	Content	Quality	Understanding	Research	Grade

Evaluation Forms

Seminar

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Cogency of presentation:
4. Use of audiovisual aids.
5. Understanding of subjects:
6. Ability to answer questions:
7. Time scheduling:
8. Consulted all relevant literature:
9. Overall performance.

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Seminar

Date:

Seminar Topic:

Evaluation Points:

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7. Order of differential diagnosis (logical):
8. Investigations required:
(Complete list, Relevant order, Interpretation of investigations, Unnecessarily investigations asked)
9. Treatment: Principles & details
10. Patient/Relatives communication
(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
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Guidance for Scoring

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3

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3

4

Below average

Average

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Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

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Faculty members:

- 1.
- 2.
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Journal Club

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Below average

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Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Clinical Work

Quarterly review

Points to be considered: (/ / to / /)

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:

Guidance for Scoring	1	2	3	4
	Below average	Average	Above average	Excellent

Faculty members:

- 1.
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Mean Score

Clinical Work

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Guidance for Scoring

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Clinical Work

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Guidance for Scoring	1	2	3	4

	Below average	Average	Above average	Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Overall Grading at the end of the Term:

Signature:

Guide – Dr. Rahul Jahagirdar

Signature:

**Dr. S K Lalwani
Vice Principal
Medical Director
Professor – Department of Pediatrics
Bharati Vidyapeeth Deemed to be University Medical College, Pune**



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE,
PUNE**



**CHILD DEVELOPMENT & GUIDANCE CLINIC (CDGC)
DEPARTMENT OF PEDIATRICS**



**FELLOWSHIP IN DEVELOPMENTAL & BEHAVIORAL PEDIATRICS
2022 - 2023**

CONTENTS

1. Overview of Bharati Vidyapeeth Deemed to be University, BVDU Medical College
2. Highlights of the Department of Pediatrics and Child Development and Guidance Clinic
3. Aims and Objectives of the course
4. General rules and regulations
5. Curriculum and Syllabus
6. Academic schedule
7. Overview of the Logbook
8. Grading and Evaluation

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of Deemed University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)
MEDICAL COLLEGE, PUNE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 950 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDTU MEDICAL COLLEGE, Pune

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 90 bedded ward including pediatric surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric super-specialty services viz. Nephrology, Neurology-Epilepsy, Hemato-oncology, Endocrinology, Neonatology, HIV, Developmental & Behavioral Pediatrics, High risk newborn clinic gastroenterology, cardiology and genetics. The Department is running Fellowship Program in most of the above pediatric subspecialties.

CHILD DEVELOPMENT & GUIDANCE CLINIC (CDGC)

The Child Development & Guidance Clinic was established in 2007. The aim was to provide diagnostic and treatment modalities to children with developmental and other behavioral problems. The clinic caters to children with developmental, behavioral, emotional, scholastic problems. Every referred patient is thoroughly evaluated by detailed history taking, evaluation by the Developmental Pediatrician. Detailed assessments as required in the form of IQ, Psychoeducational work up, psychometric assessments are done with detailed printed reports. Management in the form of individualized multidisciplinary therapy plans are formulated and monitored by the Developmental Pediatrician. Along with visiting Psychiatrists there is a full time team of Psychologists, Physiotherapists, Occupational therapists. There is a college of Audiology and Speech-Language pathology in the campus working in close association with the CDGC with its satellite audiology and speech clinics in the pediatric OPD. Other specialties like Pediatric Orthopedics, Pediatric Ophthalmology, Pediatric Neurology-Epilepsy, Genetics are available in the Bharati hospital premises.

Since the clinic started, approximately 7000 new patients have been registered. Monthly around 1100-1200 sessions of patients are done in the CDGC unit.

There is no available specialization at present in India in this field. There is also a lack of knowledge of these disorders in the undergraduate and postgraduate study syllabus taught in Pediatrics. There is an ever increasing burden of childhood disability with an urgent need for early diagnosis, early intervention and rehabilitation services in our country. This fellowship hopes to make a humble contribution by imparting training to pediatricians in this field thus increasing centers working in this field.

FACULTY FOR THE COURSE

Dr. S K Lalwani, MD, DNB

Clinical director of fellowship

Vice Principal,

Professor and Head

Dr. VIJAY. R. KALRAO, MD

Mentor

Professor

DR LEENA SRIVASTAVA

PGDDN, Fellowship in Pediatric Neurology-Epilepsy

IAP Hon Fellowship in Childhood Disability & Early intervention

Developmental Pediatrician & Neurologist

Guide

In charge Child Development & Guidance Clinic.

Aims and Objectives of the Fellowship Program

The duration of course shall be for a period of one year.

Program Goals: To train a postgraduate fellow in Developmental & Behavioral Pediatrics.

- To practice as a Consultant in Developmental & Behavioral Pediatrics equipped with appropriate knowledge and skills necessary to care for the child with various types of Developmental disorders.
- To practice Developmental & Behavioral Pediatrics in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- Understand how to diagnose and manage developmental & behavioral disorders, which generally do not need referral.
- Understand how to diagnose and initiate management of developmental & behavioral disorders which generally need referral.
- Understand the presentation and prognosis of various types of developmental & behavioral disorders in children and adolescents.
- Understand the appropriate methods of diagnosis and management of a child with these disorders.
- Understand the indications and complications related to the use of various drugs.
- Understand the pediatrician's role in the prevention of developmental disorders.
- To gain an insight into various other overlapping neurological disorders
- Problems encountered in the management of developmental & behavioral disorders.

Program objectives

The objectives to be fulfilled at the completion of the course are:

Knowledge:

- ❑ Describe, identify and monitor normal patterns of development, which occur in the neonate, infant, child and the adolescent.
- ❑ Describe etio-pathogenesis, principles of clinical diagnosis, investigations and treatment of developmental disorders in childhood.
- ❑ Demonstrate an understanding of Basic (Pre and Para clinical) Sciences and its application to the normal and abnormal processes, with reference to the nervous system in children.
- ❑ Analyze clinical and investigation data approach and manage the behavioral manifestations of the developmental disorders in children.
- ❑ Identify and understand socio-economic, environmental and cultural factors in healthcare in developmental diseases in children.

Skills: Clinical

- ❑ Elicit an appropriate clinical history.
- ❑ Demonstrate appropriate clinical and physical and neurological examination skills on children to identify motor and mental age as well as co-morbidities requiring intervention.
- ❑ Plan, decide upon and interpret appropriate cost effective investigations.
- ❑ To be able to do a DQ independently along with interpretation for management of developmental disorders.
- ❑ To be able to interpret IQ & other basic psychometric tests for management of developmental & behavioral disorders.

Skills: Technical

- Be able to administer basic Development screening & assessment tools.
- Be able to interpret basic Psychoeducational & Psychometric tests, Audiology and Speech language reports.
- Be able to plan Individualized therapy and intervention plan for all developmental & behavioral disorders.
- Be able to give behavioral management to childhood behavioral disorders.
- Be able to counsel parents & caregivers about the diagnosis, intervention and prognosis in developmental disorders.
- Be able to interpret a Cranial USG, CT Scan, MRI Brain , etc
- A working knowledge of the various molecular and cytogenetic methods e.g., Genetics, PCR, Metabolic workup etc. and its application to Developmental Pediatrics.

Communication and Attitudes:

- Communicate appropriately with guardians and children, assisting in their health care and decision-making.
- Practice child health care at the highest ethical level, protecting the child at all costs.
- Apply the highest level of ethics in Research, publication Reference and Practice of Pediatrics.

LOGBOOK FOR
IAP FELLOWSHIP
IN
DEVELOPMENTAL
&
BEHAVIORAL PEDIATRICS



BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

PUNE (INDIA)

Grade 'A+' Re-Accreditation by NAAC

Competency Framework for Sub-Specialty
Fellowship Training in Developmental & Behavioral Pediatrics
[Document valid until August 2023]

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

.....

4. Name of the Guide

5. Name of the Head of the Department

.....

Signature of the Candidate

Date.....

.....

Signature of the Guide

Date.....

General Rules and Regulations

Eligibility:

- i. Candidates should be MD/ DNB or DCH
- ii. Age preferably not over 35 years

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Monday to Saturday as per schedule. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination. The fellow is not permitted for any festival vacation.

Books and study materials: All assistance is available for library facilities e.g. preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows.

The books have been kept in the department of pediatrics itself for easy access and are available for reference on request and making the necessary entry in outward register. The fellows are expected to take due care of the reference textbooks or journals and return them in time. Few of the books are available in the Central library also.

CORE ROTATION

- **Psychology**

The goal of the Clinical Child Psychology Rotation is to expand the Developmental Behavioral Fellow's skills in dealing with a wide range of clinical child problems. This involves assessment and treatment of problems such as Attention-Deficit/Hyperactivity Disorder; Oppositional Defiant Disorder; learning disabilities; Dyslexia and other academic problems; nonverbal learning disabilities; Autistic Spectrum Disorders; psychological aspects of medical disorders including neurological problems; anxiety disorders; Depression, Post Traumatic Stress Disorder; and other less frequent clinical child problems.

- **Psychiatry**

During this rotation, the fellow gains experience in the interviewing, assessment and treatment (including psychopharmacology) of children with psychiatric concerns encompassed by the internalizing and externalizing conditions. The fellow gains exposure to assessment of children with complex issues such as substance abuse and gender identity concerns and those requiring inpatient pediatric psychiatric facilities through consultation of inpatients who are medically unstable after suicide attempt.

Principles of Psychiatry for Developmental Behavioral Pediatrics Seminar

This weekly psychiatry skills seminar provides residents with technical supervision as they acquire clinical skills critical in developmental behavioral pediatrics, such as

1. diagnostic interviewing,
2. generating differential diagnoses and
3. parent/child guidance training.

The course trains residents to identify and treat psychiatric disorders including

1. mood disorders,
2. anxiety disorders,
3. eating disorders,
4. psychotic disorders,
5. disruptive behavior and
6. conduct disorders.

Fellows learn about therapeutic modalities including

1. play therapy,
2. cognitive-behavioral therapy and
3. psychopharmacology

- **Psychopharmacology in Developmental Disabilities**

During this rotation, the fellow gains experience in the ongoing psychopharmacologic treatment of individuals with developmental disabilities (young childhood through adolescence) who have comorbidities of internalizing, externalizing and attention concerns. The fellow gains exposure to treatment of children who require complex medication regimens.

- **Occupational Therapy/Physical Therapy/Speech & Language**

Professionals from OT, PT and Speech and Language work directly with the Developmental Behavioral Fellow in multi-disciplinary team experiences throughout the year. The fellow also has direct rotations in OT, PT and Speech and Language, which occur quite early in training.

These allied health professionals teach the fellows (during the rotations, team experiences and through specific didactics) assessment and treatment from their perspective, allowing the fellow to become more adept at recognizing typical and atypical development and to improve their skills in these areas. The fellow becomes acquainted with these individuals, which facilitates communication over the course of the fellowship regarding specific patients. Also, this allows the fellow an opportunity to understand the role that therapists have with our families.

- **Neonatal Follow-up**

During this rotation, the fellow has the opportunity to observe the effects of prematurity and other high-risk neonatal follow up.

- **Journal Club**

Bimonthly review of a recent publication in developmental-behavioral pediatrics.

OTHER ROTATIONS

- **Clinical child neurology**

This rotation is designed to provide the Developmental Behavioral Fellow with a background in pediatric neurology. This will allow the fellow to have a better understanding of the neurologic basis of developmental and behavioral issues and a working knowledge of appropriate referral to our neurology colleagues. Structured blocks include, but are not limited to outpatient child neurology and epilepsy services

- **Genetic clinic**

During this rotation, the fellow will work closely with the Genetics Faculty to gain expertise in dysmorphology, metabolic disorders and chromosomal disorders. The fellow will also gain experience in the biologic underpinnings of a wide range of neurological, developmental and behavioral issues.

- **Clinical and basic sciences**

Understanding the anatomical basis of development of brain and its function, neuroradiology and interpretation.

- **Biostatistics Course**

Bimonthly one-and-a-half hour didactic and discussion session for fellows in all fellowship programs

Research program

Fellows will work directly with a research mentor to develop and implement their research projects, and submit for publication or present their research in a conference either as a free paper/ Poster before appearing for their fellowship examination.

DAILY DUTIES

Acquisition of practical competence is the keystone of fellow's medical education. The learning should essentially be self-directed and emanating from clinical and academic work.

A candidate has to cater to the everyday outpatients in the various OPDs like CDGC, Psychology, Audiology, Speech, Physiotherapy so that they develop a complete understanding of entire spectrum and natural course of the disorders.

The fellows will primarily be posted in CDGC OPD where the major part of learning will take place through clinical case discussions, didactic lectures, seminars, journal clubs etc. along with rotational postings in the other sub-specialties relevant to the field of Developmental Pediatrics.

It is mandatory to use electronic data management systems, The trainee is expected to be conversant with the use of computer and network to enhance learning and storage and recovery of data. The early clinical assignments will be based on direct patient responsibility for a limited number of patients. Subsequent assignments will place the fellow in a position of taking increased responsibility for patients in a liaison relationship with the faculty staff. In case of extramural referral, the referring doctors should be communicated about the child's investigations and the tentative treatment plan

1. The candidate is required to make e-folders (including history, investigations, photos/videos etc) for all interesting developmental patients.
2. He/she will have to contribute to data entry of the OPD patients on daily basis.
3. He/she will present cases of interest

Continued emphasis on scholarship and learning is essential for development and maturation of the fellow into the field of developmental pediatrics. To optimize time, concurrent training agendas have been planned.

Recommended reading

1. AAP Textbook of Developmental and Behavioral Pediatrics
Authors Robert G. Voight, Michelle M. Macias, Scott M. Myers
2. Developmental-Behavioral Pediatrics
Authors William B. Carey MD (Author), Allen C. Crocker MD
3. Introduction to Psychology by Morgan & King
4. Developmental Psychology by Elizabeth Hurlock

Log Book

During his / her training, the candidate should maintain the Log Book.

The purpose of the Log Book is to:

- a) Help to maintain a record of the work done during training.
- b) Enable the consultant to have first hand information about the work done and to intervene whenever necessary.
- c) Use it to assess the clinical experience gained periodically.

Records should include:

1. Recording of Pediatric history taking, developmental screening & assessment done by him/her.
2. Supervised and independent interpretation of DQ/IQ/basic psychometric tests done by him/her.
3. The diagnosis and classification of various developmental & behavioral disorders with rational use of available therapies- the cases that are following up in the CDGC clinic on fixed days.
4. Case presentations, Guest Lectures, Seminars and Journal clubs.
5. Duration and work done in postings in other specialties like Psychology, Psychiatry, Audiology & Speech Pathology, Pediatric Neurology, High risk follow up clinic, Neuro-Radiology, Neuro-anatomy etc.
7. Any CME/ workshop/ conference (related to the specialty) attended

The entries in the Log Book should be made on a “daily basis” and should be signed by the faculty every month. Prior to the final examination the logbook should also have to be certified by the Head of the Department of Pediatrics.

LOG BOOK

12 pages

YEAR: _____ MONTH: _____

1. Total cases (New and f/u) : _____
:
2. Interesting cases : _____
:

1. Assessments seen/done
2. Counseling sessions seen/done

Teaching:

1. Seminars : _____
2. Case Studies : _____
3. Lectures : _____
4. Journal Club : _____

Signature of Faculty

Grading of DQ assessment:

Case no.	Date	Rapport Building	Administering test	Report
1				
2				
3				
4				
5				
6				
7				

Postings in Co-specialties:

Neuro-anatomy

Neuro-Radiology

Audiology & Speech therapy

Child Psychology

Child Psychiatry

Rehabilitation

High Risk Clinic

Neuro-ophthalmology

Evaluation Forms

Seminars

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Cogency of presentation:
4. Use of audiovisual aids.
5. Understanding of subjects:
6. Ability to answer questions:
7. Time scheduling:
8. Consulted all relevant literature:
9. Overall performance.

Guidance for Scoring	0	1	2	3	4

	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

5 cases

Case Presentation

Date:

Case Title:

1. Logical order in presentation:
2. Cogency of presentation:
3. Complete /Relevant history:
4. Accuracy of General Physical Examination:
5. Accuracy of Systemic Examination:
6. Diagnosis – Logical flow based on History & findings:
7. Order of differential diagnosis (logical):
8. Investigations ordered:
(Complete list, Relevant order, Interpretation of investigations)
9. Treatment: Principles & details
10. Patient/Relatives communication
(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
5. Confidence

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Article presented:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he / she defend article:
5. Whether cross references have been consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Clinical Work

Quarterly review : (/ / to / /)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:

Guidance for Scoring	0	1	2	3	4
	-----	-----	-----	-----	-----
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Overall Grading at the end of the Term:

0	1	2	3	4
-----	-----	-----	-----	-----
Poor	Below average	Average	Above average	Very Good

1. Level of Neurodevelopment assessment Performance-

.....

2. Level of psychological reporting & interpreting

.....

3. Understanding of Developmental disorders in children

.....

4. Understanding of childhood behavioral & emotional disorders

.....

5. Understanding of co-specialties

6. Academic presentations.....

7. Personal attributes (sincerity, commitment etc.).....

8. Research work

Signature:

**Guide – Dr. Leena Srivastava
Developmental Pediatrician & Neurologist
In charge, Child Development & Guidance Clinic**



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE,
PUNE**



**PEDIATRIC GENETICS UNIT
DEPARTMENT OF PEDIATRICS**



Fellowship in Pediatric Genetics and Metabolic Disorders

2023-2024

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- 2] Highlights of Department of Paediatrics, Clinical Genetics Unit.
- 3] Aims and Objectives of the course.
- 4] General rules and regulations
- 5] Curriculum and syllabus
- 6] Academic schedule
- 7] Overview of the log book

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including Dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of Deemed University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

MEDICAL COLLEGE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, Paediatric surgery, Fetal Medicine etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 950 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE, PUNE

The Department of Paediatrics at BVDUMC is one of the most well-equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various paediatric diseases under one roof, at an affordable cost and even free for deserving cases. It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We are offering pediatric super-specialty services viz. Neurology-Epilepsy, Hemato-oncology, Genetics and Metabolics, Endocrinology, Neonatology, Nephrology, Infectious diseases, Critical care, Rheumatology, Pulmonology, High risk newborn clinic etc. The Department is running numerous Fellowship Programs in various super-specialities.

CLINICAL GENETICS UNIT, DEPT OF PEDIATRICS:

The field of Paediatrics is rapidly expanding. With the increasing knowledge and availability of the latest investigative modalities and therapeutic avenues, specialisation has become necessary to maintain excellence in health care. Our country has made significant progress in providing basic Paediatric care and now the focus should shift to chronic and rare diseases. To meet these demands of our vast population the department has established various sub-speciality OPD services.

It has well been observed that Genetic disorders which constituted only a small tip of the iceberg are slowly comprising a larger proportion of outpatient and inpatients in hospitals. The reason being availability of better modalities of accurate diagnosis. Many diseases where etiology was not defined are now understood to have a genetic basis. India is considered to be a gold mine of genetic disorders because many rare disorders manifest in our population due to factors such as consanguinity, inbreeding and a high birth rate. Many disorders go undetected and unmanaged because of the lack of proper diagnostic and management facilities. There is a need to develop diagnostic counselling and supportive services and provide comprehensive care . Building manpower and training them so that they remain dedicated to the speciality of Genetic and Metabolic Medicine is of utmost priority. With a larger vision and given the scope of this field of medicine the department at BVDU envisaged starting a fellowship in Clinical Genetics. The department aims to provide excellent clinical services and later even state of the art diagnostic facilities at an affordable cost to the needy patients.

Many genetic disorders are not treatable and prevention is the best method to reduce the disease burden. This can be achieved if there are good prenatal diagnostic and counselling facilities. The Genetics unit coordinates with the Fetal Medicine unit to provide the umbrella of services. Starting of such a fellowship is unique at Bharti Hospital and the trained experts in genetics will make a huge contribution to provide the services at medical institutions. The department has made a beginning and the academic program will be an important milestone for the BVDU.

Services in Clinical Genetics were initiated in the year 2012 when Dr Chaitanya Datar started the OPD services. Patients are referred from General Paediatric OPD and from other Sub-specialities such as - Child Guidance Clinic, Neurology, Endocrine, Pediatric Orthopedic and Surgery, NICU and PICU. Over the years a lot of patients are referred from Maharashtra and the neighbouring states. The referral group essentially comprises of children with dysmorphic features, development delay, congenital anomalies, inborn errors of metabolism. Large numbers of patients are referred from the Obstetric and Gynecology department for preconception counselling where there is a previous affected child, prenatal diagnosis, bad Obstetric history etc. Every referred patient is thoroughly evaluated by the consultants. After establishing the diagnosis, genetic counselling is offered to the

family. Screening of family members at risk is also undertaken. The clinic has a case load of about 900 cases per year. Most of these patients have to go through a stepwise approach to diagnosis, they are referred for radiology, neurophysiology, and genetic tests. At Bharti Hospital there is a lot of support from all departments for opinion and treatment of the affected children. Our team also works with Audiology, Speech pathology, Occupational and Physiotherapy and staff of the Child Guidance Clinic so that the cases are evaluated and later rehabilitation is planned in the best possible manner. Dietician is consulted during planning special diet for the cases with IEM.

Services are also offered in the speciality of Fetal Medicine. Patients are referred for first and second trimester anomaly scans, Dopplers, evaluation of high-risk pregnancies and procedures for prenatal diagnosis [chorionic villus sampling, amniocentesis, cord blood sampling]. The department of Fetal Medicine is also expanding the scope of their services and Fetal MRI is being done in indicated cases.

Efforts are underway to start in-house diagnostic tests, cytogenetic testing (karyotype) has already been established. Some biochemical and molecular tests will be started in near future. Data analysis for NGS based techniques is being developed to interpret raw data along with correlation with the clinical presentation.

DEPARTMENT OF PEDIATRICS

Dr. Sanjay K Lalwani, MD, DNB

Vice Principal,

Professor

Dr. Vijay Kalrao, MD

Professor and Head

Dr Chaitanya A. Datar, MBBS, MD

Consultant Clinical and Metabolic Geneticist

Aims and Objectives of the Fellowship Program

The duration of course shall be for a period of one year.

Program Goals: To train a postgraduate fellow in Evaluation, Management and Counseling of genetics cases.

- To practice as a Consultant in Genetics and have appropriate knowledge and skills necessary to care for the child with common and rare genetic disorders.
- To practice clinical genetics in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- Understand the approach to different cases- dysmorphism, congenital anomalies, metabolic disorders, cases with neuroregression and neuromuscular disorders, intellectual & developmental disorders.
- Understand how to diagnose, plan the step wise approach to diagnosis and initiate management of the disorders which generally need referral.
- Understand the presentation and prognosis of various types of genetic and metabolic disorders in children and adolescents.
- Being able to interpret reports—Biochemical, Cytogenetic and Molecular tests. Introduce to NGS data analysis.
- Understand the basic principles of management in IEMs, planning special diets.
- Understand the progression of these disorders, and being able to manage the acute crisis in IEMs.
- Being able to counsel the family about the disorder.
- Understand the in the prevention of Genetic disorders.
- To gain an insight into various other overlapping neurological and metabolic disorders.
- Planning appropriate methods of prenatal diagnosis.

Program objectives:

The objectives to be fulfilled at the completion of the course are:

Knowledge:

- ❑ Information about basic genetics, inheritance patterns, cytogenetic and molecular genetics, Mutations and mechanisms of genetic diseases.
- ❑ Common and rare syndromes- Chromosomal, Dysmorphology, skeletal dysplasias.
- ❑ Metabolic disorders and single gene disorders.
- ❑ Principles of management, newer drugs and therapies.
- ❑ Analyze clinical and investigation data, knowledge about principles of cytogenetics molecular and biochemical tests.
- ❑ Principles of genetic counselling, including psychosocial aspects.
- ❑ Identify and understand socio-economic, environmental and cultural factors in healthcare in genetic diseases.
- ❑ Prevention of genetic disorders, population genetics, and methods of prenatal diagnosis.

Skills: Clinical

- ❑ Elicit an appropriate clinical history. Identifying whether the problem is genetic, chromosomal, metabolic.
- ❑ Pedigree drawing, charting of family history.
- ❑ Approach to a dysmorphic child, evaluation of the features, documentation, clinical photographs.
- ❑ Basic knowledge and interpreting reports – Cytogenetic, Molecular [and NGS], Biochemical and Metabolic.
- ❑ Managing IEMs, Special diets, indigenous diets and supplements.
- ❑ Genetic counselling in various case scenarios.
- ❑ Demonstrate appropriate clinical and physical and neurological examination skills on children to identify motor and mental age as well as co-morbidities requiring intervention.
- ❑ Plan, decide upon and interpret appropriate cost effective investigations.

Skills: Technical

- Hands on experience in basic cytogenetic techniques, biochemical tests.
- Understand principles of Fetal MRI, anomaly scan, Prenatal tests, MRI, ECHO, Fetal autopsy

Communication and Attitudes:

- Communicate appropriately with parents, guardians and children, assisting in their health care and decision-making.
- Practice child health care at the highest ethical level, protecting the child at all costs.
- Apply the highest level of ethics in Research, publications Reference and Practice of Pediatrics.



BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
PUNE (INDIA)

Grade 'A+' Re accreditation by NAAC

**Fellowship in Pediatric Genetics and Metabolic
Disorders**

(Logbook)

[Document Valid until November 2024]

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

.....

4. Name of the Guide

5. Name of the Head of the Department

.....

Signature of the Guide

Dr.

Date.....

.....

Signature of the Head of the Department,

Prof. Sanjay Lalwani

Department of Pediatrics,

Bharati Vidyapeeth Deemed To Be University Medical College, Pune

General Rules and Regulations

Eligibility:

- i. Candidates should be MD/ DNB with work experience in Pediatrics, Neurology and exposure to allied pediatric subspecialties during post graduation.
- ii. Age not over 35 years

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centres regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination. The fellow is not permitted for any festival vacation.

Books and study materials: All assistance is available for library facilities e.g. preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows.

The books have been kept in the Genetic clinic itself for easy access and are available for reference on request and making the necessary entry in outward register. The fellows are expected to take due care of the reference textbooks or journals and return them in time. Few of the books are available in the Central library also.

Core Curriculum and Syllabus:

- Basic Genetics, Patterns of inheritance, chromosomal disorders.
- Inborn errors of Metabolism, Treatment, newer modalities
- Lysosomal storage disorders.
- Congenital anomalies, Teratogens, Common syndromes
- Skeletal Dysplasias.
- Neuromuscular disorders, Neuroregression
- Congenital Heart defects , Cardiomyopathies
- Bad obstetric history, Counselling
- Antenatal screening
- Prenatal Diagnosis, Fetal autopsy
- Basic concepts in biochemical tests, Molecular Medicine, Cytogenetics
- Basic Concepts in Neurophysiology EEG/EMG/VEP/BERA and Imaging modalities- Antenatal scans, Fetal MRI.
- Rehabilitation services for patients with Genetic disorders.
- Psychosocial aspects in Genetic Disorders.
- Interpretation of reports- Karyotype, FISH, Double markers, TMS, Urine GAG/GCMS, NB screening, Molecular tests— Next Gen sequencing , Microarray, Sanger sequencing, NIPT
- Pharmacogenetics, Epigenetics, Population Genetics.

Time Lines:

- October 23: Basic Genetics Common syndromes, Pedigree charting
- November 23: Common IEMs, Dietary interventions, Dysmorphology, Documentation and Clinical Photographs
- December 23: Preparation Of posters/Papers for IEM conference
- January 24: Neurometabolic cases, Lysosomal storage disorders, Conference
- February 24: Molecular tests, Biochemical tests, Cytogenetic tests, Interpretation of tests and reports, Case presentation
- March 24: Neurogenetics, Neurotransmitter disorders, Case presentation.
- April 24: Microarray, Microdeletion syndromes, Analysis of reports, case presentation, Skeletal dysplasias.
- May 24: Hands on experience, Visits to Labs, Journal review.
- June 24: Treatment of Genetic Disorders, Enzyme replacement therapies, Special diets, Transplants. Seminar presentation
- July 24: Hematology and GI cases, Prenatal diagnosis.
BOH and High risk OBGY cases.
- August 24: Discussion of interesting cases, Population Genetics
- September 24: Revision and Thesis work.
- October 24: Revision and Thesis Presentation.

Grading of Thesis work:

Nov 23:	Allocation of thesis work
Nov 23 to April 24:	Data Collection
May 24 to August 24:	Data analysis, Discussion
September 24:	Thesis completion
Oct 24 to Nov 24:	Exams.

Rotations in other specialities:

Cytogenetics, Laboratory, Radiology, Fetal Medicine, Child Development clinic, Neurology, Rehabilitation, Nutrition, Private Genetic clinic, Laboratory rotation

Daily Schedule:

Monday:	Indoor References, Diet Clinic
Tuesday:	OT/PT/ Development Clinic/Lab
Wednesday:	Fetal Medicine Class, Genetic OPD, Radio-genetics cases
Thursday:	Neurophysiology, Anomaly Scan, Fetal MRI
Friday:	Genetic Clinic,
Saturday:	Follow up ward cases, Indoor referrals, Neuromet.

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Specialty Posting: Laboratory

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Laboratory

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Dry Lab

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Dry Lab

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Fetal Autopsy

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Fetal Autopsy

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Fetal Medicine / Radiology

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Fetal Medicine / Radiology

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Pediatric Neurology

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Rehabilitation / Audiology etc

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Diet Clinic

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Child Development and Guidance Clinic

From: _____ / _____ / _____ to _____ / _____ / _____

Case Counselling

Sr. No.	Date	Case	Details	Remarks

Case Counselling

Sr. No.	Date	Case	Details	Remarks

Details of CME/ Conference attended/ paper / poster presentation:

Date, Venue	Conference/ CME	Talks attended

Reference Books:

- 1] Emery and Rimoin : Principles and Practice of Medical Genetics and Genomics. By R E Pyeritz , B R Korf, W W Grody. 7 th ED 2018.
- 2] Thompson and Thompson Genetics in Medicine by R L Nussbaum, R R Molnnes, H F Williard, 2015.
- 3] The Metabolic and Molecular Basis of Inherited Disease 4 vol set. C Scriver, A L Beaudet, W Sly, D Valle. 2001.
- 4] Sanders, Structural Fetal anomalies 3rd ED 2016.
- 5] New Clinical Genetics: A Read , D Donnai 3 rd ED 2015.
- 6] Smiths recognizable Patterns Of Human Malformation 7 th ED K Lyons, M Jones, M Campo, 2014.
- 7] A Guide to Genetic Counselling: W R Uhlmann, J L Scheutte, B Yashav 2011.
- 8] IAMG Publication.
- 9] Practical Genetic Counselling by P Harper.
- 10] ICMR Publication: Clinical Manual for IEM editors V Kalra, M kabra, S Kappoor, 2008.
- 11] Clinical Protocols for IEMs- S Jagadeesh, S Bijarnia, N Gupta, C Datar, 2022

Journals:

- 1] American Journal of Medical genetics
- 2] American Journal of Human genetics
- 3] European Journal of Medical genetics
- 4] Journal Of Human Genetics
- 5] Journal of Indian Society of Human Genetics
- 6] Publication Quarterly by IAMG

Internet Resources:

- 1] National Human Genome Research Institute <http://www.genome.gov>
- 2] OMIM -Online Mendelian Inheritance in Man www.ncbi.nlm.nih.gov/omim
- 3] Gene Clinics
- 4] Genereviews

Overall Grading at the end of the Term:

- 1. Level of Assessment of cases -
-
- 2. Level of interpretation of reports -
-
- 3. Understanding of co-specialties
- 4. Academic presentations.....
- 5. Personal attributes (sincerity, commitment etc.).....
- 6. Thesis work.....

Signatures:

.....
Dr. Chaitanya Datar,
Consultant Clinical and Metabolic Geneticist
Coordinator Fellowship Program

.....
Dr. (Prof.) Sanjay K Lalwani
Vice Principal
Medical Director
Professor Department of Pediatrics
.....

Fellowship Program course curriculum

Aims-

The aim of the fellowship program in Neonatology is to provide basic and advanced training in neonatology to produce competent doctors, who are able to provide clinical care of highest order to the newborn infant.

Objectives-

Knowledge-

- a. To be conversant with common neonatal problems – their etiology, pathophysiology, diagnosis, management and prevention
- b. To acquire knowledge regarding neonatal morbidity and mortality and prevention strategies to decrease these
- c. To be aware of and recognize importance of multi disciplinary approach in the management of neonatal problems.
- d. To acquire knowledge with respect to neonatal care in the community
- e. To acquire knowledge with respect to organizing and planning neonatal intensive care units and managing neonates requiring intensive care.

Practice-

1. To be able to analyse neonatal health problems and develops preventive strategies to decrease neonatal morbidity and mortality at hospital and community level
2. To provide primary, secondary and tertiary level care of the highest standard to critically ill neonates.
3. To be able to plan, establish and manage level I , II and III neonatal care units.
4. To be able to use and maintain equipments required in the NICU

Attitudes / Communication-

- a. To take rational decisions in the face of ethical dilemmas in neonatal and perinatal practice
- b. To exhibit communication skills of a high order and demonstrate compassionate attributes befitting a caring neonatologist
- c. To be able to counsel parents regarding neonatal problems including genetic and hereditary diseases

Eligibility for Admission-

MD. DNB- Pediatric- Duration of Course 1 year

DCH- Duration of Course 1 and 1/2 year

Prerequisites-

1. All fellows admitted to the IAP Neonatology Fellowship Programme should be members of Central IAP and IAP Neonatology Chapter. (See membership category details on www.iapindia.org)
2. All such students who are not the members of Central IAP at the time of admission shall be considered to have their admissions provisional till documents of IAP membership are submitted.
3. Fellows who are not members of Central IAP/IAP Neonatology Chapter shall not be considered eligible for examination.

Eligibility-

Trainee:

Any student of Indian nationality who has completed the M.D / D.N.B / DCh course in Pediatrics from a Medical Council of India or State Medical Council recognized University in India is eligible for this fellowship program. Preference would be accorded to MD / DNB passed Candidates. If such candidates are not available then a DCh qualified candidate may be selected for the course While the course tenure would be one year for MD / DNB candidates, it would be one and half years for a DCh candidate. At the time of application the trainee would have to produce – 1) A bonafide certificate from the Head of Department of Pediatrics of his / her institution where he / she has completed the post graduate training in Pediatrics, 2) Photocopies of the certificate of the post graduate degree from the University concerned, and 3) Certificate of registration with the appropriate State Medical Council or Medical council of India.

Any foreign student or a non-resident Indian student who wishes to apply should be a degree holder in Pediatrics post-graduate training and would have to produce a bonafide certificate from the Head of Department of Pediatrics of his / her institution where he / she has completed the post graduate training in Pediatrics, along with photocopies of the certificate of post graduate degree from the University concerned. The undergraduate and postgraduate degrees should be recognized by the Medical council of India/ State medical council

All trainees joining the Neonatology fellowship program shall work as Full Time Residents during the period of training for one year (MD / DNB) or one and half years (DCh)

Since the students are trained with the aim of practicing as independent specialists, this course content will

be mainly a guideline. They have to manage all types of cases and situations and seek and provide consultation. The emphasis shall therefore be on the practical management of the problem of the individual cases and the community within the available resources.

Course Contents:

A. Academic topics

Basic sciences pertaining to Neonatology:

- Genetics
- Applied anatomy and embryology
- Fetoplacental physiology
- Fetal growth
- Neonatal adaptation

B. Physiology and Development of various systems

- Respiratory system
- Cardiovascular system

- Nervous system
- Gastrointestinal system
- Renal system
- Hematopoietic system
- Endocrinal system
- Fetal and neonatal immunology
- Fluids, electrolytes, glucose, proteins, complex carbohydrates and lipids, and vitamins, minerals and trace elements

Common diseases and conditions in neonates of the:

- Respiratory system
- Cardiovascular system
- Nervous system
- Gastrointestinal system
- Renal system
- Hematopoietic system
- Endocrinal system
- Fetal and neonatal immunology
- Inborn errors of metabolism

Neonatal Therapeutics

- Pharmacology
- Nuances of drug dosage, administration, monitoring and toxicity

General Topics

- Research methodology
- Biostatistics
- Computer & Information technology

C. Perinatology

- Perinatal and neonatal mortality, morbidity, epidemiology
- High risk pregnancy & impact on the fetus
- Fetal monitoring
- Intrapartum monitoring and procedures
- Genetic counseling
- Diagnosis and management of fetal diseases

- Fetal intervention
- Fetal origin of adult disease

Detailed list of topics for training in fellowship:

1) General Neonatology

Neonatal resuscitation

Management of normal newborn

Management of LBW, VLBW, ELBW infants

Management of sick neonate

Emergency neonatal care

Thermoregulation

Neonatal transport

Fluid & electrolyte management

Neonatal ventilation

Blood gas and acid base disorders

Neonatal assessment

Assessment of gestation, neonatal behavior, neonatal reflexes

Developmental assessment, detection of neuromotor delay, stimulation techniques

2) Respiratory system

Neonatal airways: physiology, pathology; management

Pulmonary diseases: hyaline membrane disease, transient tachypnea, aspiration Pneumonia, pulmonary air leak syndromes, pulmonary hemorrhage, developmental defects

Oxygen therapy and its monitoring

Pulmonary infections

Miscellaneous pulmonary disorders

3) Cardiovascular system

Fetal circulation, transition from fetal to neonatal physiology

Examination and interpretation of cardiovascular signs and symptoms

Special tests and procedure (Echocardiography, angiography)

Diagnosis and management of congenital heart diseases

Rhythm disturbances

Hypertension in neonates

Shock: Pathophysiology, monitoring, management

4) Gastrointestinal system

Disorders of liver and biliary system

Bilirubin metabolism

Neonatal jaundice, Prolonged hyperbilirubinemia, Kernicterus

Congenital malformations

Necrotizing enterocolitis

5) Neurology

Clinical neurological assessment

EEG, Ultrasonography, CT scan

Neonatal seizures

Intracranial hemorrhage

Brain imaging

Hypoxic ischemic encephalopathy

Neuromuscular disorder

Degenerative diseases

CNS malformation

6) Renal system

Development disorders

Renal functions

Fluid and electrolyte management

Acute renal failure (diagnosis, monitoring, management)

7) Hematology

Physiology

Anemia

Polycythemia

Bleeding and coagulation disorders

Rh hemolytic disease

Blood Component therapy

8) Nutrition

Fetal nutrition

Physiology of lactation

Lactation management

Parenteral nutrition

Vitamins and micronutrients in newborn health

Human Milk Banking

9) Surgery and orthopedics

Diagnosis of neonatal surgical conditions

Pre and post operative care

Neonatal anesthesia

Metabolic changes during anesthesia and surgery

Orthopedic problems

10) Neonatal infections

Intrauterine infections

Superficial infections

Diarrhea

Septicemia

Meningitis

Osteomyelitis and arthritis

Pneumonias

Perinatal HIV

Miscellaneous infective disorders & fungal infections

11) Metabolic & Endocrine

Glucose metabolism, hypoglycemia, hyperglycemia

Calcium disorders

Magnesium disorders

Thyroid disorders

Adrenal disorders

Ambiguous genitalia

Inborn errors of metabolism

12) Neonatal ophthalmology

Development aspects

Retinopathy of prematurity

Sequelae of perinatal infections

13) Neonatal Hearing assessment

14) Community neonatology

Vital statistics

Health system

Neonatal care priorities

Care at primary, secondary & tertiary level of care

Role of different health functionaries

National programs

15) Neonatal dermatology

16) Neonatal Imaging

17) Development assessment & follow up

18) Organization of neonatal care

19) Adoption

20) Recent Advances

21) Neonatal procedures

22) Therapeutic agents

23) Biomedical equipments, use & maintenance

List of Skills

Clinical

Neonatal examination & anthropometry

Developmental assessment

Neonatal resuscitation

Neonatal ventilation: CPAP, Mechanical ventilation

Blood sampling: Capillary, venous, arterial

Insertion of peripheral venous, umbilical venous / arterial catheters

Monitoring: invasive, non-invasive

Enteral feeding (katori-spoon, gavage, breastfeeding)

Lactation management

Parenteral nutrition

Endotracheal Intubation

Lumbar puncture and ventricular tap

Placing of 'chest tube'

Exchange transfusion

Bed side tests: Hemoglucometer glucose estimation, Apt test etc.

Neonatal drug therapy

Nursery housekeeping routines

Infection control & Universal precautions

Handling, effective utilization and trouble shooting of neonatal equipment.

Decision making, clinical diagnosis, planning & interpreting investigations

Management of Neonatal problems

Communication

Communication with parents, families and communities

Interdepartmental communication

Education / Training

Teaching skills

Learning skills

Participatory and small group learning skills

Preparing learning resource material

Self-Directed Learning

Learning needs assessment, literature search, evaluating evidence

Research Method

Framing of research question

Designing and conducting study

Analyzing and interpreting data

Publication & writing a paper

Review & presentation of research findings

TEACHING LEARNING METHODS AND ACTIVITIES

Learning will be self directed and will take place as a continuous process but in addition the following formal sessions are recommended

Academic session

In addition to attending all the academic sessions, the candidate needs to make a minimum number of presentations in these academic sessions during the training period of 1 year

Presentations Frequency

- a. Seminars / Symposia 1 per month
- b. Journal club 4 per month
- c. Perinatal meeting 1 per month
- d. Clinical case conference 1 per month
- e. Bedside presentation 10 per month
- f. Interdepartmental meeting with 1 per month

Radiology / Pediatric surgery and others

- g. Grand rounds 1 per week
- h. Mortality meeting and audit meeting 1 per month

Teaching learning process will also take place during the daily ward rounds and during teaching rounds.

Clinical postings:

Total period of fellowship course is 12 months for MD/DNB and 18 months for DCH. Minimum 85% attendance is compulsory.

Rotation(optional)

- Obstetrics department 15 days
- Pediatric surgery 15 days

Conference, CME's and Workshops

During the one year training period he/she should attend at least

One State / National/Regional Conference

Three CME Programme local/outside city of fellowship hospital

Should present a paper/poster in the conference

Teaching

The candidate will be involved in teaching nursing students, nursing staff

Undergraduate and post - graduate students

Special Training Programme

The candidate should attend and be certified in the following training programs-

1-NRP workshop- mandatory

2-Quality improvement workshop- mandatory

3- NEST workshop

4- DSC workshop

5- Developmental follow up program

6- Nutrition of preterm

7- Research methodology

8- FBNC training

DISSERTATION

Preparation and presentation of a dissertation:

Every Fellow trainee will be required to carry out one research project over one year under the supervision of his guide as identified by the institution. The project should be completed within 10 months of training, and then reviewed by the guide and given its final shape by the end of eleven months, one month before the stipulated date of completion of the Fellowship course. It should be a 'Quality Improvement' project.

LOG BOOK

Log book for evaluation of the following

- Medical knowledge
- Clinical Care
- Procedures
- Communication skills
- Case and seminar presentations
- Teaching
- Attendance and availability
- Conferences & CME's
- Dissertation
- Know your environment-Knowledge of equipments, Asepsis & disinfection protocol and system based approach to develop NICU
- Enthusiasm and responsiveness

There will be mandatory monthly reporting by fellowship co-ordinators to the IAP Neochap fellowship committee through e mail. Compliance to this reporting is must for continued accreditation of the fellowship center.

Monthly reporting by fellowship co-ordinator includes-

- 1- Attendance of all fellows
- 2- Details of activities done as per log book

Online seminars and case discussions are under consideration and if finalized, there will be online presentation on zoom or equivalent media every fortnight or as recommended by fellowship committee by designated fellowship center in succession.

Recommended Books

No	Name of the Book	Author
1	Neonatal –Perinatal Medicine; Diseases of the fetus and infant	Avroy A Fanaroff, Richard J Martin
2	Neonatology - Pathophysiology & Management of the Newborn	Gordon Avery, Mary Ann Fletcher, M.G. MacDonald
3	Avery Diseases of Newborn	S. Avery, Taeusch, Ballard
4	Polin & Fox - Fetal and Neonatal Physiology	Richard A Polin; William W Fox
5	Robertson's Textbook of Neonatology	Janet M Rennie, N.R.C Robertson
6	Neonatology - Principles and Practice	Dipak K. Guha
7	Manual of Neonatal Care	John P. Cloherty
8	Neonatology - Management, Procedures, On call problems; Diseases And Drugs	Tricia Lacy Gomella
9	Breastfeeding- A Guide to the Medical Profession	Ruth A. Lawrence; Robert M. Lawrence
10	Physical Diagnosis in Neonatology	Mary Ann Fletcher
11	Nelson's Textbook of Neonatology	Behrman, Kleigman, Arvin
12	Assisted Ventilation of the Neonate	Jay P. Goldsmith Edward H. Karotkin
13	Infectious Diseases of the Fetus & Newborn Infant	Remington & Klein
14	Neurology of Newborn	Joseph J. Volpe
15	Smith's Recognizable Patterns of Human Malformations	Kenneth Lyons Jones
16	Moss and Adams Heart Disease in Infants, Children, & Adolescents Including the Fetus & Young Adult	Emmanouilides, Riemenschneider Allen & Gutgesell
17	The Clinical Recognition of Congenital Heart Disease	Joseph K. Perloff
18	Pediatric Cardiology	Myung Park
19	Pediatric Hematology	Nathan , Oski
20	Medical disorders In Obstetric Practice	Michel Deswite
21	Neonatal drug formulary	IAP
22	Textbook of Preventive & Social Medicine	Park

List of Journals (Previous three years)

S No	List of Journals
1	Archives Diseases of Childhood: Fetal & Neonatal edition
2	The Journal of Pediatrics
3	Pediatrics (English Edition)
4	Indian Journal of Pediatrics
5	Indian Pediatrics
6	Clinics in Perinatology
7	Journal of Neonatology
8	Journal of Perinatology
9	Pediatrics Today
10	Archives of Pediatrics and Adolescent Medicine
11	Pediatric Clinics of North America
12	Pediatric Clinics of India
13	Recent Advances in Pediatrics
14	Seminars in Neonatology
15	Seminars in Perinatology
16	The Year Book of Pediatrics
17	Acta Paediatrica: an international journal of Pediatrics

Websites

S No.	Website
1	www.cochrane.mcmaster.ca/neonatal /
2	www.nichd.nih.gov/cochrane
3	www.neonatology.org
4	www.emedicine.com/ped/neonatology.htm
5	www.nnfi.org



IAP FELLOWSHIP IN PEDIATRIC NEUROLOGY



Logbook

**PEDIATRIC
NEUROLOGY UNIT
DEPARTMENT OF PEDIATRICS
BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE, PUNE**



2023 - 2025

CONTENTS

1. Overview of Bharati Vidyapeeth Deemed to be University, BVDU Medical College
2. Highlights of the Department of Pediatrics and Pediatric Neurology Clinic
3. Aims and Objectives of the course
4. General rules and regulations
5. Curriculum and Syllabus
6. Academic schedule
7. Overview of the Logbook

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of Deemed University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY MEDICAL COLLEGE, PUNE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 950 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE, PUNE

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We are offering pediatric super-specialty services viz. Nephrology, Neurology-Epilepsy, Hemato-oncology, Endocrinology, Neonatology, High risk newborn clinic, Pediatric Infectious Diseases, Pediatric Genetics, Pediatric Rheumatology etc. The Department is running Fellowship Programs in Pediatric Critical Care, Neonatology, Pediatric Hemato-Oncology, Pediatric Infectious Diseases, Pediatric Rheumatology, Pediatric Endocrinology since last many years.

PEDIATRIC NEUROLOGY- EPILEPSY UNIT

The Pediatric Neurology- Epilepsy unit was established in 2004. The aim was to provide diagnostic and treatment modalities to children with seizures and other neurological disorders. Postgraduate courses in pediatrics fall short of capacity building in neurology and thus they do not have sufficient expertise in this field. Super-specialty courses available (DM Pediatric Neurology) are of three years duration and very few centers offer them.

Ours is one of the few centers in India to impart training in the field of Pediatric Neurology with a curriculum that covers the entire gamut of developmental, neurological and epileptic disorders in children. Video-EEG facility, Bedside EEG facility immensely help in evaluation and management of Status epilepticus and encephalopathic patients in PICU and NICU. Ketogenic Diet is being managed by trained dietician with rich experience. Under the umbrella of Bharati hospital, other services needed for such patients are provided in the same campus, including other co-specialties like Audiology and speech therapy, Child Guidance Clinic, Occupational and Physiotherapy, along with a dedicated social worker.

Since the clinic started, more than 7000 new patients have been registered. The faculties attached to the clinic have constantly endeavored to keep abreast with the latest knowledge and impart evidence based care to the children referred to us from all over Maharashtra. Every referred patient is thoroughly evaluated by detailed history taking, neurophysiological and neuroradiological (and if needed neurogenetic) evaluation followed by management offered at a very affordable price.

The unit also boasts of hosting several regional as well as national level pediatric neurology conferences / symposia on focused topics. The unit is also involved in several multicentre research projects at national and international level. Many of our projects have been published in reputed international peer reviewed journals, as well as have won awards for best papers at several national and International conferences. Thus, the unit boasts of strong foundation building in clinical care, academics and research aptitude amongst the students enrolling our fellowship programs.

The Neurology Chapter of **Indian Academy of Pediatrics** has accredited the unit to conduct the Fellowship in Pediatric Neurology from January 2013. Initially it was 1 year course, since 2017 onwards, the IAP Neurology Chapter has made it a 2 year course for better learning and completion of study projects, which was not possible in 1 year duration earlier. Twenty fellows have passed from the institute, all are doing well as child neurology practitioners, many of them have now occupied important positions in child neurology bodies of India.

DEPARTMENT OF PEDIATRICS

Dr. Sanjay K Lalwani, MD, DNB

Vice Principal,
Professor and Head

Dr. Vijay Kalrao, MD

Professor

PEDIATRIC NEUROLOGY UNIT FACULTY

Dr Surekha Rajadhyaksha (Chief),

MD, DCH

Professor

Consultant Pediatric Neurology Unit

Dr. Kavita Srivastava (CO-GUIDE),

MD, Fellowship in Pediatric Epilepsy

Professor

Incharge & Co-ordinator Fellowship Program

Dr. Umesh Kalane,

DNB Pediatrics,

Fellowship in Clinical Neuro-physiology and Pediatric Neurology

Dr. Brig. Sankar Prasad Gorthi,

MD (Medicine), DM (Neurology)

Dr. Suyog Doshi,

MD (Medicine), DM (Neurology)

Aims and Objectives of the Fellowship Program

The duration of course shall be for a period of one year.

Program Goals: To train a postgraduate fellow in Pediatric Epilepsy and Neurology

- ❑ To practice as a Consultant in Pediatric Epilepsy and Neurology equipped with appropriate knowledge and skills necessary to care for the child with various types of acute and chronic seizure disorders.
- ❑ To practice Pediatric Epilepsy and Neurology in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- ❑ Understand how to diagnose and manage epileptic and neurological disorders, which generally do not need referral.
- ❑ Understand how to diagnose and initiate management of epileptic and neurological disorders which generally need referral.
- ❑ Understand the presentation and prognosis of various types of epilepsies and neurological disorders in children and adolescents.
- ❑ Understand the appropriate methods of diagnosis and management of a child with these disorders.
- ❑ Understand the indications and complications related to the use of various drugs.
- ❑ Understand the pediatrician's role in the prevention of neurological disorders.
- ❑ To gain an insight into various other overlapping neurological disorders
- ❑ Problems encountered in the management of epileptic and neurological disorders.

Program objectives:

The objectives to be fulfilled at the completion of the course are:

Knowledge:

- ❑ Describe, identify and monitor normal patterns of development, which occur in the neonate, infant, child and the adolescent.
- ❑ Describe etio-pathogenesis, principles of clinical diagnosis, investigations and treatment of diseases of Nervous System in childhood.
- ❑ Demonstrate an understanding of Basic (Pre and Para clinical) Sciences and its application to the normal and abnormal processes, with reference to the nervous system in children.
- ❑ Analyze clinical and investigation data approach and manage the epileptic manifestations of the nervous system in children.
- ❑ Identify and understand socio-economic, environmental and cultural factors in healthcare in diseases of the nervous system in children.

Skills: Clinical

- ❑ Elicit an appropriate clinical history.
- ❑ Demonstrate appropriate clinical and physical and neurological examination skills on children to identify motor and mental age as well as co-morbidities requiring intervention.
- ❑ Plan, decide upon and interpret appropriate cost effective investigations.
- ❑ To be able to do an EEG independently along with interpretation for management of epileptic disorders, including neonatal, video and bedside EEG.
- ❑ To be able to do EMG, NCV, VEP independently along with interpretation for management of neuromuscular and vision disorders.

Skills: Technical

- Electro-encephalography, Video-EEG, bedside EEG in NICU and PICU.
- Basic knowledge of EMG, Nerve Conduction Velocities, BAER and VER.
- Be able to do and interpret CSF examination, including advanced studies.
- Be able to interpret a Cranial USG, CT Scan, MRI Brain , etc
- A working knowledge of the various molecular and cytogenetic methods e.g., Genetics, PCR, Thrombo-philia profile, Metabolic workup etc. and its application to Epilepsy and Neurology.

Communication and Attitudes:

- Communicate appropriately with guardians and children, assisting in their health care and decision-making.
- Practice child health care at the highest ethical level, protecting the child at all costs.
- Apply the highest level of ethics in Research, publication Reference and Practice of Pediatrics.

LOGBOOK FOR

IAP FELLOWSHIP IN

PEDIATRIC NEUROLOGY



IAP (Indian Academy of Pediatrics) Fellowship in Pediatric Neurology

**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY**

PUNE (INDIA)

Grade 'A+' Accreditation by NAAC

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

.....

4. Name of the Guide

5. Name of the Head of the Department

.....

Signature of the Co-Guide

Dr. Kavita Srivastava

Date.....

.....

Signature of the Guide

Prof. Surekha Rajadhyaksha

Date.....

.....

Signature of the Head of the Department,

Prof. Sanjay Lalwani

Department of Pediatrics,

Bharati Vidyapeeth Deemed To Be University Medical College, Pune

General Rules and Regulations

Eligibility:

- i. Candidates should be MD/ DNB with work experience in Pediatric Neurology
- ii. Age not over 35 years

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination. The fellow is not permitted for any festival vacation.

Books and study materials: All assistance is available for library facilities e.g. preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows.

The books have been kept in the Neurology clinic itself for easy access and are available for reference on request and making the necessary entry in outward register. The fellows are expected to take due care of the reference textbooks or journals and return them in time. Few of the books are available in the Central library also.

Core Curriculum for IAP Fellowship in Pediatric Neurology

CURRICULUM STRUCTURE

1. **Basic Neurology:** Neuro-anatomy, Neuro-pathology, Neuro-pharmacology
2. **Neuro-Physiology:** EEG, EMG, NCV, Evoked Potentials.
3. **Clinical Neurology-** General aspects of neurological history. Neurological examination of neonate, infant, older child and adolescent, OPD, Inpatient, Critical Care,
4. **Co-Speciality** clinics like Child Guidance Clinic, Audiology, Speech Therapy, Ophthalmology, Rehabilitation.
5. **Neuro-Diagnostics: Lab Evaluation** Pediatric and Neonatal EEG and Evoked potentials, EMG, NCV, Spinal fluid examination, Neuro-USG, CT Scan, MRI, MRA, MRS, Genetic, Metabolic tests, Thrombotic Profile, Nerve and muscle biopsy etc.

Acquisition of practical competence is the keystone of fellow's medical education. The learning should essentially be self-directed and emanating from clinical and academic work.

A candidate has to cater to the hospitalized inpatient in the wards everyday besides looking after outpatients in the various OPDs like Epilepsy, Audiology, Physiotherapy and Child Guidance Clinic so that they develop a complete understanding of entire spectrum and natural course of the disorders .

The fellows will primarily be posted in Neurology OPD where the major part of learning will take place through clinical case discussions, didactic lectures, grand rounds, seminars, journal clubs etc. along with rotational postings in the other sub-specialties relevant to the field of Pediatric Epilepsy.

Continued emphasis on scholarship and learning is essential for development and maturation of the fellow into the field of child epilepsy. To optimize time, concurrent training agendas have been planned.

It is mandatory to use electronic data management systems, The trainee is expected to be conversant with the use of computer and network to enhance learning and storage and recovery of data. The early clinical assignments will be based on direct patient responsibility for a limited number of patients. Subsequent assignments will place the fellow in a position of taking increased responsibility for patients in a liaison relationship with the faculty staff. In case of extramural referral, the referring doctors should be communicated about the child's investigations and the tentative treatment plan.

Final Examination:

At the end of your tenure, Indian Academy of Pediatrics, Neurology chapter would conduct the final examination, usually in the month of April.

Log Book

During his / her training, the candidate should maintain the Log Book.

The purpose of the Log Book is to:

- a) Help to maintain a record of the work done during training.
- b) Enable the consultant to have first hand information about the work done and to intervene whenever necessary.
- c) Use it to assess the clinical experience gained periodically.

Records should include:

1. Recording of Pediatric, Bedside and neonatal EEG/ EMG/NCV/VEP done by him/her.
2. Supervised and independent interpretation of EEG/EMG/NCV/VEP done by him/her.
3. The diagnosis and classification of various epilepsies and epileptic syndromes and other neurological disorders with rational use of available therapies- the cases that are following up in the Pediatric epilepsy clinic on fixed days.
4. Case presentations , Grand rounds, Guest Lectures, Journal clubs and Seminars.
5. Duration and work done in postings in other specialties like Neuro-physiology (EMG-NCV), Audiology & Speech Pathology, Child Guidance Clinic, Neuro-Radiology, Neuro-anatomy etc.
6. Any CME/ workshop/ conference (related to the specialty) attended
7. Protocol writing, mid-term and final presentation on the assigned thesis or project work.

The entries in the Log Book should be made on a “daily basis” and should be signed by the faculty every month.

Tentative Timelines for IAP Fellowship in Pediatric Neurology

1st – 4th month : Orientation to the Neurology clinic, Electrophysiology Basics

Neuro-anatomy lectures

Allocation of thesis topic

Didactic lectures- EEG

Types of seizures in children

5th-8th month :

Neuro-Radiology

Types of epileptic syndromes in children

Case Discussions, Seminars

Classification of Epilepsy cases with

Supervised interpretation of EEGs, Performing independent EEG

Performing and interpreting EMG/NCV/VEP.

9th-12th month:

Child Guidance Clinic

Case discussions, Seminars, Journal and Drug reviews

Classification of Epilepsy cases with

Supervised interpretation of EEGs (100/ month)

Performing independent EEG (4 Pediatric, 2 neonatal)

Performing and interpreting EMG/NCV/VEP.

13th-16th month:

Audiology and Speech therapy

Neuro-ophthalmology, Neurosurgery

Mid-term Thesis presentation

Rest same as previous month

17th-20th month:

Neuro-rehabilitation (OT/PT/High risk Clinic)

20th-22nd month: Thesis submission

1. Daily activities include ward rounds of neurology patients, bedside EEG reading for PICU/NICU patients, discussion of neuroimaging with radiologists, informing updates of patients regularly.

2. The candidate is required to make e-folders (including history, investigations, photos/videos etc) for all interesting neurological patients.

3. He/she will have to contribute to data entry of the OPD, IPD patients on daily basis.

4. He/she will present cases of interest at Neuromeets, Pune on 3rd Saturday of every month.

Syllabus : covered through case discussions / seminars

1. Neurology Syllabus:

1. Mental retardation, Learning disabilities, ADHD, PDD
2. Gait and movement disorders
3. Cerebral palsy, Speech and language disorders
4. Headache, Migraine
5. Congenital malformations of brain and spine, Hydrocephalus
6. Genetic and chromosomal disorders
7. Encephalopathy/ Coma, Increased Intracranial tension
8. Inborn errors of Metabolism
9. Infections of the nervous system
10. Cerebro-vascular disorders
11. HIE in newborn
12. Traumatic brain injury
13. Determination of brain death in children
14. Grey and white matter degeneration
15. Neuro-cutaneous Disorders
16. Floppy infant

2. Epilepsy Syllabus:

1. Types of seizures, Acute symptomatic seizures
2. Neonatal seizures, Febrile seizures
3. Epilepsies and epileptic syndromes at various ages
4. Approach to management and counseling
5. Role of investigations – EEG, Neuro-imaging, others
6. Pharmacologic therapy, Other modalities of therapy in refractory epilepsy
7. Non-epileptic equivalents
8. Status epilepticus
9. Epidemiology and genetics of epilepsy

3. Neurophysiology Syllabus: (EEG/EMG/NCV/VEP)

1. Technical basics – Amplifiers, Voltage, Time, Space, References, Filters, Electrodes, Localization principles, Montages, Artifacts, Activation procedures.
2. Normal patterns as per age
3. Normal Variants, Abnormal patterns
4. How to read and report , Components of a report
5. Correlation of findings with the disease.

4. Exposure to the following co-specialties:

1. **Audiology** - including OAE, Audiometry, BERA and speech therapy
2. **Child Guidance Clinic**- DQ/IQ, identification and management of various behavioral disorders, learning disabilities, autism etc.
3. **Neuro-physiology** (EMG/NCV/ VEP/ SSEP) –procedure and application
4. Principles of **rehabilitation** (OT/PT)
5. **Neuro-anatomy** – Dissection of brain and spinal cord, vasculature etc.
6. **Neuro-radiology**- Basic principles and application of MRI,MRA, CT, DSA, MRS, PET etc.
7. **Genetics** –application to neurology

Grading and Evaluation of Performance- key indicators:

The grades will be entered by the guide every 03 months for the following –

1. Level of Neurophysiology performance and reporting
2. Level of understanding of neurological disorders in children
3. Level of case discussions, Seminars, Journal and Drug reviews
4. Progress of thesis work

These grades will be entered in the prescribed format as given in the following pages.

Grading of Neurophysiology :

Period	EEG	EMG/NCV/VEP	Supervised/ independent	Report & Interpretation	Grade with remarks
May 2023- September 2023					
October 2023- February 2024					
March 2024- July 2024					
August 2024- December 2024					
January 2025-May 2025					

Grading of EEG Training (Reporting) levels

Level 1:

If the trainee has achieved the following goals –

- # Understand the physiological basis of EEG potentials and waveforms
- # Understand the technology of EEG recording
- # Aware of the ontogeny of EEG between infancy and adolescence
- # Able to interpret an EEG in the clinical context
- # Aware of the role and limitations of EEG in Epilepsy
- # Aware of normal and abnormal EEG

Level 2:

In addition to level 1, the trainee has achieved the following goals –

- # Able to read and interpret EEG studies in infants and children
- # Able to independently identify the various EEG phenomena mentioned
- # Able to report and interpret EEG findings in clinical context
- # Correctly localize focal epileptiform discharges and slow activity
- # Able to supervise a technician for a private practice

Level 3:

In addition to Level 2, the trainee has achieved the following goals –

- # Able to interpret Video – EEG studies
- # Able to interpret Bedside EEG studies
- # Able to interpret Neonatal EEGs according to the gestational age

Grading of Progress of Thesis Work

(Monthly after allocation of thesis topic)

Grades: Satisfactory, Unsatisfactory.

Date	Progress	Level of work
May 2023	Allocation of thesis topic and submission to college Ethics Committee	
November 2023	Data collection	
May 2024	Data analysis, Discussion	
November 2024	Submission	

Co-specialties:

Neuro-anatomy

Neuro-Radiology

Audiology & Speech therapy

Child Development and Guidance

Child Psychiatry

EMG/ NCV /VEP Clinic

Rehabilitation/ High Risk Clinic

Neuro-ophthalmology

Neuro-surgery

Co-specialty : Neuro-surgery:

Date	Topic	Faculty

Other Co-specialty/ Guest lectures

Date	Topic	Faculty
	Neuro-endocrine	
	Neuro-oncology	
	Nuclear medicine	

Details of Paper/ Poster presentations:

Date, Venue	Conference/ CME	Paper/ Poster presented- Title

Evaluation Form : Seminars

	1	2	3	4	5
Date					
Seminar Topic					
Understanding of subject					
Completeness of preparation					
Cogency of presentation					
Consulted all relevant literature					
Ability to answer questions:					
Overall performance.					
Faculty who assessed					
Mean Score:					

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Evaluation Form : Seminars

Date					
Seminar Topic					
Understanding of subject					
Completeness of preparation					
Cogency of presentation					
Consulted all relevant literature					
Ability to answer questions:					
Overall performance.					
Faculty who assessed					
Mean Score:					

Evaluation Form : Seminars

Date					
Seminar Topic					
Understanding of subject					
Completeness of preparation					
Cogency of presentation					
Consulted all relevant literature					
Ability to answer questions:					
Overall performance.					
Faculty who assessed					
Mean Score:					

Evaluation Form : Seminars

Date					
Seminar Topic					
Understanding of subject					
Completeness of preparation					
Cogency of presentation					
Consulted all relevant literature					
Ability to answer questions:					
Overall performance.					
Faculty who assessed					
Mean Score:					

Evaluation Form : Seminars

Date					
Seminar Topic					
Understanding of subject					
Completeness of preparation					
Cogency of presentation					
Consulted all relevant literature					
Ability to answer questions:					
Overall performance.					
Faculty who assessed					
Mean Score:					

Case Presentations

	1	2	3	4	5
Date					
Case presented					
Logical order in presentation					
Relevant history					
Accuracy of General Physical Examination					
Accuracy of Systemic Examination					
Diagnosis – Logical flow based on History & findings					
Order of differential diagnosis (logical)					
Investigations suggested: order, Interpretation					
Treatment: Principles & details					
Patient/Relatives communication					
Abilities to defend diagnosis					
Ability to justify differential diagnosis					
Acceptability of plan of management					
Mean Score					
Faculty sign:					
1					
2					
3					

Guidance for Scoring

0	1	2	3	4

Poor	Below average	Average	Above average	Very Good

Case Presentations

6 7 8 9 10

Date					
Case presented					
Logical order in presentation					
Relevant history					
Accuracy of General Physical Examination					
Accuracy of Systemic Examination					
Diagnosis – Logical flow based on History & findings					
Order of differential diagnosis (logical)					
Investigations suggested: order, Interpretation					
Treatment: Principles & details					
Patient/Relatives communication					
Abilities to defend diagnosis					
Ability to justify differential diagnosis					
Acceptability of plan of management					
Mean Score					
Faculty sign:					
1					
2					
3					

Guidance for Scoring

0 1 2 3 4

Poor Below average Average Above average Very Good

Case Presentations

11

12

13

14

15

Date					
Case presented					
Logical order in presentation					
Relevant history					
Accuracy of General Physical Examination					
Accuracy of Systemic Examination					
Diagnosis – Logical flow based on History & findings					
Order of differential diagnosis (logical)					
Investigations suggested: order, Interpretation					
Treatment: Principles & details					
Patient/Relatives communication					
Abilities to defend diagnosis					
Ability to justify differential diagnosis					
Acceptability of plan of management					
Mean Score					
Faculty sign:					
1					
2					
3					

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Case Presentations

16

17

18

19

20

Date					
Case presented					
Logical order in presentation					
Relevant history					
Accuracy of General Physical Examination					
Accuracy of Systemic Examination					
Diagnosis – Logical flow based on History & findings					
Order of differential diagnosis (logical)					
Investigations suggested: order, Interpretation					
Treatment: Principles & details					
Patient/Relatives communication					
Abilities to defend diagnosis					
Ability to justify differential diagnosis					
Acceptability of plan of management					
Mean Score					
Faculty sign:					
1					
2					
3					

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Case Presentations

	21	22	23	24	25
Date					
Case presented					
Logical order in presentation					
Relevant history					
Accuracy of General Physical Examination					
Accuracy of Systemic Examination					
Diagnosis – Logical flow based on History & findings					
Order of differential diagnosis (logical)					
Investigations suggested: order, Interpretation					
Treatment: Principles & details					
Patient/Relatives communication					
Abilities to defend diagnosis					
Ability to justify differential diagnosis					
Acceptability of plan of management					
Mean Score					
Faculty sign:					
1					
2					
3					

Guidance for Scoring

0 1 2 3 4

Poor Below average Average Above average Very Good

Journal Club- Attended/ Presented

1

2.

3.

Date	1	2.	3.
Article Title			
Journal:			
Impact factor/ citation :			
Choice of article relevant			
Cogency of presentation			
Whether understood and conveyed the purpose of the article			
How did he / she defend article			
Whether cross references have seen consulted			
Understood explained basics of statistic in article			
Whether relevant information mentioned from other similar articles			
Use of audio visual aids			
Presentation			
Response to questioning			
Faculty sign: 1. 2 3.			
Mean Score:			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Journal Club- Attended/ Presented

4

5.

6.

Date			
Article presented			
Journal:			
Impact factor/ citation :			
Choice of article relevant			
Cogency of presentation			
Whether understood and conveyed the purpose of the article			
How did he / she defend article			
Whether cross references have seen consulted			
Understood explained basics of statistic in article			
Whether relevant information mentioned from other similar articles			
Use of audio visual aids			
Presentation			
Response to questioning			
Faculty sign: 1. 2 3.			
Mean Score:			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Journal Club- Attended/ Presented

7

8.

9.

Date			
Article presented			
Journal:			
Impact factor/ citation :			
Choice of article relevant			
Cogency of presentation			
Whether understood and conveyed the purpose of the article			
How did he / she defend article			
Whether cross references have seen consulted			
Understood explained basics of statistic in article			
Whether relevant information mentioned from other similar articles			
Use of audio visual aids			
Presentation			
Response to questioning			
Faculty sign: 1. 2 3.			
Mean Score:			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Half yearly review (April 2023 to September 2023)

Points to be considered:

1. Punctuality/ Attendance :
2. Professionalism/ Ethical behavior:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Bedside manners/ rapport with patients:
6. Team building with colleagues:
7. UG and PG teaching:
8. Counseling patient's relatives:
9. Management of emergencies:
10. Completion of research related activities:
11. Efforts for self directed learning
12. Quality of work- clinical, research

Guidance for Scoring	0	1	2	3	4

	Poor	Below average	Average	Above average	Very Good

.....

Signature of the Co-Guide

Dr. Kavita Srivastava

Date.....

.....

Signature of the Guide

Prof. Surekha Rajadhyaksha

Date.....

Half yearly review (October 2023 – April 2024)

Points to be considered:

1. Punctuality/ Attendance :
2. Professionalism/ Ethical behavior:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Bedside manners/ rapport with patients:
6. Team building with colleagues:
7. UG and PG teaching:
8. Counseling patient’s relatives:
9. Management of emergencies:
10. Completion of research related activities:
11. Efforts for self directed learning
12. Quality of work- clinical, research

Guidance for Scoring	0	1	2	3	4

	Poor	Below average	Average	Above average	Very Good

.....

Signature of the Co-Guide
Dr. Kavita Srivastava

Date.....

.....

Signature of the Guide
Prof. Surekha Rajadhyaksha

Date.....

Half yearly review (May 2024 – November 2024)

Points to be considered:

1. Punctuality/ Attendance :
2. Professionalism/ Ethical behavior:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Bedside manners/ rapport with patients:
6. Team building with colleagues:
7. UG and PG teaching:
8. Counseling patient's relatives:
9. Management of emergencies:
10. Completion of research related activities:
11. Efforts for self directed learning
12. Quality of work- clinical, research

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

.....

Signature of the Co-Guide

Dr. Kavita Srivastava

Date.....

.....

Signature of the Guide

Prof. Surekha Rajadhyaksha

Date.....

Half yearly review (December 2024 – April 2025)

Points to be considered:

1. Punctuality/ Attendance :
2. Professionalism/ Ethical behavior:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Bedside manners/ rapport with patients:
6. Team building with colleagues:
7. UG and PG teaching:
8. Counseling patient's relatives:
9. Management of emergencies:
10. Completion of research related activities:
11. Efforts for self directed learning
12. Quality of work- clinical, research

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

.....

Signature of the Co-Guide

Dr. Kavita Srivastava

Date.....

.....

Signature of the Guide

Prof. Surekha Rajadhyaksha

Date.....

Overall Grading at the end of the Term:

Date:

1. Level of Neurophysiology Performance-

.....

2. Level of Neurophysiology

Reporting.....

3. Understanding of childhood neurological disorders

4. Understanding of co-specialties

5. Academic presentations.....

6. Personal attributes (sincerity, commitment etc.).....

7. Research project

Signatures:

.....

Dr. Kavita Srivastava (CO- GUIDE),

MD, Fellowship in Pediatric Epilepsy

Associate Professor

Coordinator Incharge Fellowship Program

.....

Dr (Prof). Surekha Rajadhyaksha (GUIDE),

MD, DCH

Director, Pediatric Neurology Unit

.....

Dr. (Prof.) Sanjay K Lalwani

Vice Principal, Medical Director

Professor and Head

Department of Pediatrics

.....



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE,
PUNE**



**CHILD DEVELOPMENT & GUIDANCE CENTRE(CDGC)
DEPARTMENT OF PEDIATRICS**



**IAP FELLOWSHIP IN DEVELOPMENTAL & BEHAVIORAL PEDIATRICS
2023 - 2024**

CONTENTS

1. Overview of Bharati Vidyapeeth Deemed to be University, BVDU Medical College
2. Highlights of the Department of Pediatrics and Child Development and Guidance Clinic
3. Aims and Objectives of the course
4. General rules and regulations
5. Curriculum and Syllabus
6. Academic schedule
7. Overview of the Logbook
8. Grading and Evaluation

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of Deemed University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

**BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)
MEDICAL COLLEGE, PUNE**

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 950 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE, Pune

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 90 bedded ward including pediatric surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric super-specialty services viz. Nephrology, Neurology-Epilepsy, Hemato-oncology, Endocrinology, Neonatology, HIV, Developmental & Behavioral Pediatrics, Pediatric Infectious diseases, Pediatric Pulmonology, High risk newborn clinic gastroenterology, cardiology and genetics. The Department is running Fellowship Program in most of the above pediatric subspecialties.

CHILD DEVELOPMENT & GUIDANCE CENTRE (CDGC)

Commented [U1]: centre

The Child Development & Guidance Clinic was established in 2007. The aim was to provide diagnostic and treatment modalities to children with developmental and other behavioral problems. The clinic caters to children with developmental, behavioral, emotional, scholastic problems. Every referred patient is thoroughly evaluated by detailed history taking, evaluation by the Developmental Pediatrician. Detailed assessments as required in the form of IQ, Psychoeducational work up, psychometric assessments are done with detailed printed reports. Management in the form of individualized multidisciplinary therapy plans with goals are formulated and monitored by the Developmental Pediatrician. Along with visiting Psychiatrists there is a full time team of Psychologists, Physiotherapists, Occupational therapists. There is a college of Audiology and Speech-Language pathology in the campus working in close association with the CDGC with its satellite audiology and speech clinics in the pediatric OPD. Other specialties like Pediatric Orthopedics, Pediatric Ophthalmology, Pediatric Neurology-Epilepsy, Genetics are available in the Bharati hospital premises.

Since the clinic started, approximately 10000 new patients have been registered. Monthly around 1100-1200 sessions of patients are done in the CDGC unit.

Commented [U2]: 10000

There is limited available specialization at present in India in this field. There is also a lack of knowledge of these disorders in the undergraduate and postgraduate study syllabus taught in Pediatrics. There is an ever increasing burden of childhood disability with an urgent need for early diagnosis, early intervention and rehabilitation services in our country. This fellowship hopes to make a humble contribution by imparting training to pediatricians in this field thus increasing centers working in this field.

Commented [U3]: limited

FACULTY FOR THE COURSE

Dr. S K Lalwani, MD, DNB
Clinical director of fellowship
Vice Principal,
Professor
Department of Pediatrics

Dr. VIJAY. R. KALRAO, MD
Mentor
Professor and Head
Department of Pediatrics

DR LEENA SRIVASTAVA
PGD-DN, Fellowship in Pediatric Epilepsy & Neurology
IAP Hon Fellowship in Childhood Disability & Early intervention
Developmental and Behavioral Pediatrician
Guide
In charge Child Development & Guidance Centre

Commented [U4]: Add M.A. Psychology

Commented [U5]: Developmental and Behavioral Pediatrician

Commented [U6]: In-charge, Child Development and Guidance Centre,

Aims and Objectives of the Fellowship Program

The duration of course shall be for a period of one year.

Program Goals: To train a postgraduate fellow in Developmental & Behavioral Pediatrics.

- To practice as a Consultant in Developmental & Behavioral Pediatrics equipped with appropriate knowledge and skills necessary to care for the child with various types of Developmental disorders.
- To practice Developmental & Behavioral Pediatrics in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- Understand how to diagnose and manage developmental & behavioral disorders, which generally do not need referral.
- Understand how to diagnose and initiate management of developmental & behavioral disorders which generally need referral.
- Understand the presentation and prognosis of various types of developmental & behavioral disorders in children and adolescents.
- Understand the appropriate methods of diagnosis and management of a child with these disorders.
- Understand the indications and complications related to the use of various drugs.
- Understand the pediatrician's role in the prevention of developmental disorders.
- To gain an insight into various other overlapping neurological disorders
- Problems encountered in the management of developmental & behavioral disorders.

Program objectives

The objectives to be fulfilled at the completion of the course are:

Knowledge:

- Describe, identify and monitor normal patterns of development, which occur in the neonate, infant, child and the adolescent.
- Describe etio-pathogenesis, principles of clinical diagnosis, investigations and treatment of developmental disorders in childhood.
- Demonstrate an understanding of Basic (Pre and Para clinical) Sciences and its application to the normal and abnormal processes, with reference to the nervous system in children.
- Analyze clinical and investigation data approach and manage the behavioral manifestations of the developmental disorders in children.
- Identify and understand socio-economic, environmental and cultural factors in healthcare in developmental diseases in children.

Skills: Clinical

- Elicit an appropriate clinical history.
- Demonstrate appropriate clinical and physical and neurological examination skills on children to identify motor and mental age as well as co-morbidities requiring intervention.
- Plan, decide upon and interpret appropriate cost effective investigations.
- To be able to do a DQ independently along with interpretation for management of developmental disorders.
- To be able to interpret IQ & other basic psychometric tests for management of developmental & behavioral disorders.

Skills: Technical

- Be able to administer basic Development screening & assessment tools.
- Be able to interpret basic Psychoeducational & Psychometric tests, Audiology and Speech language reports.
- Be able to plan Individualized therapy and intervention plan for all developmental & behavioral disorders.
- Be able to give behavioral management to childhood behavioral disorders.
- Be able to counsel parents & caregivers about the diagnosis, intervention and prognosis in developmental disorders.
- Be able to interpret a Cranial USG, CT Scan, MRI Brain , etc
- A working knowledge of the various molecular and cytogenetic methods e.g., Genetics, PCR, Metabolic workup etc. and its application to Developmental Pediatrics.

Communication and Attitudes:

- Communicate appropriately with guardians and children, assisting in their health care and decision-making.
- Practice child health care at the highest ethical level, protecting the child at all costs.
- Apply the highest level of ethics in Research, publication Reference and Practice of Pediatrics.

LOGBOOK FOR
IAP FELLOWSHIP
IN
DEVELOPMENTAL
&
BEHAVIORAL PEDIATRICS



BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

PUNE (INDIA)
Grade 'A+' Re-Accreditation by NAAC

Competency Framework for Sub-Specialty
Fellowship Training in Developmental & Behavioral Pediatrics
[Document valid until September 2024]

Personal Details

- 1. Name (in full)
- 2. Date of Joining
- 3. Name of the Institute
.....
- 4. Name of the Guide
- 5. Name of the Head of the Department

.....
Signature of the Candidate
Date.....

.....
Signature of the Guide
Date.....

General Rules and Regulations

Eligibility:

- i. Candidates should be MD/ DNB or DCH
- ii. Age preferably not over 35 years

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Monday to Saturday as per schedule. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination. The fellow is not permitted for any festival vacation.

Books and study materials: All assistance is available for library facilities e.g. preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows.

The books have been kept in the department of pediatrics itself for easy access and are available for reference on request and making the necessary entry in outward register. The fellows are expected to take due care of the reference textbooks or journals and return them in time. Few of the books are available in the Central library also.

CORE ROTATION

• Psychology

The goal of the Clinical Child Psychology Rotation is to expand the Developmental Behavioral Fellow's skills in dealing with a wide range of clinical child problems. This involves assessment and treatment of problems such as Attention-Deficit/Hyperactivity Disorder; Oppositional Defiant Disorder; learning disabilities; Dyslexia and other academic problems; nonverbal learning disabilities; Autistic Spectrum Disorders; psychological aspects of medical disorders including neurological problems; anxiety disorders; Depression, Post Traumatic Stress Disorder; and other less frequent clinical child problems.

• Psychiatry

During this rotation, the fellow gains experience in the interviewing, assessment and treatment (including psychopharmacology) of children with psychiatric concerns encompassed by the internalizing and externalizing conditions. The fellow gains exposure to assessment of children with complex issues such as substance abuse and gender identity concerns and those requiring inpatient pediatric psychiatric facilities through consultation of inpatients who are medically unstable after suicide attempt.

Principles of Psychiatry for Developmental Behavioral Pediatrics Seminar

This weekly psychiatry skills seminar provides residents with technical supervision as they acquire clinical skills critical in developmental behavioral pediatrics, such as

1. diagnostic interviewing,
2. generating differential diagnoses and
3. parent/child guidance training.

The course trains residents to identify and treat psychiatric disorders including

1. mood disorders,
2. anxiety disorders,
3. eating disorders,
4. psychotic disorders,
5. disruptive behavior and
6. conduct disorders.

Fellows learn about therapeutic modalities including

1. play therapy,
2. cognitive-behavioral therapy and
3. psychopharmacology

- **Psychopharmacology in Developmental Disabilities**

During this rotation, the fellow gains experience in the ongoing psychopharmacologic treatment of individuals with developmental disabilities (young childhood through adolescence) who have comorbidities of internalizing, externalizing and attention concerns. The fellow gains exposure to treatment of children who require complex medication regimens.

- **Occupational Therapy/Physical Therapy/Speech & Language Therapy**

Professionals from OT, PT and Speech and Language work directly with the Developmental Behavioral Fellow in multi-disciplinary team experiences throughout the year. The fellow also has direct rotations in OT, PT and Speech and Language, which occur quite early in training.

These allied health professionals teach the fellows (during the rotations, team experiences and through specific didactics) assessment and treatment from their perspective, allowing the fellow to become more adept at recognizing typical and atypical development and to improve their skills in these areas. The fellow becomes acquainted with these individuals, which facilitates communication over the course of the fellowship regarding specific patients. Also, this allows the fellow an opportunity to understand the role that therapists have with our families.

- **Neonatal Follow-up**

During this rotation, the fellow has the opportunity to observe the effects of prematurity and other high-risk neonatal follow up.

- **Journal Club**

Bimonthly review of a recent publication in developmental-behavioral pediatrics.

OTHER ROTATIONS

- **Clinical child neurology**

This rotation is designed to provide the Developmental Behavioral Fellow with a background in pediatric neurology. This will allow the fellow to have a better understanding of the neurologic basis of developmental and behavioral issues and a working knowledge of appropriate referral to our neurology colleagues. Structured blocks include, but are not limited to outpatient child neurology and epilepsy services

- **Genetic clinic**

During this rotation, the fellow will work closely with the Genetics Faculty to gain expertise in dysmorphology, metabolic disorders and chromosomal disorders. The fellow will also gain experience in the biologic underpinnings of a wide range of neurological, developmental and behavioral issues.

- **Clinical and basic sciences**

Understanding the anatomical basis of development of brain and its function, neuroradiology and interpretation.

- **Biostatistics Course**

Bimonthly one-and-a-half hour didactic and discussion session for fellows in all fellowship programs

Research program

Fellows will work directly with a research mentor to develop and implement their research projects, and submit for publication or present their research in a conference either as a free paper/ Poster before appearing for their fellowship examination.

DAILY DUTIES

Acquisition of practical competence is the keystone of fellow's medical education. The learning should essentially be self-directed and emanating from clinical and academic work.

A candidate has to cater to the everyday outpatients in the various OPDs like CDGC, Psychology, Audiology, Speech, Physiotherapy so that they develop a complete understanding of entire spectrum and natural course of the disorders.

The fellows will primarily be posted in CDGC OPD where the major part of learning will take place through clinical case discussions, didactic lectures, seminars, journal clubs etc. along with rotational postings in the other sub-specialties relevant to the field of Developmental Pediatrics.

It is mandatory to use electronic data management systems, The trainee is expected to be conversant with the use of computer and network to enhance learning and storage and recovery of data. The early clinical assignments will be based on direct patient responsibility for a limited number of patients. Subsequent assignments will place the fellow in a position of taking increased responsibility for patients in a liaison relationship with the faculty staff. In case of extramural referral, the referring doctors should be communicated about the child's investigations and the tentative treatment plan

1. The candidate is required to make e-folders (including history, investigations, photos/videos etc) for all interesting developmental patients.
2. He/she will have to contribute to data entry of the OPD patients on daily basis.
3. He/she will present cases of interest

Continued emphasis on scholarship and learning is essential for development and maturation of the fellow into the field of developmental pediatrics. To optimize time, concurrent training agendas have been planned.

Recommended reading

1. AAP Textbook of Developmental and Behavioral Pediatrics
Authors Robert G. Voight, Michelle M. Macias, Scott M. Myers
2. Developmental-Behavioral Pediatrics
Authors William B. Carey MD (Author), Allen C. Crocker MD
3. Introduction to Psychology by Morgan & King
4. Developmental Psychology by Elizabeth Hurlock
5. The High Risk Newborn by MKC Nair and Naveen Jain.
6. IAP Handbook of Developmental-Behavioral Pediatrics

Commented [U7]: ADD

Log Book

During his / her training, the candidate should maintain the Log Book.

The purpose of the Log Book is to:

- a) Help to maintain a record of the work done during training.
- b) Enable the consultant to have first hand information about the work done and to intervene whenever necessary.
- c) Use it to assess the clinical experience gained periodically.

Records should include:

1. Recording of Pediatric history taking, developmental screening & assessment done by him/her.
2. Supervised and independent interpretation of DQ/IQ/basic psychometric tests done by him/her.
3. The diagnosis and classification of various developmental & behavioral disorders with rational use of available therapies- the cases that are following up in the CDGC clinic on fixed days.
4. Case presentations, Guest Lectures, Seminars and Journal clubs.
5. Duration and work done in postings in other specialties like Psychology, Psychiatry, Audiology & Speech Pathology, Pediatric Neurology, High risk follow up clinic, Neuro-Radiology, Neuro-anatomy etc.
7. Any CME/ workshop/ conference (related to the specialty) attended

The entries in the Log Book should be made on a “daily basis” and should be signed by the faculty every month. Prior to the final examination the logbook should also have to be certified by the Head of the Department of Pediatrics.

LOG BOOK

12 pages

YEAR: _____ MONTH: _____

- 1. Total cases (New and f/u) : _____
 - 2. Interesting cases : _____
- _____
- _____
- _____
- _____

- 1. Assessments seen/done
- 2. Counseling sessions seen/done

Teaching:

- 1. Seminars : _____
- 2. Case Studies : _____
- 3. Lectures : _____
- 4. Journal Club : _____

Signature of Faculty

2 pages

Grading of DQ assessment:

Case no.	Date	Rapport Building	Administering test	Report
1				
2				
3				
4				
5				
6				
7				

Postings in Co-specialties:

Audiology & Speech language pathology

Rehabilitation

High Risk Clinic

Child Psychology

Child Psychiatry

Neurology

Adolescent Pediatrics

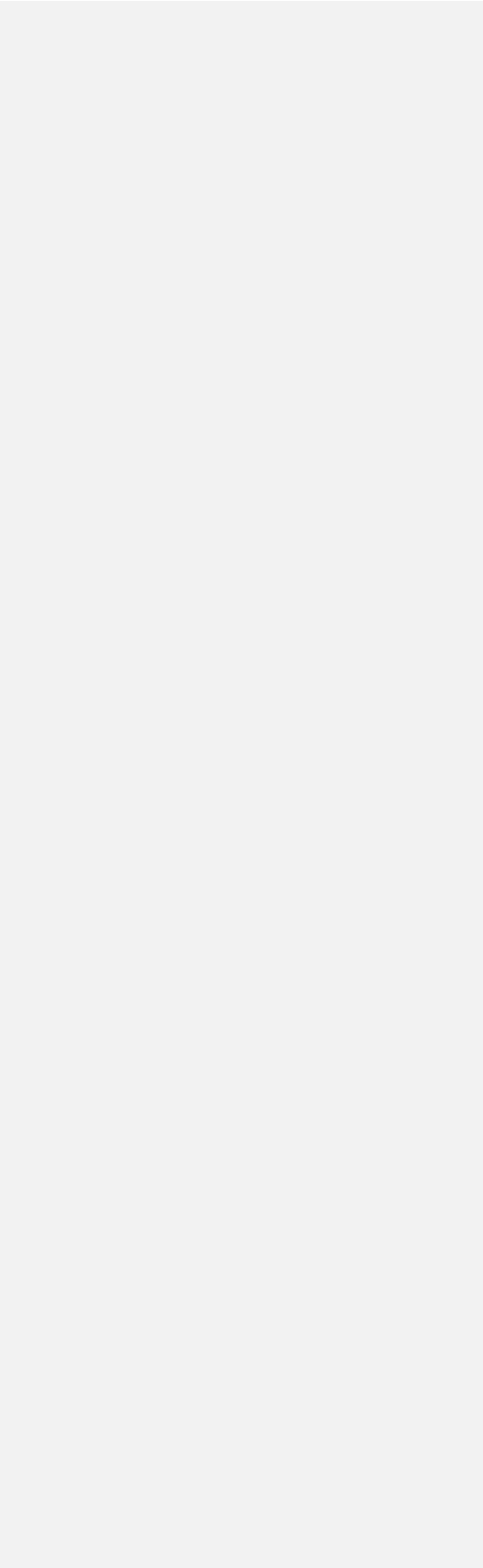
Genetics

Commented [U8]: Make following one page index pages for each of these headings

Specialty Posting: 7. High Risk clinic

From:.....to

Date	Activity	Faculty



15 pages

Evaluation Forms

Seminars

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Cogency of presentation:
4. Use of audiovisual aids.
5. Understanding of subjects:
6. Ability to answer questions:
7. Time scheduling:
8. Consulted all relevant literature:
9. Overall performance.

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

Mean Score:

5 cases

Case Presentation

Date:

Case Title:

1. Logical order in presentation:
2. Cogency of presentation:
3. Complete /Relevant history:
4. Accuracy of General Physical Examination:
5. Accuracy of Systemic Examination:
6. Diagnosis – Logical flow based on History & findings:
7. Order of differential diagnosis (logical):
8. Investigations ordered:
(Complete list, Relevant order, Interpretation of investigations)
9. Treatment: Principles & details
10. Patient/Relatives communication
(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
5. Confidence

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

5 pages

Journal Club

Article presented:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he / she defend article:
5. Whether cross references have been consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

(04 pages)

Clinical Work

Commented [U13]: 4 pages

Quarterly review : (/ / to / /)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Overall Grading at the end of the Term:

0	1	2	3	4
Poor	Below average	Average	Above average	Very Good

1. Level of Neurodevelopment assessment Performance-
.....
2. Level of psychological reporting & interpreting
.....
3. Understanding of Developmental disorders in children
.....
4. Understanding of childhood behavioral & emotional disorders
.....
5. Understanding of co-specialties
6. Academic presentations.....
7. Personal attributes (sincerity, commitment etc.).....
8. Research work

Signature:

Guide – Dr. Leena Srivastava
Developmental and Behavioral Pediatrician
In charge, Child Development & Guidance Centre



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY MEDICAL
COLLEGE, PUNE**



DEPARTMENT OF PEDIATRICS



FELLOWSHIP IN PEDIATRIC HEMATOLOGY - ONCOLOGY

2023 - 2024

Personal Details

- 1. Name (in full)
- 2. Date of Joining
- 3. Name of the Institute
.....
- 4. Name of the Guide
- 5. Name of the Head of the Department

.....

Signature of the Candidate

Date.....

.....

Signature of the Guide

Date.....

.....

**Signature of the Head of the Department,
Department of Pediatrics,**

Bharati Vidyapeeth Deemed To be University Medical College, Pune

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including Dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology and Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of an University to Bharati Vidyapeeth.

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It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric sub-specialty services viz. Nephrology, Epilepsy & Neurology, Hemato-oncology, Endocrinology, Neonatology, Pediatric Rheumatology, Pediatric Infectious Diseases, Pediatric Genetics, High risk newborn clinic etc. The Department runs post-doctoral certificate courses in Neonatology, Pediatric Critical Care, Dual Fellowship in Pediatric Critical Care and Neonatology, Epilepsy & Neurology, Endocrinology, Pediatric Infectious Diseases and Child Developmental and Behavioral Pediatrics.

FACULTY – UNIT HEADS

Dr. S K Lalwani, MD, DNB
Vice Principal,
Professor and Head
Department of Pediatrics

Dr. V. R. Kalrao, MD
Professor
Department of Pediatrics

Dr. Rahul Jahagirdar
Professor
Department of Pediatrics

Dr. Vibha Bafna
Assistant Professor
Incharge – Pediatric Hematology - Oncology Clinic

Dr. Sandip Bartakke
Pediatric Hemato-Oncologist
Department of Pediatrics

Dr. Parag Mahankar
Associate Professor
Pediatric Hemato-Oncologist

Competency Framework for Sub-Specialty
(Logbook)
Training in Pediatric Hematology - Oncology
[Document valid until September 2024]

The use of the Syllabus, the Competency Assessment and completion of the Portfolio

- The Syllabus defines in detail the knowledge, skills and attributes which define Sub-Specialty Training in Pediatric Hematology - Oncology.
- The candidate should use the Syllabus in consultation with the educational supervisor to plan an individualized training programme.
- There are 14 key competencies in Hematology and Oncology, derived from the Syllabus, which all sub-specialty trainees will achieve. Each is divided into three levels. All trainees must achieve Level 3 for each key competency.
- The trainee's progression will be assessed by the level of achievement attained every 3 months for one year.
- In addition the candidate's portfolio should provide:
 - _ A record of continuing professional and educational activities undertaken (symposia, journal club etc.) other than the above, including locally organised educational opportunities.
 - _ Copies of abstracts submitted and publications achievement during the trainee's career.
 - _ Reports of statistics & audits performed by the trainee (alone or as part of a team)
 - _ Evidence of certification for courses claimed in the Competency Assessment.

Fellowship in Pediatric Hematology - Oncology

Preamble:

The field of pediatrics is rapidly expanding. With increase in knowledge and concomitant increase in investigative modalities and therapeutic avenues, specialization has become necessary to maintain excellence in health care. To meet the demands of our vast population we have an urgent need for subspecialty training.

Our country is now on the threshold of better basic pediatric care and improving child health, so now gradually the focus is shifting on chronic and rare diseases. Pediatric hematology – oncology is an upcoming field. There has been great development in this field in the western countries with better modes of investigations, risk stratification, supportive care and definitive therapies; so that children with cancer have survival rates approximately 70-80%. We are lagging far behind the developed countries. We need to develop in all fields of hematology and oncology and developing the manpower in this subspecialty is the keystone of this project.

Pediatric Hematology –Oncology has developed in selected pockets of larger cities. Some large centre also offers training opportunities, but these need to increase in number tremendously and in widespread centers so that access to such programs is better.

Aims and objectives of the program:

Our program seeks to develop skilled Pediatric Hematology - Oncology clinicians through:

- Training in the basic scientific study of pediatric hematology - oncology
- Developing outstanding clinical skills through a wide variety of clinical experiences
- Providing mentorship for both scientific and clinical training

Proposed eligibility and selection of trainee:

Eligibility: Pediatrician holding MD or DNB degree in Pediatrics.

Number of candidates: One per year. One extra candidate can be added if he/she is a faculty member of Bharati Vidyapeeth Medical College as an exception.

Entrance examination and selection: Written test and viva voce.

Training period: 1 year

Program Director: Dr. Sanjay Lalwani, Professor and HOD, Department of Pediatrics, Bharati Vidyapeeth Deemed to be University Medical College, Pune.

Program Coordinator: Dr. Vibha Bafna, Assistant Professor in Pediatrics, Pediatric Hemato-Oncologist, Bharati Vidyapeeth Deemed to be University Medical College, Pune

Terms and conditions:

1. The faculty shall include individuals with sufficient post MD or DNB experience in Pediatric Hematology - Oncology as a teacher.
2. The course duration is of 12 months where the candidate would be posted in Department of Pediatrics at Bharati Hospital. He/She would rotate with the faculty in the Pathology Department, Transfusion Medicine Department and in Bone Marrow Transplant unit.
3. He/she will be expected to complete one research paper in Pediatric Hematology –Oncology during the training program at least 2 months prior to his / her completion of the course.
4. At the end of 12 months of training there would be an examination conducted by Bharati Vidyapeeth University in the month **October (1st week) / April (1st week)** It is mandatory to pass this examination to acquire fellowship certificate.
5. He/she will participate in the teaching programs in the department (case presentations, seminar, journal club, radiology / nuclear medicine meetings and pathology / tumor board meetings / mortality / research project presentation/combined hematology –oncology - surgery meeting) / Nursing training program in Oncology.
6. He/she will be responsible for caring for all inpatient pediatric hematology/ pediatric oncology admissions, interdepartmental consultations and emergencies. Log book of all cases seen will be maintained. Education of patients as well as nurses regarding the illness will also be his/her responsibility.
7. The candidate is expected to take morning and evening rounds followed by informing the respective faculty every day including holidays.
8. Shared accommodation in the hostel shall be provided to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.
9. Each candidate selected shall pay a fee of Rupees 1,20,000/- per year, at the start of each term payable to Bharati Vidyapeeth Deemed to be University Medical College, Pune.
10. The selected candidate will receive a stipend of Rupees 40,000/- per month for the stipulated period of one year of training.
11. Examination & evaluation: As actual
12. **Vicarious responsibilities of the institution:** The candidate shall abide by the regulations and shall give written undertaking regarding medical indemnity, medical negligence etc.
13. **Permitted leave:** The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination.

Course design:

It is an interdisciplinary program involving mentors in the Department of Pediatrics, as well as in the Departments of Pathology, (Hematology and histopathology) intensive care, neurology and endocrinology.

Twelve months of training is devoted to intensive clinical training in the outpatient department, inpatient ward, PICU, and NICU at the Bharati Vidyapeeth Medical College and Hospital, Pune.

The busy inpatient ward forms a referral base for children with hematological disorders like hemoglobinopathy, bleeding disorders, etc. We also get an opportunity to look into and manage hematological issues in the inpatient like nutritional deficiencies, bleeding and clotting.

Children with malignancies like acute leukemia, solid tumor like neuroblastoma, Wilm's tumor, germ cell tumors are admitted in a separate section of the ward. These children are managed according to the established international protocols. The fellows will be required to participate in rounds, discussions, treatment planning and counseling sessions. They will be rotated in the hematology and histopathology laboratory for a better insight into the laboratory work.

This will equip them with better understanding of laboratory procedures and interpretation of reports. The log book of all the cases seen will be maintained. The program will include, but is not limited to training in basic concepts of hematology, oncology infectious diseases, pharmacology of chemotherapeutic drugs and intensive care management of patients.

The fellows will participate in the teaching programs (case presentations, seminar, and journal club) radiology/nuclear medicine meetings and pathology/mortality/research project presentation

During clinical training, the fellow is expected to develop an understanding of the etiologies, pathogenesis, management, treatment and prevention of the following:

- Basic biology and pathology of pediatric hematology and oncology diseases
- Diagnosis and interpretations of clinical symptomatology
- Laboratory procedures and interpretations of reports.
- Learn all relevant procedures like bone marrow aspiration and biopsy, lumbar puncture and intrathecal, PICC line insertion etc.
- Various newer modalities of diagnosis, staging and managing these children.
- Chronic ongoing care of children with chronic disorders like hemoglobinopathies.
- Get familiar with protocols of managing pediatric cancer like acute leukemia, Wilm's, neuroblastoma, etc.
- Hands on management of hematology and oncological emergencies like acute bleeding thrombosis, febrile neutropenia, tumour lysis, etc.
- Holistic quality of life issues in pediatric hematology and oncology, providing palliative care in children with end stage diseases.

The trainee is expected to acquire this knowledge by:

1. Serving as the fellow on inpatients and outpatients referred for evaluation to the hematology - oncology service
2. Reading the appropriate medical literature
3. Individual discussion with faculty members
4. Presenting Case Presentations, Seminars, & journal clubs
5. Attending group meetings in the Ped Hematology-Oncology fields like Monthly Pune Hematology meets etc.

Candidate Evaluation

Internal Assessment: Twenty percent of the total marks shall be for internal assessment, which will include personal attributes (availability, sincerity and motivation, diligence, performance and interpersonal communication skills), clinical skills and performance and academic activity (journal club, seminars, case discussion).

Scheme for examination: The trainee shall have to appear for a theory examination followed by a practical and viva voce session to a constituted board to be conducted at Bharati Vidyapeeth University Medical College. The constituted board would include one internal assessor and one external assessor. The certificate would be granted after the SATISFACTORY completion of ONE year's training and examination.

THEORY (total 200 marks)

2 papers – 100 marks each

Paper I – Hematology (100 marks)

- 2 long questions – 20 marks each
- 6 short questions – 10 marks each

Paper II – Oncology (100 marks)

- 2 long questions – 20 marks each
- 6 short questions – 10 marks each

Practical Examination(Total 200 marks)

- One long case – 50 marks
 - Two short case – 25 marks each
- 1) Hematology/Oncology general viva voce 50 marks
 - 2) Laboratory procedures and interpretations (OSCE) 50 marks

Books and study materials: Any revision

1. Nelson, Textbook of Pediatrics – recent edition Kleignman, Stanton
2. Hematology of Infancy and Childhood 8th edition Nathan and Oski
3. Principles and Practice of Pediatric Oncology 8th edition Philip Pizzo, David Poplack
4. Practical Hematology Dacie and Lewis 10th edition, Editors – SM Lewis, B.J. Bain, I. Bates
5. Manual of Pediatric Hematology and Oncology 07th edition, Philip Lanzkowsky
6. Handbook of Blood Banking and Transfusion Medicine. Editor Gundu Rao, Ted Easthend, Latha Jaganathan
7. Practical Pediatric Hematology 02nd Edition. Editor Anupam Sachedev.
8. Practical Pediatric Oncology Third Edition Editor Gauri Kapoor.
9. Atlas and Text of Hematology Dr. Tejinder Singh

Curriculum:

Hematology

- a. **Neonatal Hematology:** this will deal with neonatal red blood cell disorders, immune hemolytic disorders and developmental hemostasis and its relevance to new born bleeding and clotting disorders.
- b. **Bone marrow failure:** this will include the anatomy and physiology of hematopoiesis, acquired aplastic anemia's pure red cells aplasia, inherited bone marrow failure syndromes.
- c. **Disorders of RBC production:** Diagnosis and approach to patient with anemia, megaloblastic anemia and iron deficiency anemia and sideroblastic anemia.
- d. **Hemolytic anemia's:** This includes hemoglobinopathies like the thalassemias and sickle cell diseases, autoimmune hemolytic anemia, RBC membrane disorders and enzymopathies like G6PD and pyruvate kinase deficiencies.
- e. **Primary immunodeficiency Diseases (PID):** T cells, B cells deficiencies, severe combined immune deficiency and disorders of phagocytic system.
- f. **Hemostasis:** This will include physiology of hemostasis, clinical and laboratory approach to the patient with bleeding, bleeding related to acquired and inherited platelet disorder, bleeding due to inherited coagulation factor deficiencies e.g. hemophilia. This will also includes acquired and congenital disorders of thrombosis.
- g. **Supportive therapy:** This includes transfusion medicine and principles of blood component therapy. It will also deal with treatment of infectious disorders.
- h. **Bone marrow transplantation (BMT):** Introduction and principles of BMT in hematology, oncology and PID.

Oncology

- a. **Biological basis of childhood cancer:** This includes epidemiology, heredity, molecular, genetic and immunological basis of cancer in children.
- b. **Diagnosis and evaluation of childhood cancers:** This includes clinical assessment and approach to pediatric cancer. This will also includes the use of pathology and imaging studies in evaluation of pediatric cancers.
- c. **Principles of multimodal therapy:** This will includes use of chemotherapy, surgery and radiation therapy in treatment of pediatric cancer. This will also includes newer concepts like molecularly targeted therapies, use of BMT and finally palliative treatment.
- d. **Management of common cancers of childhood :**
 1. Acute leukemias – Lymphoblastic and myeloid leukemias
 2. Chronic leukemias
 3. Myeloproliferative and myelodysplastic disorders
 4. Lymphomas, Hodgkin's and Non-Hodgkin's lymphomas
 5. The histiocytoses
 6. Tumors of the central nervous systems
 7. Retinoblastoma
 8. Tumors of the liver
 9. Renal tumors

10. Neuroblastoma
11. Rhabdomyosarcoma and the undifferentiated sarcoma
12. Ewing sarcoma family of tumors
13. Osteosarcoma
14. Germ cell tumors
15. Infrequent cancers

e. Supportive care of children with cancers

1. Oncologic emergencies
2. Hematologic supportive care
3. Infectious complications
4. Nutritional supportive care
5. Nursing support of the child with cancer
6. Rehabilitation of the child with cancer
7. Psychological support of the child and his family with cancer.
8. Ethical issues in pediatric cancers

f. Late effects of childhood cancer and treatment

Key Competencies

Hematology

(Sequence of following remains flexible and can be inter changed)

1. Neonatal Hematology

Level 1 _

- a. Understanding the physiology of Neonatal hematology

Level 2 _

- a. Interpretation of clinical and routine hematology investigation

Level 3 _

- a. To plan an appropriate management strategy accordingly

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

2. Bone marrow failure syndromes

Level 1 _

- a. Anatomy and physiology of normal hematopoiesis

Level 2 _

- a. Appropriate interpretation of clinical and lab investigations

Level 3 _

- a. Planning proper strategy of further investigations and management of the disorders
- b. Getting well versed with acquired and inherited bone marrow failure syndromes

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

3. Approach to a child with anemia

Level 1 _

- a. Basics of erythrocyte production
- b. Understanding Iron, B₁₂, Folic acid, metabolism

Level 2 _

- a. Diagnostic approach to a child with deficiency anemia
 - i. Evaluation
 - ii. Investigations

Level 3 _

- a. Planning an appropriate strategy to diagnose the cause of anemia
- b. Adequate management of iron deficiency, B₁₂ and folic acid deficiency anemia

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

4. Hemolytic anaemia's

Level 1 _

- a. Basic physiology and pathology of abnormal RBC destruction

Level 2_

- a. Interpretation of clinical and routine hematological laboratory parameters
- b. Getting well versed with diagnosis of
 1. Auto immune hemolytic anemia
 2. Red cell membrane disorders
 3. Enzymopathies like G6PD deficiency, Pyruvate kinase deficiency ect.
- c. Learning to see peripheral smears and bone marrow aspiration slides

Level 3 _

- a. Planning appropriate short term and long term management strategy of hemolytic anemia's
- b. Learning to counsel parents of children's with chronic hemolytic anemia's

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

5. Hemoglobinopathies

Level 1_

- a. Physiology & development of the hemoglobin molecule
- b. Pathology of thalassemia of syndromes
- c. Pathology of sickle cell diseases

Level 2_

- a. Clinical presentation of the hemoglobinopathies
- b. Interpretation of common lab parameters of hemoglobinopathies

Level 3_

- a. Comprehensive multidisciplinary long term management of children with thalassemia syndromes and sickle cell diseases.

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

6. Hemostasis

Level 1 _

- a. Basic physiology of bleeding, clotting, , fibrinolysis and platelet function,
- b. Understanding the laboratory investigations for bleeding and clotting disorders
- c. Pathophysiology of thrombotic disorders

Level 2 _

- a. Clinical presentation of children with bleeding and clotting disorder
- b. Adequate interpretation and identification of the laboratory parameters of children with bleeding and clotting disorder.

Level 3 _

- a. Comprehensive multi disciplinary management of children with Hemophilia, Thrombosis, acquired and congenital platelet defects, fibrinolytic disorders

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

7. Immune systems

Level 1 _

- a. Basics anatomy and physiology of immune systems

Level 2 _

- a. Understanding clinical presentation and simple laboratory investigation of children with primary immune deficiency.

Level 3 _

- a. Comprehensive management of common primary immune deficiency.

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

8. Transfusion medicine:

Level 1 _

- a. Understanding the basic physiology of the various blood components like. Packed RBC's Platelets, Fresh frozen plasma, etc.

Level 2 _

- a. Visit to the transfusion medicine department in the hospital and understanding the practical aspects of collection, making and storing of the various blood components

Level 3 _

- a. Managing day to day issues and complications of blood component administration in the pediatric ward.

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

Key Competencies

Oncology

1. Biological basis of childhood cancer

Level 1 _

- a. Understand the epidemiology and biology of childhood cancer

Level 2 _

- a. Molecular and genetic basis of childhood cancers

Level 3 _

- a. Molecular and genetic basis of the individual cancers in detail and understanding its clinical implications

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

2. Diagnosis and evaluation of the child with cancer

Level 1 _

- a. Varied clinical presentations of individual cancers in children including leukemia, lymphoma and other solid tumors.

Level 2 _

- a. Understanding the relevant lab workup like light microscopy, histopathology, flow cytometry, immunohistochemistry etc.
- b. Radiological diagnosis using various modalities like x rays, USG, CT scan, MRI and PET CT.

Level 3 _

- a. Comprehensive understanding of the diagnostics of each individual childhood cancer using varied modalities.
- b. Understanding the work up and for diagnostic, staging and routine workup for the eligibility for giving chemotherapy

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

3. Principles of multimodal therapy

Level 1 _

- a. General principles of chemotherapy
- b. Pharmacology of the chemotherapeutic drugs
- c. Principles of surgery
- d. Principles of radiation oncology

Level 2 _

- a. Understanding newer modalities in cancer therapy like, molecularly targeted therapy, principles of pharmacogenomics, biotherapeutics, cell and gene therapies and hematopoietic transplantation.

Level 3 _

- a. Understanding integrated therapies for individual cancers
- b. Cancer clinical trial design and analysis and understanding individual protocols

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

4. Common cancers of the childhood

- Acute leukemia
- Myeloproliferative disorder
- Hodgkin and Non Hodgkin lymphoma
- Histiocytosis
- Tumours of the CNS
- Neuroblastoma
- Renal tumours
- Rhabdomyosarcoma and other soft tissue sarcoma
- Ewings sarcoma family of tumours
- Osteosarcoma
- Germ cell tumour
- Other rare and miscellaneous tumours

Level 1 _

- a. Common clinical presentation of each of the cancers
- b. Epidemiology of each of the cancers
- c. Molecular and genetic basis of each of the cancers

Level 2 _

- a. Diagnostics like pathology, immunohistochemistry, molecular diagnosis, radiology to be used for each individual tumour.
- b. Using the above modalities for diagnosis, staging and risk stratification.

Level 3 _

- a. Comprehensive management using multimodal treatment strategies like chemotherapy, surgery and radiation for individual cancer.
- b. Counseling of parents at various stages of cancer and supportive care of children with cancer

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

5. Supportive care of children with cancer

Level 1 _

- a. Understanding basic pathophysiology of oncologic emergencies, infection, transfusion, support and principles of nutrition

Level 2 _

- a. Identifying the need for supportive care at various stages in each of individual cancer at appropriate time point.

Level 3 _

- a. Principle of management of supportive care like
- 1) Oncologic emergencies
 - 2) Transfusion and growth factor support
 - 3) Infectious complications
 - 4) Nutritional support
 - 5) Nursing care
 - 6) Long term IV access
 - 7) Psychosocial and ethical issues
 - 8) End of life support of the child and family

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

6. Management of other issues arising at diagnosis and at cessation of therapy

Level 1 _

- a. Late effects of cancer
- b. Rehabilitation of cancer

Level 2 _

- a. Palliative care of child with advanced cancer

Level 3 _

- a. Financial issues in pediatric cancer
- b. Advocacy and organizing awareness for pediatric oncology

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

11. Procedures & Skills –

1. Bone marrow aspiration and biopsy
2. Lumber puncture and intrathecal chemotherapy administration
3. Various modalities of IV access
4. Writing correct chemotherapy orders

Evaluation Forms

Seminar

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Use of audiovisual aids.
4. Understanding of subjects:
5. Ability to answer questions:
6. Time scheduling:
7. Consulted all relevant literature:
8. Overall performance.

Guidance for Scoring

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Below average

Average

Above average

Excellent

Faculty members:

1.

2.

3.

Mean Score:

Seminar

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Guidance for Scoring

1	2	3	4

Below average	Average	Above average	Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Case Presentation

Case:

Date:

1. Logical order in presentation:
2. Complete /Relevant history:
3. Accuracy of General Physical Examination:
4. Accuracy of Systemic Examination:
5. Diagnosis – Logical flow based on History & findings:
6. Order of differential diagnosis (logical):
7. Investigations required:
8. Treatment: Principles & details
9. Patient/Relatives communication
(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
5. Confidence

Guidance for Scoring

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Faculty members:

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Guidance for Scoring

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3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Case Presentation

Case:

Date:

1. Logical order in presentation:
2. Complete /Relevant history:
3. Accuracy of General Physical Examination:
4. Accuracy of Systemic Examination:
5. Diagnosis – Logical flow based on History & findings:
6. Order of differential diagnosis (logical):
7. Investigations required:
8. Treatment: Principles & details
9. Patient/Relatives communication
(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
5. Confidence

Guidance for Scoring

1

2

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Average

Above average

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Mean Score:

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Guidance for Scoring

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2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
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8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

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- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
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10. Response to questioning:

Guidance for Scoring

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2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
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5. Whether cross references have been seen consulted:
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8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Clinical Work

Half yearly review

Points to be considered: (/ / to / /)

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:

Guidance for Scoring	1	2	3	4
	Below average Average Above average Excellent			

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Clinical Work

Half yearly review

Points to be considered: (/ / to / /)

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Guidance for Scoring	1	2	3	4

	Below average	Average	Above average	Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Overall Grading at the end of the Term:

Signature:

Guide – Dr. Vibha Bafna

Signature:

**Dr. S K Lalwani
Vice Principal
Medical Director
Professor
Department of Pediatrics
Bharati Vidyapeeth Deemed to be University Medical College, Pune**

Post Doctoral Certificate
Course in
Pediatric Infectious Diseases

Department of Pediatrics

Bharati Vidyapeeth Deemed University Medical College

Pune (India)

2014

Preamble:

Knowledge in the field of pediatrics is now very vast. With the increase in knowledge and concomitant increase in investigative modalities and therapeutic avenues, specialization has become necessary to maintain excellence in health care. Specialist in specific areas of need have now become necessary to fulfill, the need of increased demand of subspecialty training.

India as a developing country has high burden of infectious diseases. Though we have been on the verge of eradicating Poliomyelitis, there are many more diseases we are not able to control or prevent. The Infant mortality rate and Under-five mortality rate is 30 and 66 deaths/1000 live births respectively in 2011. The overall vaccine coverage in India is not more than 50%. The Millennium Development Goals (2015) aims at reducing Under-five mortality rate up to 38 deaths/1000 live births. We can achieve this by better vaccine coverage and producing Pediatric infectious disease specialists.

Even though India has tremendous amount of pediatric infectious disease cases, there is no formal accredited training program in Pediatric Infectious Disease for Indian doctors. The overseas training in this specialty is of 3-years which are out of reach of most of us. It is a need of the hour for India to have certified Pediatric infectious disease specialists.

Aims and objectives of the program:

Our program seeks to develop skilled Pediatric Infectious Disease clinicians through:

- Training in the basic scientific study of pediatric infectious disease
- Developing outstanding clinical skills through a wide variety of clinical experiences
- Providing mentorship for both scientific and clinical training

Proposed eligibility and selection of trainee:

Eligibility: Pediatrician holding MD or DNB degree in Pediatrics.

Number of candidates: Three per year. One extra candidate can be added if he/she is a faculty member of Bharati Vidyapeeth Medical College as an exception.

Entrance examination and selection: Written test and interview.

Training period: 1 year

Programme coordinator: - Dr. Sanjay Lalwani, Professor & HOD, Department of Pediatrics, Bharati Vidyapeeth University Medical College, Pune.

Faculty: - Pediatrics-

Microbiology-

Terms and conditions:

1. The faculty shall include individuals with sufficient post MD or DNB experience in Pediatric Infectious Disease as a teacher.
2. The course duration is of 12 months where the candidate would be posted in Department of Pediatrics at Bharati. He would rotate with the faculty in the Microbiology department.
3. He/she will be expected to complete one research paper in Pediatric Infectious Disease during the training programme at least 2 months prior to his / her completion of the course.
4. At the end of 12 months of training there would be an examination conducted by Bharati Vidyapeeth University in the month of April (1st week). It is mandatory to pass this examination to acquire fellowship certificate.
5. He/she will participate in the teaching programs in the department (case presentations, seminar, journal club, radiology / nuclear medicine meetings and pathology / mortality / research project presentation/combined nephrology-surgery meeting).
6. He/she will be responsible for caring for all inpatient pediatric nephrology / paediatric urology admissions, interdepartmental consultations and emergencies. Log book of all cases seen will be maintained. Education of patients as well as nurses regarding the illness will also be his/her responsibility.
7. Shared accommodation in the hostel shall be provided to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.
8. Each candidate selected shall pay a fee of Rupees 24,000/- per six months, at the start of each term payable to Bharati Vidyapeeth University Medical College, Pune.
9. The selected candidate will receive a stipend of Rupees 10,000/- per month for the stipulated period of one year of training.
10. Examination & evaluation: Fees Rupees 5,000/-.
11. **Professional insurance:** The candidate must possess a Professional insurance cover.
12. **Vicarious responsibilities of the institution:** The candidate shall abide by the regulations and shall give written undertaking regarding medical indemnity, medical negligence etc.
13. **Permitted leave:** The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination.

Course design:

It is an interdisciplinary program involving mentors in the Department of Pediatrics, as well as in the Departments of Microbiology, Pharmacology and Preventive & Social Medicine.

Twelve months of training is devoted to intensive clinical training in the outpatient department, inpatient ward, PICU, and NICU at the Bharati Vidyapeeth Medical College and Hospital, Pune. The busy inpatient consult service provides exposure to a wide range of both general community acquired pediatric infectious disease problems such as meningitis, gastrointestinal and respiratory infections as well as experience in the management of infections in patients with complicated surgical, neurosurgical and intensive care related infections. In the outpatient department, fellows evaluate new consults and provide continuity of care for patients seen on the inpatient service. The fellow will participate in formal laboratory training sessions in the microbiology labs. This intensive experience will be complemented by ongoing rounds with the microbiology labs. The program will include, but is not limited to, training in basic concepts on immunology, epidemiology, clinical pharmacology, and infection control as they relate to patient care and training in the prevention of infectious diseases. The log book of all the cases seen will be maintained. During the laboratory posting he/she is expected to become familiar with the performance and interpretation of laboratory investigations. The fellows will participate in the teaching programs (case presentations, seminar, and journal club) radiology/nuclear medicine meetings, pathology/mortality/research project presentation and hospital infection control meeting.

During clinical training, the fellow is expected to develop an understanding of the etiologies, pathogenesis, management, treatment and prevention of the following:

- Organ system infections
- Pathogens of infectious diseases
- Prevention of infectious diseases
- Immunity and host defense
- Mechanisms of infectious diseases
- Infections in special circumstances
- Infections in high-risk hosts
- Epidemiology
- Principles of epidemiologic research and biostatistics

The trainee is expected to acquire this knowledge by:

1. Serving as the consulting fellow on inpatients and outpatients referred for evaluation to the infectious diseases service
2. Reading the appropriate medical literature
3. Individual discussion with faculty members
4. Presenting Seminars

Candidate Evaluation

- 1) Internal Assessment: Twenty percent of the total marks shall be for internal assessment which will include personal attributes (availability, sincerity and motivation, diligence, performance and inter-personal communication skills), clinical skills and performance and academic activity (journal club, seminars, case discussion).

Scheme for examination The trainee shall have to present him for a theory examination followed by a practical and viva voce session to a constituted board to be conducted at Bharati Vidyapeeth University Medical College. The constituted board would include one internal assessor and one external assessor. The certificate would be granted after the SATISFACTORY completion of ONE year's training and examination.

THEORY

2 papers – 3 hours each, 100 marks each

- 2 long questions – 20 marks each
- 6 short questions – 10 marks each

Paper I – Pathogenesis of infectious diseases, infections with specific microorganisms, microbiological diagnosis of infections

Paper II – infections of specific organ systems, infection control, therapeutics, prevention of infectious diseases, epidemiology and biostatistics

Practical Examination

- One long case – 50 marks
- One short case – 25 marks
- Ward rounds – 25 marks
- X rays – 20 marks
- Microbiology – 20 marks
- Drugs – 20 marks
- Pedagogy – 20 marks
- Viva – 20 marks

Books and study materials:

1. Textbook of Pediatric Infectious Diseases. Ralph D. Feigin, Gail D Demmler, James D. Cherry, Sheldon L. Kaplan. 6th Edition; 2009
2. Current Therapy in Pediatric Infectious Disease. Nelson, J. D. 1992.
3. Infectious Diseases of the Fetus and Newborn Infant. 7th edn. Jack S. Remington, Jerome O. Klein, Christopher B. Wilson, Victor Nizet, Yvonne Maldonado; 2010
4. Principles and Practice of Pediatric Infectious Diseases. Sarah S. Long, Larry K. Pickering, Charles G. Prober 2009
5. Infectious Diseases in Children And Newer Vaccines Jaypee Brothers, Medical Publishers, Tapan Kr Ghosh – 2007
6. Microbiology textbooks

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

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4. Name of the Guide

5. Name of the Head of the Department

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Signature of the Candidate

Date.....

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Signature of the Guide

Date.....

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**Signature of the Head of the Department,
Department of Pediatrics,**

Bharati Vidyapeeth Deemed to be University Medical College, Pune

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of an University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY MEDICAL COLLEGE, PUNE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, Nephrology etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 839 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE, PUNE

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric sub-specialty services viz. Epilepsy & Neurology, Hemato-oncology, Endocrinology, Neonatology, Pediatric Rheumatology, Pediatric Infectious Diseases, Pediatric Orthopedic, High risk newborn clinic etc. The Department runs post-doctoral certificate courses in Neonatology, Pediatric Critical Care, Epilepsy & Neurology, Endocrinology, Pediatric Hematology-Oncology, Pediatric Infectious Diseases, Development and Behavioral Pediatrics, Pediatric Genetics and Metabolic Disorders etc.

FACULTY – UNIT HEADS

Dr. S K Lalwani, MD, DNB
Vice Principal,
Professor
Department of Pediatrics

Dr. V. R. Kalrao, MD
Professor and Head
Department of Pediatrics

Dr. Jitendra Oswal, DNB, Fellowship in Pediatric Rheumatology
Professor in Pediatrics
Pediatric Rheumatologist

Competency Framework for Sub-Specialty
(Logbook)
Training in Pediatric Rheumatology
[Document valid until October 2024]

The use of the Syllabus, the Competency Assessment and completion of the Portfolio

- The Syllabus defines in detail the knowledge, skills and attributes which define Sub-Specialty Training in Pediatric Rheumatology.
- The candidate should use the Syllabus in consultation with the educational supervisor to plan an individualized training programme.
- There are defined 10 key competencies, derived from the Syllabus, which all sub-specialty trainees will achieve. Each is divided into three levels. All trainees must achieve Level 3 for each key competency.
- The trainee's progression will be assessed by the level of achievement attained every 3 months for one year.
- In addition the candidate's portfolio should provide:
 - _ A record of continuing professional educational activities undertaken (symposia, Journal club etc.) other than the above, including locally organised educational opportunities.
 - _ Copies of abstracts submitted and publications achievement during the trainee's career.
 - _ Reports of statistics & audits performed by the trainee (alone or as part of a team)
 - _ Evidence of certification for courses claimed in the Competency Assessment.

Fellowship in Pediatric Rheumatology

Preamble:

The need for a training program in Pediatric Rheumatology:

Knowledge in the field of pediatrics is now very vast. With the increase in knowledge and concomitant increase in investigative modalities and therapeutic avenues, specialization has become necessary to maintain excellence in health care. Specialist in specific areas of need have now become necessary to fulfill, the need of increased demand of subspecialty training.

Pediatrics has lagged behind in the development of specialties. Pediatric specialists so far have either been trained abroad or have been trained by mentors in the corresponding adult specialty. As a result the country now has in place only a handful of pediatric specialists in teaching institutions, who can now function as the mentors. Among the pediatric specialties, pediatric Rheumatology is one of the youngest in India. There are scarcely 12 to 14 pediatricians in the whole country who are trained in pediatric rheumatology.

Pediatric Rheumatology encompasses areas such as juvenile arthritis, connective tissue disorders and autoinflammatory diseases. Even the appreciation of the normal in these aspects of pediatrics is inadequately taught in general pediatric training. Proper management of such disorders requires specialized training and exposure than is available in a typical pediatrics training program. To ensure good care of children with these and other disorders in India, there is an urgent need to augment the numbers of trained manpower in the field.

Aims and objectives of the program:

The key goals of the fellowship program are to:

Develop collaborative clinical care expertise

- To lead the comprehensive care of children with rheumatic diseases.
- To incorporate the role of medical and allied healthcare professionals in patient care.
- To understand the role of community resources in the care of children with rheumatic diseases.
- To work within interdisciplinary teams

Foster independent translational and clinical investigation

- To provide mentoring to develop and complete innovative and feasible research projects.
- To ensure academic achievement by rigorously supervising academic progress.

Invest in the future of pediatric rheumatology

- To promote management skills for independent direction of a rheumatology team, including formal participation in divisional quality and patient safety initiatives.
- To foster mentoring skills to educate subsequent trainees.
- To cultivate leadership skills to advance the field of pediatric rheumatology.

Proposed eligibility and selection of trainee:

Eligibility: Pediatrician holding MD or DNB degree in pediatrics

Number of candidates: One per year. As an exception 2 per year when the extra candidate is a faculty of Bharati Vidyapeeth University Medical College.

Entrance examination and selection: Written test and interview

Training period: 1 year

Terms and conditions:

1. The faculty shall include individuals with sufficient post MD or DNB experience in pediatric Rheumatology/overseas training/long standing experience in pediatric Rheumatology as a teacher
2. The course duration is of 12 months where the candidate would be posted for 06 months in dept of pediatrics at Bharati Hospital, Pune and for next 06 months the candidate would be posted at Rainbow hospital, Bengaluru.
3. He/she will be expected to complete one research paper in pediatric Rheumatology during the training programme at least 2 months prior to his / her completion of the course.
4. The fellowship would start on 01st October of each academic year
5. There would be an examination in the month of Oct (1st / 02nd week). It is mandatory to pass this examination (Theory and practical; both) to acquire fellowship certificate.
6. Shared accommodation in the hostel shall be provided to the candidates as per availability at Bharati Hospital, Pune. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.
7. Each candidate selected shall pay a fee of Rupees 1,20,000/- per year, at the start of the term payable to Bharati Vidyapeeth Deemed to be University Medical College, Pune A/C MD-MS
8. The selected candidate will receive a stipend of rupees 40,000/- per month for the stipulated period of training from respective institute.
9. Examination & evaluation fees: as applicable

Course design:***Postings:***

The trainee will spend at least 12 months in clinical pediatric and adolescent Rheumatology rotation and at least 1 month in the laboratory training. He/she will complete at least one paper acceptable for publication in a peer reviewed journal, and participate in the teaching programs in the department (case presentations, seminar, journal club, radiology/orthopediatrics medicine meetings).

He/she will be responsible for caring for all inpatient pediatric Rheumatology admissions, as well as pediatric Rheumatology interdepartmental consultations and emergencies. Log book of all cases seen will be maintained. Rheumatology education of patients as well as nurses will also be his/her responsibility.

During the laboratory posting he/she is expected to become familiar with the performance and interpretation of laboratory assays.

Examination Pattern

The theory examination will consist of two papers of 100 marks each on day one followed by a practical and viva voce session conducted at Bharati Vidyapeeth Deemed to be University Medical College. The constituted board would include one internal assessor and one external assessor. The certificate would be granted after SATISFACTORY completion of ONE year's training, research project and examination.

Practical exam: OSCE pattern. And Viva Voce

Candidate would have to pass independently in both theory and practical to be eligible for certification.

The theory paper shall for 3 hours each comprise of descriptive questions and multiple choice questions.

Professional insurance: The candidate must possess a Professional insurance cover.

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination.

Books and study materials:

BOOKS

1. Textbook of Pediatric Rheumatology (Authors: Cassidy, Petty)
2. Rheumatology by Hochberg (Mosby)
3. Oxford Textbook of Rheumatology
4. Primer on the Rheumatic Diseases
5. Kelley's Textbook of Rheumatology

JOURNALS

1. Annals of the Rheumatic Diseases (ARD) Official Journal of EULAR
2. Arthritis and Rheumatism – official journal of the American College of
3. Rheumatology (ACR)
4. Arthritis Research and Therapy
5. Current Opinion in Rheumatology
6. Journal of Rheumatology
7. Nature Reviews Rheumatology
8. Rheumatology – Oxford journals – Official Publication of British Society of
9. Rheumatology
10. International Journal of Rheumatic Diseases. Official Publication of APLAR
11. Indian Journal of Rheumatology

Curriculum:

Theoretical training

A. Understanding of Basic Immunology

I. Structure and function of the immune system

- a. The human immune response
- b. Cells and tissues of the immune system, T and B cell development, lymphocyte trafficking
- c. Immunoglobulin genes and proteins
- d. TCR genes, gene products and co-receptors
- e. The HLA major histocompatibility complex
- f. Antigens and antigen presentation, superantigens
- g. Cytokines, cellular adhesion and interactions

- h. Immune regulation
- i. Tolerance
- II. Host defense mechanisms and inflammation
 - a. Immunoglobulin function
 - b. Regulatory and effector functions of CD4+ T lymphocytes
 - c. Cytotoxic T cell function, cytotoxic function of macrophages, NK cell function
 - d. Mucosal defense mechanisms
 - e. Tumor immunity
 - f. Pro-inflammatory and inhibitory cytokines
 - g. Complement
 - h. Function of phagocytes, mast cells, basophils and eosinophils
 - i. Immunopathology of inflammation
- III. Infection and immunity
 - a. Immune response to microbes
 - b. Infections in the immuno-compromised host
 - c. Vaccines
- IV. Immunodeficiency
 - a. Approach to evaluation of the immunodeficient host
 - b. Primary immunodeficiency disorders
 - c. Secondary immunodeficiency (excluding AIDS)
- B. Systemic immune diseases
 - a. Mechanisms of autoimmunity
 - b. Serum sickness and pathology of immune complex mediated diseases
 - c. Systemic Lupus erythematosus
 - d. Rheumatoid arthritis
 - e. Juvenile rheumatoid arthritis (JRA/JIA)
 - f. Rheumatic fever
 - g. Spondyloarthropathies
 - h. Systemic sclerosis
 - i. Polymyositis/dermatomyositis
 - j. Systemic necrotizing vasculitis
 - k. Sjogren's syndrome
 - l. Overlap syndromes
 - m. Others (PMR, panniculitis, relapsing polychondritis, erythema nodosum)
 - n. Behcet's disease
 - o. Sarcoidosis
 - p. Amyloidosis
 - q. Goodpasture syndrome
- C. Treatment of immunological diseases
 - a. IVIG therapy
 - c. Cytokine-modulatory therapies
 - e. Therapeutic antibodies
 - f. Gene therapy
 - g. Anti-inflammatory medications: steroids, NSAIDs and antihistamines
 - h. Immunosuppressive therapy
 - i. Plasmapheresis and experimental immunotherapies for immune diseases

- D. Immunodiagnosics
- a. Evaluating immunological functions
 - b. Detection of specific antibodies
 - c. Flowcytometry
 - d. HLA typing and matching
 - e. Lymphoproliferation assays
 - f. Molecular methods

Practical Knowledge

I. Laboratory techniques

- a. Indirect immunofluorescence method for detection of
 - (i) anti-nuclear, anti-smooth muscle, anti-parietal cell and anti-mitochondrial antibodies by using rat liver, stomach and kidney sections as substrates
 - (ii) ANA and anticentromere antibodies on Hep-2 cell line and
 - (iii) ANCA
- b. Nephelometry for the estimation of serum complements (C3, C4) and immunoglobulins (IgG, IgM, IgA, IgE)
- c. ELISA technique for the estimation of ANA, anti-ds-DNA, ACLA and ANCA
- d. Immunoblot for ANA profile
- e. Serum electrophoresis for myeloma screening
- f. Synovial fluid analysis
- g. Lupus anticoagulant assay
- h. HLA typing (serological and molecular)
 - i. NBT test for evaluation of phagocytic function
- j. Enumeration of lymphocyte subsets in peripheral blood using flow cytometry
- k. Lymphoproliferation assay
- l. PCR standardization and optimization

II. Management of patients with autoimmune rheumatic disorders and immunodeficiency

III. Practical skills in Rheumatology/Immunology

- a. Clinical examination with special reference to immunological diseases
- b. Rational use and interpretation of immunological tests
- c. Diagnostic and therapeutic synovial fluid aspiration
- d. Joint and soft-tissue injections with steroids
- e. Proficiency in the use of immunomodulators and immunosuppressive agents
- f. Basic physiotherapy and rehabilitation skills
- g. Clinical evaluation of primary and secondary Immunodeficiency

Key Competencies

(Sequence of following remains flexible and can be inter changed)

Academic activities: 1 October 2023 –31 December 2023

- Seminars
- Case presentation
- Journal review
- Admission and Monthly audit

Date	Topic	Content	Quality	Understanding	Research	Grade

Academic activities: 1 January 2024 – 31 March 2024

- Seminars
- Case presentation
- Journal review
- Admission and Monthly audit

Date	Topic	Content	Quality	Understanding	Research	Grade

Date	Topic	Content	Quality	Understanding	Research	Grade

Evaluation Forms

Seminar

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Cogency of presentation:
4. Use of audiovisual aids.
5. Understanding of subjects:
6. Ability to answer questions:
7. Time scheduling:
8. Consulted all relevant literature:
9. Overall performance.

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Seminar

Date:

Seminar Topic:

Evaluation Points:

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Below average	Average	Above average	Excellent

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7. Order of differential diagnosis (logical):
8. Investigations required:
(Complete list, Relevant order, Interpretation of investigations, Unnecessarily investigations asked)
9. Treatment: Principles & details
10. Patient/Relatives communication
(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
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1	2	3	4
Below average	Average	Above average	Excellent

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Case Presentation

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Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

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Below average

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Faculty members:

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Mean Score:

Journal Club

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Mean Score:

Clinical Work

Quarterly review

Points to be considered: (/ / to / /)

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:

Guidance for Scoring	1	2	3	4
	-----	-----	-----	-----
	Below average	Average	Above average	Excellent

Faculty members:

- 1.
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Mean Score

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Quarterly review

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	Below average	Average	Above average	Excellent

Faculty members:

- 1.
- 2.
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Mean Score

Overall Grading at the end of the Term:

Signature:

Guide – Dr. Jitendra Oswal

Signature:

**Dr. S K Lalwani
Vice Principal
Medical Director
Professor and Head
Department of Pediatrics
Bharati Vidyapeeth Deemed to be University Medical College, Pune**

Bharati Vidyapeeth (DTU) Medical College & Hospital

Dhankawadi, Pune-43.

PROPOSAL FOR STARTING NEW FELLOWSHIP PROGRAMME

1.Name of the Sponsoring Department- Pediatrics

2.Discipline for proposed Fellowship – Pediatric Pulmonology

3.Brief Justification for starting the course—

Respiratory illnesses are of variable etiology and may be acute, sub-acute or chronic. Most general pediatricians have seen a lot of children with lung disease, but they rarely understand it. Therefore, there is ample opportunity for improvement in quality of care and knowledge enhancement of fellow colleagues. Development of Pediatric Pulmonology as a sub-specialty in India is steadily gaining momentum over the last decade. In a recent estimate about 1.6 million children under the age of 5 years died in India every year, of which 0.397 million (24%) died due to pneumonia alone. It has been reported that outpatient attendance of acute respiratory infections is as high as 20-40% of all outpatients and 12-35% of all inpatients. Burden of asthma in school going children varies from 4-20% in different parts of India. Apart from these illnesses drug sensitive and drug resistant pulmonary tuberculosis and human immunodeficiency virus (HIV) associated pulmonary diseases also add to burden of respiratory illnesses. Other emerging diseases like cystic fibrosis (CF), bronchopulmonary dysplasia, interstitial lung diseases and opportunistic infections in group of immunocompromised hosts, though do not form a significant burden now, but are emerging as a challenge in future.

The Department of Pediatrics at BVUDMC&H is a well established unit well renowned for its academic excellence and training of students in Pediatrics as well as various Pediatric subspecialties. As on today, the department is running fellowship programs in 9 different Pediatric sub-specialties successfully. We as unit are a Centre of excellence in medical education, training, health care and research engrained with a scientific culture, compassion for the sick and commitment to serve the community at large. Pediatric Pulmonology care is available only at select centers across India.

Starting Pediatric Pulmonology fellowship at BVDUMC&H will provide training, experience and a conceptual tool that will enable fellow not only expertise as a practitioner, but will give him / her the foundation to ultimately utilize it for provision of better quality care to children across the country and also dissipate knowledge to fellow Pediatricians. As a trained fellow in Pediatric Pulnomology, he/ she will also be able to develop a network to collect data and answer relevant research questions and contribute effectively to the rapidly growing field of Pediatric Pulmonology.

To include undermentioned-

a. Infrastructure in the department to support the fellowship

Following infrastructure in the institute / departments available to support the training program:

- i) Endoscopy suite
 - ii) Pediatric fiberoptic bronchoscope with attachable light source, processor and monitor
 - iii) Pediatric videobronchoscope with tower
 - iv) Video laryngoscope
 - v) Non-invasive and invasive ventilation facilities
 - vi) Pulmonary Function Test
 - vii) Portable spirometry
 - viii) FENO machine
 - ix) Sweat chloride machine
 - x) Sleep lab set-up (in process)
 - xi) Radiology backup (including x-ray, ultrasound, CT)
 - xii) ENT surgeon back-up for airway problems and tracheostomies
 - xiii) Pediatric Surgery back-up
 - xiv) Infectious disease back-up
 - xv) Pediatric Anesthetist back-up
 - xvi) Pediatric Intensive Care facilities
 - xvii) Neonatal Intensive Care facilities
 - xviii) Adult Pulmonology back-up
 - xix) Respiratory therapist
 - xx) Pediatric Physiotherapist
- b. OPD volume during last one year in the proposed discipline – As this is a newly proposed sub-specialty program, the exact numbers with regards to Pediatric Pulmonology cannot be determined.
- c. IPD volume during last one year in the proposed discipline - As this is a newly proposed sub-specialty program, the exact numbers with regards to Pediatric Pulmonology cannot be determined.
- d. Volume of procedures during last one year (if applicable)
- i) Bronchoscopies - 18
 - ii) Tracheostomies – 5
- e. Availability of suitable mentor(s) - Yes
- i) Dr Sanjay Bafna – Pediatric Pulmonologist, BH, Pune, India
 - ii) Dr Jagdish Chinappa – Pediatric Pulmonologist, Manipal Hospital, Bengaluru, India
 - iii) Dr Bhakti Sarangi – Associate Professor and Pediatric Intensivist, BH, Pune
 - iv) Dr Prasun Mishra – Professor and ENT surgeon, BH, Pune, India
 - v) Dr Priscilla Joshi – Professor and Head, Radiodiagnosis, BH, Pune, India
 - vi) Dr Parmarth – Pediatric Pulmonologist, Wadia children’s hospital, Mumbai, India

4. Aims and Objectives-

Aim of the training:

To enable the candidate to intellectual environment conducive to learning the exemplary practice of Pediatric Pulmonology.

Objectives of the training:

The trainee requires a sound understanding of Pediatric Pulmonology including:

- Proficiency in the clinical diagnosis and medical treatment of acute and chronic respiratory diseases including those that are life threatening in infants, children, adolescents and young adults
- Proficiency in the selection, performance, and evaluation of procedures necessary for the morphologic and physiologic assessment of pulmonary diseases
- Developing a comprehensive knowledge of the pathophysiology of pediatric respiratory disorders through self-study and formal course work, lectures and seminars offered as part of the training program
- Acquiring effective teaching and communication skills

Acquiring the following specific skill-set

- Doing and Interpreting pulmonary function tests (conventional and impulse oscillometry spirometer)
- Doing and interpreting FeNO and nasal NO
- Performing sweat chloride test
- Interpretation of chest X-ray and CT scan
- Performing flexible bronchoscopy
- Performing and interpreting sleep studies

Assessing requirement of NIV, starting it monitoring

5. Fellowships already running in the department and present actual intake –

Sr	Name of Fellowship programme	Present intake
1	Neonatology	01
2	Pediatric Critical Care	03
3	Dual Fellowship in Neonatology and Pediatric Critical Care	01

4	Pediatric Endocrinology	01
5	Pediatric Epilepsy and Neurology	01
6	Pediatric Infectious Diseases	01
7	Pediatric Rheumatology	01
8	Developmental and Behavioral Pediatrics	01
9	Pediatric Genetics and Metabolic Disorders	01

6. Intake for proposed Discipline per year / term – 2

7. Eligibility criteria of candidates-

- 1) Age less than 35 years
- 2) MD / DNB in Pediatrics
- 3) Additional qualification registered with MCI / State medical council

8. Method of selection – (e.g. MCQ & Interview)

Annexure attached (application screening followed by structured objective questionnaire and the personal interview)

9. Training Period -

12 months at BVDUMC&H, Pune, India

10. Outline of Fellowship Programme-

a. Academic / Teaching activities to be engaged in

- i) Outpatient based teaching in sub-specialty OPD
- ii) Inpatient rounds and bedside teaching
 - iii) Case presentations and seminars
 - iv) Journal Clubs
 - v) Pediatric-Radiology Meet
 - vi) Joint sessions with BCH, UK
 - vii) Guest Lectures

b .Rotatory postings

- i) ENT
- ii) Pediatric surgery

iii) Pediatric anesthesia

c. Outline syllabus (attach as appendix)

d. Exposure to practical procedures

i) Training in Bronchoscopy

ii) Training in PFT

iii) Training in spirometry

iv) Training in sleep studies

f. Research activities by the candidate

- One research project will be taken up by the candidate for each term

f. Presentations at State/ National forum

- The candidate will be encouraged to present papers and posters at state and national level conferences

g. Log book

- Log book as designed will be provided to the candidate where details of teaching sessions, cases seen, procedures done and research activities will be recorded

11. Clinical Job Description of the candidate- (what all clinical responsibilities of the candidate)

a. OPD –

- The candidate will be an integral part of managing the outpatient facilities with sub-specialty running 3 OPDS per week – Asthma clinic / Chronic Respiratory diseases clinic / General Respiratory clinic. The profile will include:

i) Coordinating with OPD administrator to arrange appointments

ii) Getting detailed history and doing a physical examination of each patient

iii) Conducting academic discussions with concerned Faculty

iv) Making treatment plans for patients in consultation with respective faculty

v) Ensuring coordination of any evaluation / procedure that the patient may require

vi) Recording details of the patients in the clinic proforma and ensuring complete record of follow-up visits

b. IPD

- i) Taking rounds of all IPD patients with respiratory problems in ward, NICU and PICU and discussing with respective faculty**
- ii) Ensuring all the references are seen in time**
- iii) Presenting cases bedside to the Pediatric Pulmonology Faculty**
- iv) Execution of plan of management for each referred patient**
- v) Coordinating procedures including bronchoscopy and evaluations including PFT, etc**
- v) Counseling and training of parents with regards to diagnosis, management plan, any devices to be used (eg. MDI, peak flow meter)**

c. Emergency duties

- There will be no emergency duties for the candidate. However, he / she will remain on call for acute respiratory emergencies and bronchoscopy calls

d. Teaching duties

- The candidate will be involved in teaching of residents and undergraduates with respect to Pediatric Pulmonology.

12. Leave rules-

- The candidate will be eligible for 7 days leave per 6 months term

13. Mandatory attendance-

- Barring 14 days of leave granted in one year period (7 days per 6 months term) and weekly off, the rest of the days will remain as compulsory attendance.

14. Assessments-

a. Internal assessments (Frequency / Method)

- i) Quarterly assessment – Using OSCEs, viva voce**
- ii) Six monthly theory assessment using short answer questions**

b. Exit exam pattern-

Theory papers	2 papers	Short answer questions	100 marks per paper
Practicals	1 practical exam	Pattern- Long case(s)- 1	200 marks

		Short case(s)- 2 Viva Voce - 2 OSCE	
Examiners		Internal(s)	01
		External(s)	01
Qualifying marks (Each Head/Overall)	Candidate must score 50% marks in each of the theory papers as well as the practical to qualify		

15. The approved junior medical staff position under which this fellowship position will be absorbed-

Assistant Professor

16. Requirement of Professional Indemnity if any / Registration with MMC

-Registration with MMC or state Medical council will suffice

17. Credentials of the Mentor to the Fellow –

- a. Name – Dr Sanjay Bafna
- b. Qualification – MBBS, MD (Ped), European Diploma in Paediatric Respiratory Medicine
- c. Training in specific discipline – 2 years
- d. Experience in relevant discipline – 5 years (2 years training + 3 years practice)
- e. Present Faculty position – Honorary Pediatric Pulmonologist

18. Details of the Course director/HOD

- a. Name- Dr Sanjay Lalwani
- b. Qualification- MBBS, MD (Ped), DNB (Ped), FIAP
- c. Faculty position- Professor and Head, Department of Pediatrics

19. Estimated Financial Implications per annum-

- **Stipend/ Monthly pay –**
 - Rs 50000/- per month at BVDUMC&H, Pune, India

- **Proposed fee for Fellowship**
 - Rs 60000/- per term

- **Examination Fees**
 - Decided as per University rules

Sign of Mentor -

Date

Sign of HOD

Date

Countersignature of MD/ Principal

Bharati Vidyapeeth (DTU) Medical College & Hospital

Dhankawadi, Pune-43.

PROPOSAL FOR STARTING NEW FELLOWSHIP PROGRAMME

1.Name of the Sponsoring Department- Pediatrics

2.Discipline for proposed Fellowship – Pediatric Pulmonology

3.Brief Justification for starting the course—

Respiratory illnesses are of variable etiology and may be acute, sub-acute or chronic. Most general pediatricians have seen a lot of children with lung disease, but they rarely understand it. Therefore, there is ample opportunity for improvement in quality of care and knowledge enhancement of fellow colleagues. Development of Pediatric Pulmonology as a sub-specialty in India is steadily gaining momentum over the last decade. In a recent estimate about 1.6 million children under the age of 5 years died in India every year, of which 0.397 million (24%) died due to pneumonia alone. It has been reported that outpatient attendance of acute respiratory infections is as high as 20-40% of all outpatients and 12-35% of all inpatients. Burden of asthma in school going children varies from 4-20% in different parts of India. Apart from these illnesses drug sensitive and drug resistant pulmonary tuberculosis and human immunodeficiency virus (HIV) associated pulmonary diseases also add to burden of respiratory illnesses. Other emerging diseases like cystic fibrosis (CF), bronchopulmonary dysplasia, interstitial lung diseases and opportunistic infections in group of immunocompromised hosts, though do not form a significant burden now, but are emerging as a challenge in future.

The Department of Pediatrics at BVUDMC&H is a well established unit well renowned for its academic excellence and training of students in Pediatrics as well as various Pediatric subspecialties. As on today, the department is running fellowship programs in 9 different Pediatric sub-specialties successfully. We as unit are a Centre of excellence in medical education, training, health care and research engrained with a scientific culture, compassion for the sick and commitment to serve the community at large. Pediatric Pulmonology care is available only at select centers across India.

Starting Pediatric Pulmonology fellowship at BVDUMC&H will provide training, experience and a conceptual tool that will enable fellow not only expertise as a practitioner, but will give him / her the foundation to ultimately utilize it for provision of better quality care to children across the country and also dissipate knowledge to fellow Pediatricians. As a trained fellow in Pediatric Pulnomology, he/ she will also be able to develop a network to collect data and answer relevant research questions and contribute effectively to the rapidly growing field of Pediatric Pulmonology.

To include undermentioned-

a. Infrastructure in the department to support the fellowship

Following infrastructure in the institute / departments available to support the training program:

- i) Endoscopy suite
 - ii) Pediatric fiberoptic bronchoscope with attachable light source, processor and monitor
 - iii) Pediatric videobronchoscope with tower
 - iv) Video laryngoscope
 - v) Non-invasive and invasive ventilation facilities
 - vi) Pulmonary Function Test
 - vii) Portable spirometry
 - viii) FENO machine
 - ix) Sweat chloride machine
 - x) Sleep lab set-up (in process)
 - xi) Radiology backup (including x-ray, ultrasound, CT)
 - xii) ENT surgeon back-up for airway problems and tracheostomies
 - xiii) Pediatric Surgery back-up
 - xiv) Infectious disease back-up
 - xv) Pediatric Anesthetist back-up
 - xvi) Pediatric Intensive Care facilities
 - xvii) Neonatal Intensive Care facilities
 - xviii) Adult Pulmonology back-up
 - xix) Respiratory therapist
 - xx) Pediatric Physiotherapist
- b. OPD volume during last one year in the proposed discipline – As this is a newly proposed sub-specialty program, the exact numbers with regards to Pediatric Pulmonology cannot be determined.
- c. IPD volume during last one year in the proposed discipline - As this is a newly proposed sub-specialty program, the exact numbers with regards to Pediatric Pulmonology cannot be determined.
- d. Volume of procedures during last one year (if applicable)
- i) Bronchoscopies - 18
 - ii) Tracheostomies – 5
- e. Availability of suitable mentor(s) - Yes
- i) Dr Sanjay Bafna – Pediatric Pulmonologist, BH, Pune, India
 - ii) Dr Jagdish Chinappa – Pediatric Pulmonologist, Manipal Hospital, Bengaluru, India
 - iii) Dr Satish Rao – Pediatric Pulmonologist, BCH, UK
 - iv) Dr Prasad N – Pediatric Pulmonologist, BCH, UK
 - v) Dr Bhakti Sarangi – Associate Professor and Pediatric Intensivist, BH, Pune
 - vi) Dr Prasun Mishra – Professor and ENT surgeon, BH, Pune, India
 - vii) Dr Priscilla Joshi – Professor and Head, Radiodiagnosis, BH, Pune, India
 - viii) Dr Parmarth – Pediatric Pulmonologist, Wadia children’s hospital, Mumbai, India

4. Aims and Objectives-

Aim of the training:

To enable the candidate to intellectual environment conducive to learning the exemplary practice of Pediatric Pulmonology.

Objectives of the training:

The trainee requires a sound understanding of Pediatric Pulmonology including:

- Proficiency in the clinical diagnosis and medical treatment of acute and chronic respiratory diseases including those that are life threatening in infants, children, adolescents and young adults
- Proficiency in the selection, performance, and evaluation of procedures necessary for the morphologic and physiologic assessment of pulmonary diseases
- Developing a comprehensive knowledge of the pathophysiology of pediatric respiratory disorders through self-study and formal course work, lectures and seminars offered as part of the training program
- Acquiring effective teaching and communication skills

Acquiring the following specific skill-set

- Doing and Interpreting pulmonary function tests (conventional and impulse oscillometry spirometer)
- Doing and interpreting FeNO and nasal NO
- Performing sweat chloride test
- Interpretation of chest X-ray and CT scan
- Performing flexible bronchoscopy
- Performing and interpreting sleep studies

Assessing requirement of NIV, starting it monitoring

5. Fellowships already running in the department and present actual intake –

Sr	Name of Fellowship programme	Present intake
1	Neonatology	01
2	Pediatric Critical Care	03
3	Dual Fellowship in Neonatology and Pediatric Critical Care	01
4	Pediatric Endocrinology	01
5	Pediatric Epilepsy and Neurology	01
6	Pediatric Infectious Diseases	01
7	Pediatric Rheumatology	01

8	Developmental and Behavioral Pediatrics	01
9	Pediatric Genetics and Metabolic Disorders	01

6. Intake for proposed Discipline per year / term – 3 (One in service candidate per year extra)

7. Eligibility criteria of candidates-

- 1) Age less than 35 years
- 2) MD / DNB in Pediatrics
- 3) Additional qualification registered with MCI / State medical council

8. Method of selection – (e.g. MCQ & Interview)

Annexure attached (application screening followed by structured objective questionnaire and the personal interview)

9. Training Period -

24 months divided in two parts as follows:

Part I (12 months) at BVDUMC&H, Pune, India

Part II (12 months) at Birmingham children's hospital (BCH), Birmingham, West Midlands, United Kingdom

10. Outline of Fellowship Programme-

a. Academic / Teaching activities to be engaged in

i) Outpatient based teaching in sub-specialty OPD

ii) Inpatient rounds and bedside teaching

iii) Case presentations and seminars

iv) Journal Clubs

v) Pediatric-Radiology Meet

vi) Joint sessions with BCH, UK

vii) Guest Lectures

b .Rotatory postings

i) ENT

ii) Pediatric surgery

iii) Pediatric anesthesia

c. Outline syllabus (attach as appendix)

d. Exposure to practical procedures

i) Training in Bronchoscopy

ii) Training in PFT

iii) Training in spirometry

iv) Training in sleep studies

f. Research activities by the candidate

- One research project will be taken up by the candidate for each term

f. Presentations at State/ National forum

- The candidate will be encouraged to present papers and posters at state and national level conferences

g.. Log book

- Log book as designed will be provided to the candidate where details of teaching sessions, cases seen, procedures done and research activities will be recorded

11. Clinical Job Description of the candidate- (what all clinical responsibilities of the candidate)

a. OPD –

- The candidate will be an integral part of managing the outpatient facilities with sub-specialty running 3 OPDS per week – Asthma clinic / Chronic Respiratory diseases clinic / General Respiratory clinic. The profile will include:

i) Coordinating with OPD administrator to arrange appointments

ii) Getting detailed history and doing a physical examination of each patient

iii) Conducting academic discussions with concerned Faculty

iv) Making treatment plans for patients in consultation with respective faculty

v) Ensuring coordination of any evaluation / procedure that the patient may require

vi) Recording details of the patients in the clinic proforma and ensuring complete record of follow-up visits

b. IPD

- i) Taking rounds of all IPD patients with respiratory problems in ward, NICU and PICU and discussing with respective faculty
- ii) Ensuring all the references are seen in time
- iii) Presenting cases bedside to the Pediatric Pulmonology Faculty
- iv) Execution of plan of management for each referred patient
- v) Coordinating procedures including bronchoscopy and evaluations including PFT, etc
- v) Counseling and training of parents with regards to diagnosis, management plan, any devices to be used (eg. MDI, peak flow meter)

c. Emergency duties

- There will be no emergency duties for the candidate. However, he / she will remain on call for acute respiratory emergencies and bronchoscopy calls

d. Teaching duties

- The candidate will be involved in teaching of residents and undergraduates with respect to Pediatric Pulmonology.

12. Leave rules-

- The candidate will be eligible for 7 days leave per 6 months term

13. Mandatory attendance-

- Barring 14 days of leave granted in one year period (7 days per 6 months term) and weekly off, the rest of the days will remain as compulsory attendance.

14. Assessments-

a. Internal assessments (Frequency / Method)

- i) Quarterly assessment – Using OSCEs, viva voce
- ii) Six monthly theory assessment using short answer questions

b. Exit exam pattern-

Theory papers	2 papers	Short answer questions	100 marks per paper
Practicals	1 practical exam	Pattern- Long case(s)- 1 Short case(s)- 2 Viva Voce - 2 OSCE	200 marks
Examiners		Internal(s)	01

		External(s)	01
Qualifying marks (Each Head/Overall)	Candidate must score 50% marks in each of the theory papers as well as the practical to qualify		

15. The approved junior medical staff position under which this fellowship position will be absorbed-

Assistant Professor

16. Requirement of Professional Indemnity if any / Registration with MMC

-Registration with MMC or state Medical council will suffice

17. Credentials of the Mentor to the Fellow –

- a. Name – Dr Sanjay Bafna
- b. Qualification – MBBS, MD (Ped), European Diploma in Paediatric Respiratory Medicine
- c. Training in specific discipline – 2 years
- d. Experience in relevant discipline – 5 years (2 years training + 3 years practice)
- e. Present Faculty position – Honorary Pediatric Pulmonologist

18. Details of the Course director/HOD

- a. Name- Dr Sanjay Lalwani
- b. Qualification- MBBS, MD (Ped), DNB (Ped), FIAP
- c. Faculty position- Professor and Head, Department of Pediatrics

19. Estimated Financial Implications per annum-

- Stipend/ Monthly pay –
 - Rs 50000/- per month at BVDUMC&H, Pune, India
 - £1800/- per month at BCH, Birmingham, UK
- Proposed fee for Fellowship
 - Rs 60000/- per term
- Examination Fees
 - Decided as per University rules

Sign of Mentor -

Date

Sign of HOD

Date

Countersignature of MD/ Principal



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE,
PUNE**



**DEPARTMENT OF PEDIATRICS
PEDIATRIC PULMONOLOGY UNIT**



IAP FELLOWSHIP IN PEDIATRIC PULMONOLOGY

2023 - 2025

Rules, Regulations, Guidelines and Curriculum

(Under the aegis of Indian Academy of Pediatrics, National Respiratory Chapter & Indian College of Pediatrics)

Section I : Statement of Goals, Objectives, Eligibility and Organization

Section II : Course Content

Section III : Recommended teaching / learning methods and activities

Section IV : Evaluation scheme

Section V : Recommended books and other learning resource materials

- Appendix I: Detailed list of topics for training in fellowship
- Appendix II: Evaluation form for trainees after completion of training
- Appendix III: Technical information related to IAP National Respiratory Chapter fellowship training program
- Appendix IV: Pattern of Examination
- Appendix V: Sample of request letter for enrolment of Institutes for IAP National Respiratory Chapter fellowship Program
- Appendix VI: Eligibility criteria for enrolment as Institute for conduct of IAP National Respiratory Chapter fellowship program
- Appendix VII: Eligibility form and the application form for enrolment of Institute to conduct IAP National Respiratory Chapter Fellowship program
- Appendix VIII: Submission of information of selected fellow candidate for the IAP National Respiratory Chapter Fellowship program
- Appendix IX: Application to take the IAP National Respiratory Chapter Fellowship Examination
- Appendix X: Application for re-evaluation of Theory paper (s)
- Appendix XI: Application for Life Membership of Central IAP
- Appendix XII: Application for Life Membership of IAP National Respiratory Chapter

Section I

Statement of Goals, Objectives, Eligibility and Organization

The goal of paediatric pulmonology fellowship program is to provide specialized training in paediatric pulmonology to produce competency in all the various fields of medical management of children with respiratory diseases, by obtaining specialized training in Institutions that have specialized paediatric pulmonology department/paediatric department over a stipulated period. These specialists will be capable of providing subsequent such care in the community. They shall recognize the health needs of the community and carry out professional obligations ethically and in keeping with the objectives of the national health policy.

Objectives

After completing the Paediatric Pulmonology Fellowship course the trainee will be able to -

- Management of acute and chronic respiratory problems with special emphasis on bronchial asthma and tuberculosis
- Doing and interpreting pulmonary function tests (conventional and impulse oscillometry spirometer)
- Doing and interpreting FeNO and nasal NO
- Performing sweat chloride test
- Interpretation of chest X-ray and CT scan
- Performing flexible bronchoscopy

Eligibility and Organization Trainee

Any student of Indian nationality who has completed the M.D / D.N.B. course in Paediatrics from a Medical Council of India or State Medical Council recognized University in India is eligible for this fellowship program. In case of DCH candidates he will require one-year additional residency from an Institute recognized by Medical Council of India. The course tenure would be two years for IAPNRC Fellowship as recommended by Indian College of Pediatrics. Any foreign student or a non-resident Indian student who wishes to apply should be a degree holder in Paediatrics post-graduate training and would have to produce a bonafide certificate from the Head of Department of Paediatrics of his / her institution where he / she has completed the post graduate training in Paediatrics, along with photocopies of the certificate of post graduate degree from the university concerned. The undergraduate and postgraduate degrees should be recognized by the Medical council of India.

All fellowship candidates must be life members of Central IAP and should become life member of IAP National Respiratory Chapter within a month of his joining the fellowship. Failing which his/her admission will be cancelled and will not be refunded the fees.

At the time of application, the trainee would have to produce:

1. A bonafide certificate from the Head of Department of Paediatrics of his / her institution where he/ she has completed the post graduate training in Paediatric
2. Photocopies of the certificate of the post graduate degree from the University concerned
3. Certificate of registration with the appropriate State Medical Council or Medical council of India
4. Curriculum vitae
5. Letter of reference from two refries Institution:

Section II

Course Content

Since the fellow is trained with the aim of practicing as independent specialists, this course content will be mainly a guideline. They have to manage all types of cases and situations and seek and provide consultation. The emphasis shall therefore be on the practical management of the problem of the individual cases and the community within the available resources.

A. Academic topics Mandatory

- Evaluation of respiratory symptoms and signs
- Pulmonary function testing
- Airway endoscopy
- Imaging
- Acute and chronic lung infection
- Tuberculosis
- Bronchial asthma and other wheezing disorders
- Allergic disorders
- Cystic fibrosis
- Congenital malformations
- Bronchopulmonary dysplasia and chronic lung disease of infancy
- Rare diseases
- Sleep medicine
- Rehabilitation in chronic respiratory disorders
- Inhalation therapy
- Technology-dependent children
- Epidemiology and environmental health
- Management and leadership
- Teaching
- Research
- Communication

Optional

- Rigid and interventional airway endoscopy
- Post lung transplant management
- Additional diagnostic test

(For the exhaustive list of topics that need to be covered during the training, please refer to Appendix I)

Section III

Teaching, Learning methods and Activities

Learning in fellowship program shall be essentially autonomous, self-directed and entire fellowship period shall be in service training program based on the concept of learn as you work principle. The following organized learning experiences should be provided to the students. Timetable for these programs will be drawn every six months.

1. Case presentation & case management in OPD & Indoor wards: The fellow will present cases regularly on clinical rounds to the faculty members of the department.
2. Fellow should present seminar weekly and journal bimonthly
3. Bimonthly radiology Conference should be conducted and interesting chest X-ray and CT scan of chest should be discussed.
4. Medical audit / mortality case discussions: This will be done once a month by the fellow, who is expected to analyse & discuss the cases allotted to him/her.
5. Fellows are required to attend the infection control committee meetings, research meeting and other meeting conducted by institute from time to time.
6. Preparation and presentation of a research project: Every fellow will be required to carry out research project under the supervision of his guide as identified by the institution.
7. The guide shall maintain a log book of all the activities carried out by the trainee and by the end of twelve months complete the form given in Appendix II and submit the same to the Chairperson, National Respiratory Chapter of IAP for certification.
8. The fellow shall get enough opportunities to learn following procedures and skills
 - PFT: Develop and demonstrate ability to interpret pulmonary function tests including arterial blood gas, pulse oximetry and spirometry
 - FOB & BAL: Develop and demonstrate the ability to perform and interpret diagnostic flexible/video bronchoscopy and bronchoalveolar lavage fluid (BALF) findings, as well as understanding the indications for, risks and benefits of this procedure
 - Thoracocentesis: Understand the indications for, current techniques for, and potential complications of thoracentesis in children; develop and demonstrate the ability to interpret laboratory studies of pleural fluid
 - Chest physiotherapy: learn application and performance of various airway clearance techniques
 - FNAC: Learn techniques of performing, processing and interpreting fine needle aspiration and sweat chloride estimation in children
 - Respiratory Imaging: Develop and demonstrate ability to interpret respiratory imaging studies including chest radiographs, fluoroscopy, upper airway radiographs, ventilation/perfusion scans, and chest CT

- AFB staining: perform smear preparation, staining and reading smear of sputum and other body fluids for acid fast bacilli
- RNTCP: learn to register newly diagnosed and other cases of tuberculosis under RNTCP in children, manage multi drug resistant TB, complications of ATT and manage.
- Intubations: Develop and demonstrate the ability to perform endoscopic intubations in infants and children using the flexible bronchoscope
- Lung biopsy: Understand the indications for current techniques for and potential complications of lung biopsy in children
- Ventilation: Understand the appropriate use, risks and benefits of more specialized therapeutic modalities such as tracheostomy, chronic mechanical ventilation (positive and negative pressure), CPAP and BiPAP
- Polysomnograms: Understand the indications for, current techniques for, and interpretation of polysomnograms (sleep studies) in children
- Develop and demonstrate the ability to diagnose and treat acute airway and lung problems which occur in the settings of neonatal and pediatric intensive care units
- Understand the indications for, limitations of, and risks of other specialized diagnostic techniques in children, including rigid bronchoscopy, mediastinoscopy, and thoracoscopy
- Understand the appropriate use, risks and benefits of commonly used therapeutic modalities such as supplemental oxygen,, bronchodilators, diuretics, systemic and inhaled corticosteroids, leukotriene inhibitors, inhaled DNAase, and antibiotics.

8. During the fellowship training can also be opt for;

- a. Clinical and epidemiological research work through public health department
- b. Basic science research in a discipline related to paediatric respiratory diseases, for a minimum of one year.

Elective training overseas:

Further specialized training during the period of the fellowship shall be optional. A period of 4-12 weeks at one of the collaborating institutions overseas may be arranged with prior approvals. This will be competitive and will be based on receipt of scholarship.

Section IV

Evaluation System:

Evaluation will be Formative and Summative

Formative: Formative evaluation will be carried out over 5 activities of the Fellow

- Ward work
- Case presentation
- Seminar presentation
- Journal Club
- Internal assessment
- General assessment of attitude: Rapport and attitude

Summative

- Research project*: Evaluation of research done by the trainee
- Publications#
- Final examination

***Research Project:**

The topic for research project shall be finalized and discussed in the departmental faculty meeting and allotted to the individual fellow in the 1st three months of fellowship month after admission. The purpose of research project is to train the fellow to perform an independent study keeping the principles of research methodology and epidemiology in mind. The fellow will therefore work on a prospective or retrospective project within the department or in collaboration with other departments. There will be continuous monitoring of the dissertation/research/long essay work by the guides and co-guides and by the other department staff throughout the course. The completed research should be submitted 4 weeks before the final examination.

#Publications:

At least 1 original article/review article publications are expected by the end of the fellowship period. The articles may be published in peer-reviewed indexed journals, either national or international.

Final Examination:

Eligibility:

- Attendance: minimum 85%
- Satisfactory Internal assessment
- Approval of dissertation/research/long essay project submitted

Fellow will be eligible to appear for theory examination only after being certified on the basis of internal assessment.

Theory examination

- There will be 2 papers.
- Each paper will carry 100 marks.
- Distribution of questions in the 2 papers is usually as follows:

Theory Paper I: Basic sciences, Epidemiology, Congenital malformation, Sleep Medicine, Teaching, Research, Communication etc.

Theory Paper II: Case based questions

Clinical or Practical Examination:

There will be clinical examination based on cases, work stations and viva voce.

Examination will be on at least two cases and workstations. The “OSCE” method of examination can be a part of evaluation.

The fellow must pass in theory (both papers included) and practical (aggregate marks) independently by obtaining at least 50% marks in theory as well as in practical exam and obtain an overall percentage not less than 50% (viz 250 / 500). It is essential to obtain 50% marks in case base evaluation.

The summary of the examination is shown in Table: (Total marks obtainable = 500)

- Theory (Paper I + Paper II) 100 + 100 = 200
- Clinical Practical Examination: Total 300

Section V

Recommended Books and Resource Material Textbooks (Latest editions available)

Author Name	Name of the Books	Publishing Company
Robert Wilmott et al	Kending's Disorder of respiratory tract in children	Elsevier, Philadelphia
Jurg Hammer et at	Pediatric Pulmonary Function testing	Karger, Basel, Switzerland
Michel J et al	Paediatric Pulmonology	American academy of Pediatrics
Priftis KN et al	Pediatric Bronchoscopy	Karger, Basel, Switzerland
Midulla F et al	ERS Handbook of Pediatric Respiratory Medicine	European Respiratory Society
Kabra SK et al	Essential Paediatric Pulmonology	Nobel Publisher, New Delhi

Recommended journal for Paediatric Pulmonology Fellow

- Pediatric Pulmonology
- European Respiratory Journal
- Chest
- New England Journal of Medicine
- Paediatrics
- Journal of Paediatrics
- Lancet
- Indian Paediatrics
- Indian Journal of Paediatrics

Appendix I: Detailed List of Topics for Training in the Fellowship Program

- Structure and function of the respiratory system
 - Anatomy and development of the respiratory system
 - Applied respiratory physiology
 - Immunology and defense mechanisms
 - Environmental determinants of childhood respiratory health
- Respiratory signs and symptoms
 - History and physical examination
 - Cough Tachypnoea, Dyspnoeas, Respiratory distress and chest pain
 - Snoring, hoarseness, stridor and wheezing
 - Exercise intolerance
- Pulmonary function testing and other diagnostic tests
 - Static and dynamic lung volumes
 - Respiratory mechanics reversibility
 - Bronchial provocation testing and exercise testing
 - Blood gas assessment and oximetry
 - Exhaled nitric testing in infants and preschool children
 - Single and multiple breath washout techniques
 - Forced oscillation techniques
 - Polysomnography
- Airway endoscopy
 - Flexible bronchoscopy
 - Bronchoalveolar lavage
 - Bronchial brushing and bronchial & transbronchial biopsies
 - Rigid & Interventional endoscopy
 - General anesthesia, conscious sedation and local
- Lung imaging
 - Conventional radiography
 - Computed tomography
 - Magnetic resonance imaging
 - Ultrasonography imaging method
 - Interventional radiology
- Inhalation therapy
 - Aerosol therapy
- Acute and Chronic lung infections
 - Epidemiology
 - Microbiology testing and interpretation
 - Immunization against respiratory pathogens
 - Upper respiratory tract infections

Community acquired pneumonia
Hospital acquired pneumonia
Lung involvement in immunodeficiency disorders
Non-CF bronchiectasis
Pleural infections
Necrotizing pneumonia and lung abscess
Bacterial bronchitis with chronic wet lung

- Tuberculosis
 - Pulmonary TB, latent TB and in vivo and in vitro tests
 - Extra pulmonary TB and TB in the immunocompromised
- Bronchial asthma and wheezing disorders
 - Epidemiology and phenotypes of bronchial asthma and wheezing disorders
 - Genetic and environmental factors in bronchial asthma and wheezing disorders
 - Oliv acute viral bronchiolitis
 - Preschool wheezing
 - Bronchial asthma
 - Emerging therapeutic strategies
 - Differential diagnosis of bronchial asthma
- Allergic disorders
 - Pathophysiology and epidemiology of allergic disorders in vivo and in vitro
 - Diagnostic tests in allergic disorders
 - Allergic rhinitis
 - Atopic dermatitis
 - Food allergy
 - Allergic bronchopulmonary aspergillosis
 - Specific immunotherapy, prevention measures and alternative treatment
- Cystic fibrosis
 - Genetics, Pathophysiology and epidemiology screening and diagnosis of CF
 - CF Lung disease
 - Extrapulmonary manifestations of CF emerging treatment strategies in CF
 - Prognosis, management and indications for lung transplantation
- Congenital malformations
 - Airway malformations
 - Thoracic malformations
 - Vascular malformations
- Bronchopulmonary dysplasia and chronic lung disease
 - Aetiology, pathogenesis, prevention and evidence based Nutritional care
 - Neurodevelopmental assessment and outcomes
 - Long-term respiratory outcomes

- Pleural, mediastinal and chest wall diseases
 - Pleural effusion,
 - chylothorax
 - haemathorax and mediastinitis Pneumothorax and pneumomediastinum
 - Neuromuscular disorders chest wall disorder

- Sleep-related disorders
 - Physiology and pathophysiology of sleep
 - OSAS and upper respiratory airway resistance syndrome
 - Central sleep apnoea and hypocentilation syndromes
 - Impact of obesity on respiratory function

- Lung injury and respiratory failure
 - Lung injury
 - Acute and chronic respiratory failure
 - Home oxygen therapy, invasive ventilation and NIV, and home entitatory support

- Other respiratory disease
 - Primary ciliary dyskinesia
 - Gastro-oesophageal reflux associated disease and aspiration syndrome
 - Foreign Body aspiration
 - Bronchiolitis
 - Obliterans
 - Plastic Bronchitis
 - Haemangiomas, lymphangiomas and papillomatosis
 - Interstitial lung diseases
 - Surfactant dysfunction and alveolar proteinosis
 - Pulmonary vascular disorders
 - Eosinophilic ling diseases and hypersensitivity Pneumonitis
 - Pulmonary hemorrhage
 - Sickle cell diseases
 - Lund and mediastinal tumors
 - Systemic disorders with lung involvement
 - Lung transplantation and management of post-lung transplant patients

- Rehabilitation in chronic respiratory diseases
 - Rehabilitation programs and nutritional management
 - Prevention of indoor and outdoor pollution
 - Respiratory physiotherapy
 - Fitness-to-fly
 - Testing sports medicine

Appendix II:

Evaluation form for fellow on completion of fellowship (To be filled by the Institute and sent along with the application to take fellowship examination)

Full Name of Fellow: Dr. _____

Date of Joining fellowship program: _____

Date of filling evaluation form: _____

Guidance for Scoring:

Poor	Below average	Average	Above average	Very good
1	2	3	4	5

Evaluation form for Fellow:

Clinical work Score: ()

1. Punctuality
2. Regularity of attendance
3. Quality of Ward Work
4. Maintenance of case records
5. Presentation of cases during rounds
6. Investigations work-up
7. Bedside manners
8. Rapport with patients

Seminar ()

1. Presentation
2. Completeness of preparation
3. Cogency of presentation
4. Use of audiovisual aids
5. Understanding of subject
6. Ability of answer questions
7. Time scheduling
8. Consulted all relevant literature
9. Overall performance
10. Others

Clinical Meetings score ()

1. Completeness of history
2. Whether all relevant points elicited
3. Cogency of presentation
4. Logical order
5. Mentioned all positive and negative points of importance
6. Accuracy of general physical examination
7. Whether any physical signs missed or misinterpreted
8. Whether any major signs missed or misinterpreted
9. Diagnosis: whether it follows logically from history and findings
10. Investigations required – complete list
11. Relevant order
12. Interpretation of investigations
13. Overall ability to react to questioning
14. Whether answers relevant and complete
15. Ability to defend diagnosis
16. Confidence
17. Other

Research Work: Score ()

1. Interest shown in selecting a topic
2. Appropriate review
3. Discussion with guide and other faculty
4. Quality of protocol
5. Preparation of performa
6. Regular collection of case material
7. Depth of analysis / discussion
8. Departmental presentations of findings
9. Quality of final output
10. Other

Journal club Score ()

1. Choice of articles
2. Cogency of presentation
3. Whether he / she has understood the purpose of the article
4. How well did he / she defend the article?
5. Whether cross-references have been consulted
6. Whether other relevant publications have been consulted
7. His / her overall impression of articles
8. If good – reasons:
9. If poor – reasons:
10. Audiovisual aids
11. Response to questioning
12. Overall presentation
13. Others

Log (Performance record book)

Maintenance of performance record logbook is mandatory. Certified and assessed copy should be made available at the time of practical examination for review by examiners

Log Book should contain:

Certificate duly signed by teacher, head of department, head of institute stating Dr.
..... has worked in department from
...../...../..... to/...../.....

This performance record book contains the authentic record of work done and assessment for one year.

Colour
photograph
of candidate

LOG-BOOK

Candidate Name : Dr.
Present Address :
Phone no. (R):
Mobile no. :
Email:
Permanent Address :
Date of Birth :
Date of Joining Fellowship :
Name of the Guide. : Dr Sanjay Bafna

.....
Signature of the Candidate

.....
Signature of the Guide

Signature:

**Dr. S K Lalwani
Vice Principal
Medical Director
Professor and Head
Department of Pediatrics
Bharati Vidyapeeth (Deemed to be University) Medical College, Pune**

Date	Journal	Article	Faculty sign	Score

The presentation will be evaluated on the content, clarity, quality of slides, eye contact, use of pointer, summary and critical appraisal of the article. The Presentation will be evaluated by the faculty in the evaluation sheet attached.

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

B. Seminars

Date	Topic	Faculty sign	Score

The Fellows are expected to make at least 10 presentations (Seminars). The presentation will be evaluated by the faculty in the evaluation sheet attached in the log book.

Seminars

Date	Topic	Faculty sign	Score

The Fellows are expected to make at least 10 presentations (Seminars). The presentation will be evolution by the faculty in the evaluation sheet attached in the log book.

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, congency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevall literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, congruency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
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	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
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	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Date	Case	Faculty sign	Score

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

E. Pediatric Pulmonology Patient managed (inpatient)

S.No.	Date	Name	Diagnosis	Procedures performed	Outcome	Sign of Faculty
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						

Pediatric Pulmonology Patient managed (inpatient)

S.No.	Date	Name	Diagnosis	Procedures performed	Outcome	Sign of Faculty
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

Pediatric Pulmonology Patient managed (inpatient)

S.No.	Date	Name	Diagnosis	Procedures performed	Outcome	Sign of Faculty
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

Pediatric Pulmonology Patient managed (inpatient)

S.No.	Date	Name	Diagnosis	Procedures performed	Outcome	Sign of Faculty
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Details of Radiology Meetings / Intervention Radiology

Date	Details of Cases Discussed	Key Learning Points	Guide / faculty sign

Details of Radiology Meetings / Intervention Radiology

Date	Details of Cases Discussed	Key Learning Points	Guide / faculty sign

Details of Radiology Meetings / Intervention Radiology

Date	Details of Cases Discussed	Key Learning Points	Guide / faculty sign

Details of Radiology Meetings / Intervention Radiology

Date	Details of Cases Discussed	Key Learning Points	Guide / faculty sign

Details of Radiology Meetings / Intervention Radiology

Date	Details of Cases Discussed	Key Learning Points	Guide / faculty sign

Participation in Research Activity:

Name of project, Duration:

Case Presentations at CMEs/ Conferences

Sr. No.	Date	CME/Conference details	Case details

Poster Presentation

Sr. No.	Date	CME/Conference details	Poster Details

Paper presentation

Sr. No.	Date & Place	CME/Conference details	Paper Title /details

Details of CMEs/Workshops/Conferences

Date, Venue Conference / CME	Talks Attended with Key learning points

Clinical Duties and Academic Schedule:

Acquisition of practical competence is the keystone of fellow's medical education. The learning should essentially be self-directed and emanating from clinical and academic work.

A candidate has to cater to the hospitalized inpatient in the wards everyday besides looking after outpatients in the various OPDs like Asthma and allergy clinic, Chronic Pulmonology clinic, TB OPD BPD clinic and General respiratory clinic.

Daily activities include ward rounds of respiratory patients, attending OPDs, discussion of imaging with radiologists, performing spirometry, SPT etc. and informing updates of patients regularly to faculty.

The fellows will primarily be posted in Pediatric Pulmonology OPD and Pediatric wards where the major part of learning will take place through clinical case discussions, didactic lectures, grand rounds, seminars, journal clubs etc. along with rotational postings in the other sub-specialties relevant to the field of Pediatric Pulmonology.

The fellow is expected to attend various other CMEs, interinstitutional case discussions/lectures and conferences for acquisition of knowledge and skills in pulmonology.

Relevant Procedure and skill-based learning will be imparted by observing and assisting various procedures under supervision of faculty. The candidate will be encouraged to attend various workshops for improvisation of skills.

The candidate is required to make e-folders (including history, investigations, photos/videos etc) for all interesting respiratory patients.

The fellows are expected to impart and disseminate the knowledge and rational practice of the subspeciality through training of junior doctors which will have a positive impact on patient care.

Tentative Working Schedule:

Day	Morning	Afternoon	Teaching
Monday	Ward round/NICU ref.	PFT/sweat CL/SPT Radiology	
Tuesday	Ward/PICU Round	Bronchoscopy/ Faculty round	Seminar/journal club
Wednesday	Ward Round/ BPD clinic	Asthma OPD/Faculty round	Bedside discussion
Thursday	Ward Round/NICU ref.	PFT/SPT/Radiology discussion	BCH online session
Friday	Ward /PICU Round	Chronic Pulmonology patients OPD/Faculty round	Bedside discussion
Saturday	Ward Round/BPD clinic	Research work	

Radiology Meet-once a month

MDT meet as needed

Grading & Evaluation:

Will be done by guide/faculty for the academic activities and various procedures as follows.

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Evaluation will be done by Guide every quarter and graded as above.

Final Evaluation:

Competency based Assessment- Will be done at the end of year as per competency level achieved by the candidate. Candidate is expected to achieve level 3 competency at the end of fellowship training.

Level 1-

Clinical knowledge and skills-

Basic knowledge of the topic-Pathophysiology, Manifestations and Management.

Ability to obtain and analyze clinical details and assist faculty in making management plan.

Procedure skills-

Proper patient selection, parent counseling, preprocedural preparation and assist faculty in procedures. Learn basic steps of interpretation.

Level 2-

Clinical knowledge and skills-

Ability to analyze various differential diagnosis and make a plan of investigation and management under supervision.

Procedure skills-

Ability to do the procedure under supervision and interpret the report/findings.

Level 3-

Clinical knowledge and skills-

In depth knowledge of the subject with sound clinical approach to investigate and manage complex respiratory cases.

Procedure skills-

Procedure skills- Proficiency in performing and interpreting reports/findings of PFTs, bronchoscopy, sleep studies etc.

Half Yearly Review :

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

<u>Areas</u>	<u>Attributes</u>	<u>Evaluation & Grading by Guide with sign</u>
Clinical Work	Punctuality & Regularity of Attendance:	
	Maintenance of Case Records	
	Approach to Clinical Problems	
	Attitude towards Patient Care	
	Rapport with Colleagues /Team	
	Rapport with Patients:	
	Counseling Patient's Relatives	
Procedures and Skills	Spirometry	
	Bronchoscopy	
	Radiology	
	Skin prick Testing	
	Sleep reporting	
Academic Activities	Case presentations	
	Seminars	
	Journal Club	
	Teaching	
	Research Work	

Half Yearly Review :

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

<u>Areas</u>	<u>Attributes</u>	<u>Evaluation & Grading by Guide with sign</u>
Clinical Work	Punctuality & Regularity of Attendance:	
	Maintenance of Case Records	
	Approach to Clinical Problems	
	Attitude towards Patient Care	
	Rapport with Colleagues /Team	
	Rapport with Patients:	
	Counseling Patient's Relatives	
Procedures and Skills	Spirometry	
	Bronchoscopy	
	Radiology	
	Skin prick Testing	
	Sleep reporting	
Academic Activities	Case presentations	
	Seminars	
	Journal Club	
	Teaching	
	Research Work	

Half Yearly Review :

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

<u>Areas</u>	<u>Attributes</u>	<u>Evaluation & Grading by Guide with sign</u>
Clinical Work	Punctuality & Regularity of Attendance:	
	Maintenance of Case Records	
	Approach to Clinical Problems	
	Attitude towards Patient Care	
	Rapport with Colleagues /Team	
	Rapport with Patients:	
	Counseling Patient's Relatives	
Procedures and Skills	Spirometry	
	Bronchoscopy	
	Radiology	
	Skin prick Testing	
	Sleep reporting	
Academic Activities	Case presentations	
	Seminars	
	Journal Club	
	Teaching	
	Research Work	

Half Yearly Review :

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
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<u>Areas</u>	<u>Attributes</u>	<u>Evaluation & Grading by Guide with sign</u>
Clinical Work	Punctuality & Regularity of Attendance:	
	Maintenance of Case Records	
	Approach to Clinical Problems	
	Attitude towards Patient Care	
	Rapport with Colleagues /Team	
	Rapport with Patients:	
	Counseling Patient's Relatives	
Procedures and Skills	Spirometry	
	Bronchoscopy	
	Radiology	
	Skin prick Testing	
	Sleep reporting	
Academic Activities	Case presentations	
	Seminars	
	Journal Club	
	Teaching	
	Research Work	

Appendix III

Technical information relating to IAP National Respiratory Chapter fellowship program

1. IAPNRC Paediatric Pulmonology Fellowship program is endorsed by the Indian College of Paediatrics (ICP)
2. The Selection of institute will be based on the credentials + location + teaching facility + infrastructure of the institute. All applicant institutes will be physically inspected by an inspection team and the travel and lodging of these inspectors will be arranged by the applicant institute. The institutes will apply for fellowship through the institute head on institute letterhead and endorsed by the head of the paediatric pulmonology/ paediatric department / fellowship program coordinator. The application will be addressed to the Chairperson of the chapter. The institute should be registered with the local authorities and the registration number and certificate should be attached with the application.
3. All teachers at the Institute must be life members of Central IAP and life members of the IAP National Respiratory Chapter. The IAP life membership number of all teachers at the Institute must be mentioned in the application form.
4. The IAP National Respiratory chapter or the institute that conducts the fellowship program will advertise the positions as widely as possible to receive applications from all parts of the country and then choose the best candidates based on a system of interviews or examination. The advertisement can be made in the official instrument of IAP National Respiratory Chapter, institute bulletin or on institute notice board and in official instruments of IAP-the Academy today, Indian Paediatrics, and Indian Journal of Practical Paediatrics. Applications may also be invited through other reputed journals published by sister professional organizations.
5. Each institute can register candidate/candidates as fellows (as per allotment by Governing council of fellowship or IAP National Respiratory Chapter). Fellow will take the fellowship examination at the end of training. Institutes are encouraged to enrol MD / DNB candidates whenever possible. In the absence of such a candidate, a DCH qualified candidate with one year experience of JR/SR in MCI recognized institute can be selected.
6. Ideally, candidates should be enrolled on January 1/July 1 of a given year. However, for several considerations, the last date for enrolment may be extended to February 15/August 15 of that year. No new appointments must be made after these dates.
7. Institutes will inform the chapter about change of fellowship coordinator's name, if and when that happens. Institutes will also inform the chapter about any change in teaching faculty.
8. **Each candidate must submit a fellowship fee of Rs. 5,000/- in the form of a Demand Draft payable in the city where the chapter account is based (Jaipur at present), in the name of "Indian Academy of Paediatrics, National Respiratory Chapter". The DD should have the name, and cell number of the candidate, and the name of Institute of attachment written on the back.**
9. The institution will pay reasonable stipend to the fellow. Accommodation may be provided if available.
10. The institute will submit a fellowship information form (appended with this document) which

should contain information about the institute and candidates along with details of the DDs and copies of qualification certificates of the candidates. Candidate will not submit this information to the chapter individually. All communications regarding the technicalities of the fellowship program and fellowship examination will be done by the fellowship coordinator and not by individual candidates.

11. The receipts for the DDs will be posted to the institute / fellowship coordinator and not to individual candidates.
12. No refund will be made if a candidate chooses to abandon the program at any time after enrolment.
13. Any dispute between the institute and candidate will be resolved between themselves. If it is not resolved the chapter may mediate.
14. The exam fee as decided by the chapter from time to time will be paid through a DD in the name of the chapter by each candidate, through the institute, with a covering note (sample appended with this document) after the exam date is announced, to reach the chapter address one month in advance of the examination date.
15. The names of candidates who pay the exam fee in time, will be intimated to the exam coordinator in the order of receipt of DDs and roll numbers for exam will be allotted in a likewise order.
16. If examination fee is not received a month in advance of the examination date, the respective candidate will not be allowed to take the fellowship exam. If a candidate withdraws from taking the exam after paying the exam fee, the fee will not be refunded.
17. The research project has to be submitted as 3 hard copies along with CD containing dissertation/research work in Word document format and the clinical photographs if any with appropriate labelling, in jpeg 300 dpi formats. The last date for submission of research project thesis is 4 weeks before the fellowship exam date.
18. Each institute will be communicated the venue and date of the fellowship exam at least two months before the exam, and the details of the theory and practical examinations, roll numbers, and the specific dates allotted to individual candidates for practical exam will be communicated at least one month before the dates of examinations.
19. The roll number allotted to each candidate is non-negotiable. Individual requests from candidates or institutes for change of roll number or date of practical examination will not be entertained.
20. It is essential to obtain 50% marks in theory (100/200), overall 50% marks in practical (150/300), 50% marks in clinical case presentations and aggregate 50% marks (250/500) to clear the exam.
21. Examination result will be communicated to the institutes on email immediately as it becomes available. Marks card (with details of marks) and the certificate will be posted to the institutes within 6 weeks of declaration of result.
22. Candidates that fail to clear the exam may take another exam when the next exam is conducted after re-apply to the chapter with a DD for exam fee.

23. A failed candidate who may seek re-evaluation of his / her theory paper marks, may request the chapter for the same, with endorsement from the institute head, and submit a DD for Rs. 2000/- for re-evaluation of both theory papers, and Rs. 1000/- for re-evaluation of one theory paper. The theory papers will be re-evaluated (re-read and remarked) by an independent examiner (other than the panel of original examiners). Marks will be communicated to the candidate within two weeks from the date of request.

Appendix IV

Pattern of Examination

1. The IAP National Respiratory Chapter office bearers have the discretionary powers to decide the venue of fellowship examination based upon the number of candidates to be examined, availability of infrastructure and examiners, and the willingness of Institute to conduct the examination as per the guidelines of the chapter.
2. A team of examiners will be invited to conduct the exam by the chapter.
3. The theory papers will be set by two sets of examiners independently. The questions will be communicated to the chairperson / fellowship program in-charge of the chapter or an independent authority figure with no interest in the exam, and both sets of theory papers (I and II) will be brought to the examination hall in sealed envelopes. One of the envelopes will be opened for each of theory papers I and II.
4. Each theory paper will be of 100 marks

Theory papers (200 marks) (100 X 2)

a) **Paper 1** - Theory paper I will cover topics like Basic sciences, Epidemiology, Congenital malformation, sleep Medicine, Teaching, Research, Communication etc.

b) **Paper 2** - Case -based questions: The purpose of this paper will be to test the candidate's ability to evaluate the case correctly and make correct clinical use of knowledge to make appropriate decisions.

5. Practical Examination will consist of clinical cases, work stations and viva voce. Examination will be on two or more cases and workstations. The 'OSCE' method of clinical evaluation can be a part of examination.

6. The dissertation/research will be evaluated on the following aspects

Clinical relevance in India, study size and statistical significance	15 marks
Type of Study: prospective/ retrospective, comparative, controlled, randomized, blinded etc	10 marks
Presentation; use of flowcharts, clinical photographs, clarity of results	10 marks
Discussion, comparison with similar other studies, ability to analyze the strengths, limitations and scope of the clinical study	15 marks

Eligibility form and the application form for enrolment of Institute to conduct IAP National Respiratory Chapter Fellowship program

Date: _____

Name of the Institute: _____

Address: _____

Contact numbers: _____

E mail id: _____ Web address: _____

Fellowship Coordinator's name: _____

Contact numbers: _____

Email id: _____

Fellowship program inspection fee - payment details:

1) Amount: /- ; DD number: _____ Bank: _____

Date: _____

Appendix IX

Application to take the IAPNRC Paediatric Pulmonology Fellowship

Date: _____

To,

The Chairperson,
IAP National Respiratory Chapter

Sir / Madam,

The below mentioned fellowship candidates training at our Institute, would like to take the IAP Pulmonology Fellowship exam scheduled on _____ at _____

The details of the candidates and their exam fee payment are given below:

1) Candidate name: _____

Qualification: _____ Date of Appointment: _____

IAPNRC Membership number. _____

(please attach a copy of the appointment letter from Institute)

Completed 85% of the prescribed period of training Yes / No

Performance / Conduct / Internal assessment : Satisfactory / Unsatisfactory

Clinical study completed: Yes / No

Exam fee amount INR 5,000/- (Rupees Five Thousand Only)

DD / Transaction id no. _____

Bank _____ Date of DD / Transaction _____

Signature of the Institute Head & Seal

Fellowship Coordinator Sign & Seal

Appendix X

Application for Re-evaluation of the Theory paper(s)

(Separate form for each candidate)

Date: _____

To,

The Chairperson

Dear Sir / Madam,

Our Fellowship Candidate named Dr. _____ took
then IAP Paediatric Pulmonology fellowship exam on _____ held at
_____ and obtained the following marks:

Theory: _____ / 200

Practical: _____ / 300

Overall: _____ / 500

He / she was not declared PASSED based on the above marks.

We would like his / her theory paper(s) I / II / I and II to be re-evaluated by the IAP National Respiratory Chapter.

Kindly arrange for the same.

We are submitting a DD of Rs.1,000 / 2,000 for evaluation of one / both theory papers. Kindly inform us of the result as soon as it is available.

Truly,

Signature of the Institute Head & Seal

Fellowship Coordinator Sign & Seal

Appendix XI

Application for Life Membership of Central IAP

INDIAN ACADEMY OF PEDIATRICS

Kailas Darshan, Kennedy Bridge (Nana Chowk), Mumbai-400007

IAP MEMBERSHIP FORM

Name of the Applicant: _____
(Surname) (First Name) (Middle Name)

Date of Birth: _____. Sex: M / F

Communication Address: _____

Telephones (ISD CODE) (city code)_____.

Residence: _____ Office: _____.

FAX: _____ Mobile: _____.

Email ID: _____

Degrees Registration No & registering Authority (MCI or State Medical Council):

Medical / Paediatric Qualification: _____

Name of the University: _____

Qualifying Year: _____

Name & Membership No & Signature of the Proposer: _____.

Name & Membership No & Signature of the Seconder: _____

Place: _____ Date: _____

(Signature of the Applicant)

The Membership Fee should be paid by a crossed bank draft drawn in favor of "INDIAN ACADEMY OF PEDIATRICS" payable at Mumbai.

Final evaluation Form:

Full Name of Fellow: Dr. _____

Date of Joining fellowship program: _____

Date of filling evaluation form: _____

Guidance for Scoring:

Poor	Below average	Average	Above average	Very good
1	2	3	4	5

Evaluation form for Fellow

Clinical Work: ()

1. Punctuality
2. Regularity of attendance
3. Quality of Ward Work
4. Maintenance of case records
5. Presentation of cases during rounds
6. Investigations work-up
7. Bedside manners
8. Rapport with patients

Seminar: Score ()

1. Presentation
2. Completeness of preparation
3. Cogency of presentation
4. Use of audiovisual aids
5. Understanding of subject
6. Ability to answer questions
7. Time scheduling
8. Consulted all relevant literature
9. Overall performance
10. Others

Clinical Meeting: Score ()

1. Completeness of history
2. Whether all relevant points elicited
3. Cogency of presentation
4. Logical order
5. Mentioned all positive and negative points of importance
6. Accuracy of general physical examination
7. Whether any physical signs missed or misinterpreted
8. Whether any major signs missed or misinterpreted
9. Diagnosis: whether it follows logically from history and findings.
10. Investigations required - Complete list -
11. Relevant order
12. Interpretation of investigations
13. Overall ability to react to questioning
14. Whether answers relevant and complete
15. Ability to defend diagnosis
16. Ability to justify differential diagnosis
17. Confidence
18. Others

Research Work: Score ()

1. Interest shown in selecting a topic
2. Appropriate review
3. Discussion with guide and other faculty
4. Quality of protocol
5. Preparation of Performa
6. Regular collection of case material
7. Depth of analysis/discussion
8. Departmental presentation of findings
9. Quality of final output
10. Others

Journal Club Score ()

1. Choice of articles
2. Cogency of presentation
3. Whether he has understood the purpose of the article
4. How well did he defend the article?
5. Whether cross-references have been consulted
6. Whether other relevant publications have been consulted
7. His Overall impression of articles
8. If good - reasons:
9. If poor - reasons:
10. Audiovisual aids
11. Response to questioning
12. Overall presentation
13. Others

Certificate

This is to certify that Dr. _____ has worked in department from _____ to _____ as IAP NRC fellow in Paediatric Pulmonology.

This performance record book contains the authentic record of work done and assessment for the same.

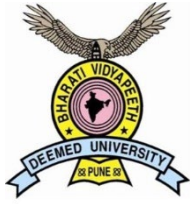
His / Her performance during the above posting was satisfactory / non satisfactory.

Signature:

Guide – Dr Sanjay Bafna

Signature:

**Dr. S K Lalwani
Vice Principal
Medical Director
Professor and Head
Department of Pediatrics
Bharati Vidyapeeth Deemed to be University Medical College, Pune**



Bharati Vidyapeeth Deemed University Medical College, Pune

Cardiac Fellowship Syllabus

Syllabus:

Basic medical sciences:

Anatomy, pathophysiology of cardiac and thoracic disease, pharmacology, pre-anaesthesia check up, anaesthetic management, post operative care including intensive care.

Respiratory disorders

Management of airways (including upper airways obstruction), pulmonary edema, adult respiratory distress syndrome and hypercapnic respiratory failure, severe asthma, chest trauma, respiratory muscle disorders, thoracic surgery.

Cardiovascular disorders

Haemodynamic instability and shock, cardiac arrest acute myocardial infarction and unstable angina severe heart failure, common arrhythmias and conduction disturbance, specific cardiac disorders (cardiomyopathies, valvular heart disease, atrial or ventricular septal defects, myocarditis), cardiac tamponade, pulmonary embolism, aortic dissection, hypertensive crisis, peripheral vascular diseases. Cardiovascular surgery. Cardio pulmonary resuscitation (CPR) Training in Basic Life Support (BLS), and Advance Life Support (ALS)

Neurological disorders

Coma, cerebrovascular accidents, cerebral vasospasm, acute neuromuscular disease (including myasthenia), post anoxic brain damage, acute confusional states, spinal cord injury, brain death.

Renal disorders

Oliguria. Acute renal failure, renal replacement therapy

Metabolic and Nutritional disorders

Fluid electrolyte and acid-base disorders, endocrine disorders (including diabetes), nutritional requirements, monitoring of nutrition

Haematological disorders

Disseminated intravascular coagulation and other coagulation disorders, anaemia, blood component therapy, and immunological conditions like myasthenia gravis

Monitoring coagulation status and anticoagulation, thrombolytic therapy, fibrinolytic, cell salvage methods and blood conservation techniques.

Infections:

Severe infection due to aerobic and anaerobic bacteria, viruses, fungal and parasites, nosocomial infection, infection in the immunocompromised, antimicrobial therapy, immunotherapy

Gastro-intestinal disorders

Acid peptic disease, acute and chronic liver failure, prevention and treatment of acute G.I. Bleeding (including variceal bleeding), gastric paresis etc.

Environmental Hazards:

Hypo-and hyperthermia, radiation hazards in the cardiac catheterization suites.

General:

Fellow will be trained : In Pharmacology, pharmacokinetics and drug interactions of drugs used during course of anaesthesia , anti-inflammatory agents. He/She will also be trained to manage Multiple trauma, transport of the critically ill patients, Multisystem disorders (including Multi Organ Dysfunction syndrome MODS and the Systemic Inflammatory Response Syndrome (SIRS) Management of the organ donor.

Intervention and procedure:

The cardiac anaesthesiologist must be able to perform a number of specific procedures; for all candidates experience is desirable but not mandatory in the following area.

Respiratory: (Mandatory)

Emergency Cricothyrotomy (desirable), Percutaneous tracheostomy, different modes of ventilation, techniques of weaning from mechanical ventilation in adult and paediatric patients, placement of an intercostal tube, fiberoptic Bronchoscopy (desirable) interpretation of arterial and mixed venous bloodgases, assessment of gas exchange and respiratory mechanics. Bronchoscopy (desirable)

Cardiovascular: (Mandatory)

Placement of a central venous catheter (by different routes), pulmonary artery: (Swan Ganz) catheter, an arterial catheter (by different routes) measurement and interpretation of the hemodynamic variables including the derived variables), implementation of cardiovascular support both pharmacological and mechanical, antiarrhythmic therapy and thrombolysis.

Transthoracic and transesophageal echocardiography in adults and children in the perioperative period.

Neurologic:

Basic interpretation of CT/MRI scan (desirable) Central nervous system function monitoring (BIS, etc.)

Metabolic and Nutritionnl

Implementation of Enteral and parental nutrition in adult and paediatric patients, management of glycemic status

Haematologic:

Correction of haemostatic and coagulation disorders, interpretation of a coagulation profile including TEG, implementation of thrombolysis

Renal:

Renal support techniques (desirable).

Gastro-intestinal:

Esophageal and gastric tamponade balloon

General Topics:

Joint inter-departmental academic meets with Critical care , Cardiology, Radiology and Microbiology, etc.

Clinical and practical training:

The candidates should follow full time in-service residency and should be given increasing responsibilities on a gradual basis for independently managing complicated, cardiac and cardiothoracic cases

Teaching and training of students shall include graded all round patient care responsibility including resuscitation and clinical diagnosis.

Training in ABC (airway, breathing and circulation) including practical training and complete understanding of airway armamentarium, breathing circuits, rapid sequence intubation, initiation-maintenance-termination of mechanical ventilation, invasive or non-invasive hemodynamic monitoring and safe insertion of central venous and intra-arterial catheters, etc.

The fellow will also participate in ICU procedures supervised by ICU trained professionals

The fellow will acquire clinical and practical skills in pre-anaesthetic evaluation and acute post operative care along with administering anaesthesia to children and adults with cardiac illness.

*Bharati Hospital & Research Centre
Bharati Vidyapeeth Deemed to be University Medical College
Pune, Maharashtra*



Fellowship in Musculoskeletal Imaging

Name of the mentor with academic credentials / qualifications

1. Dr Abhimanyu Kelkar MD

Dr Kelkar has vast experience in musculoskeletal imaging. He is one of the pioneers in MR imaging in Pune and is invited faculty at national and international conferences

2. Dr Joban Babulkar DNB

An experienced radiologist with over 20 years experience. She is trained in MSK ultrasound doing both diagnostic scans and ultrasound guided interventions.

Overview of the programme

This program is designed to prepare radiologists with an interest in musculoskeletal MRI for an academic or private practice career. Fellows will gain experience with a wide diversity of cases

Modalities would include Digital Radiography, Musculoskeletal Ultrasonography, Computed Tomography (CT), musculoskeletal Magnetic Resonance Imaging (MRI), Image Guided Biopsies

This program is designed to prepare radiologists with an interest in musculoskeletal MRI for an academic or private practice career. Fellows will gain experience with a wide diversity of cases

Modalities would include Digital Radiography, Musculoskeletal Ultrasonography, Computed Tomography (CT), musculoskeletal Magnetic Resonance Imaging (MRI), Image Guided Biopsies Clinical correlation meetings, interpretation sessions.

They will be given an opportunity to conduct at least one *original research study* during the course

Eligibility: Post graduate in Radiodiagnosis either MD/DNB, less than 35 years of age.

Preference would be given to candidates with experience.

Duration of the course: One year

Date of commencement: 15 Sept 2020

Selection Process: On the basis of previous experience, research papers published and an interview.

Eligibility: Post graduate in Radiodiagnosis either MD/DNB, less than 35 years of age.

Preference would be given to candidates with experience.

List of documents required from the candidate

CV with names and contact details of two referees

MBBS degree

Registration of MBBS with renewal if applicable

Post graduate diploma / degree certificate with additional registration

PAN card

Aadhar card

Photograph

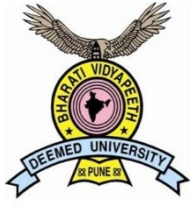
Assessment system

Internal assessment

Theory as well as practical examination at the end of the course

No of alumni qualified so far since the inception of the fellowship

One candidate



Bharati Vidyapeeth Deemed University Medical College, Pune

Chronic Pain Fellowship Syllabus

Syllabus:

1. Basics of pain
Chronic Pain- Theory and Intervention, Applied Anatomy relevant to Pain medicine, Applied physiology Pharmacology for pain management- NSAIDs, coxibs, opioids, neuromodulators (tricyclics antidepressants, anticonvulsants SSRI, SNRI), Pathophysiology of nociceptive pain , Pathophysiology of neuropathic pain, Pathophysiology of neuromyopathy.
2. Diagnostic Aids and Pain Measurements
Designing Reporting of pain – Pain scales, Ethical standards in pain
3. Taxonomy of pain systems An integrated approach to pain in various parts of the body. Including etiology, diagnosis, pathophysiology, investigations, treatment, rehabilitation:
Cancer Pain and palliative medicine, Cervical Radicular Pain, Lumbar Radicular Pain, Visceral Pain, Chronic Urogenital Pain, Pain in Pregnancy and Labor, Somatic Pains (Repetitive Strain injury), Somatic Pains (fibromyalgia), Neuropathic pains, CRPS, Post herpetic neuralgia etc
4. Observation, assistance and documentation of block:
Transforaminal epidural, Cervical epidural, Pulsed Radiofrequency neck facets, Radiofrequency ablation of medial branches in lumbar region Pulsed Radiofrequency knee, Stellate Ganglion Block, Lumbar/thoracic sympathetic block, Pulsed Radiofrequency trigeminal nerve, Trigger point injection under USG, Intra articular blocks (knee, shoulder, digital), Frozen shoulder block (5 blocks)



Syllabus of Fellowship in Diabetology

Course content/syllabus

1. Epidemiology of Diabetes Mellitus (DM)
2. Classification of Diabetes – Mellitus (DM)
3. Normal glucose metabolism & other metabolic issues in diabetes mellitus
4. Aetio-pathogenesis of Diabetes mellitus and classification of DM
5. Clinical features and examination in patients with Diabetes mellitus.
6. Laboratory diagnosis of DM
7. Complications of DM
 - Diabetic ketoacidosis
 - Hypoglycemia
 - Non – Ketotic Hyperosmolar Diabetic Coma
 - Diabetic Neuropathy
 - Diabetic Nephropathy
 - Diabetic Retinopathy
8. Diabetes and Heart
9. Diabetes and Hypertension
10. Diabetes and Pregnancy
11. Diabetes and Infections
12. Diabetes and Surgery
13. Diabetic Foot
14. Sexual dysfunction in Diabetes Mellitus
15. Dietetics in diabetes
16. Exercise, Physical activity and non – Drug therapy in DM
17. Management of Diabetes-Oral Anti Diabetic Agents , Insulin , insulin delivery systems, monitoring ,
18. Primary Prevention & clinical research issues in Diabetes Mellitus.
19. Diabetes in special situations

Syllabus : Theory

- The basic and applied intermediary metabolic aspects in diabetes mellitus and its complications - with relevance to clinical diabetes
- The epidemiology of diabetes mellitus - a brief global profile highlights - with large focus on epidemiology of diabetes in India
- The diagnostic criteria and classification of diabetes mellitus - and varied clinical patterns
- Basic laboratory tests in diabetes mellitus - blood glucose, urine ketones and albumin, HbA1c, fructosamine, lipids, creatinine and their significance
 - Day to day management' of diabetes mellitus - diet, exercise, drugs, non drug therapy, insulin and diabetic education - an overview
 - Practical aspects and hints on diet therapy - diabetic diet exhibits, certain selective aspects like Glycaemic index, fiber diet etc.
 - Exercise and its aspects in diabetes mellitus and allied disorders - obesity, hypertension, insulin resistance etc.
 - Various aspects of oral anti-diabetic drugs - including a touch on indigenous drugs
 - The current insulin, newer insulin and insulin delivery systems - the initiation of insulin therapy in diabetes and in acute & chronic complications
 - Monitoring of blood glucose control - criteria, and benefits of Glycaemic achievements in control - practical aspects
 - An overview of complications of diabetes mellitus - and their recognition and presentation.
 - Metabolic complications in diabetes mellitus - brief outlines and management.
 - Diabetes related acute clinical emergencies in all its aspects
 - Infections and diabetes mellitus - the precautions including the foot syndrome
 - The diabetic neuropathies and management
 - Diabetes and the eye - a brief over view and aspects in management
 - Diabetes and the kidney - nephropathy and non-nephropathy aspects
 - Management tactics of Diabetes during Surgery & Anaesthesia
 - Pregnancy and diabetes - problems, highlights and management
 - The organization skills to conduct routine screening of diabetes camps for public and establishment of a diabetic clinic for clinical practice

Practical:

1. Diet exhibition and diet workshops - and well designed charts
2. Diabetes - laboratory techniques - visiting diabetes laboratories
Sops
3. Instrumental Diabetology - various instruments – Doppler, NCV, Biothesiometry, Nerve Conduction Velocity, Pedometer, ECG, ECHO, Vascular laboratory techniques, Self Glucose Monitoring techniques, Insulin Infusion Pumps, CSII monitoring machines.
4. Eye and diabetes - fundus examination and techniques (photocoagulation)
Demonstration
5. Visiting connected specialty referral clinical services. Art of maintaining clinical case records and electronic case recording techniques
6. Insulin, insulin syringes and Insulin pens - display and explanation -
7. A visit to Intensive Coronary Care, the Intensive Medical Care & EMS facilities



Bharati Vidyapeeth Deemed University Medical College, Pune

Department Of Obstetrics & Gynecology

Fellowship In Infertility & Assisted Reproductive Technology (Art)

Preamble:

The need for a fellowship training program in infertility & assisted reproductive technology

Knowledge in the field of Gynecology is evolving very fast. Knowledge and skill in the field of infertility & assisted reproductive technology is the need of the hour. Any practicing Gynecologist should have the basic training in ART to aid him in diagnosis and management of patients. Patient's awareness of ART as an advanced and safe mode of intervention is rising day by day and it has become the 'need of the hour'.

Presently very few institutes in the country provide Fellowship courses in ART. Many institutes are small hospitals which provide weekly, two weekly or six monthly courses in ART. Due to paucity of clinical material in these institutes very less hands on training is provided.

The department of Obstetrics and Gynecology in Bharati Vidyapeeth Deemed University has established itself as a referral center for advanced ART. The department is providing this treatment modality since last three years. We have the basic infrastructure to start with a fellowship course of one year for the training in ART

This fellowship program will not only help the residents in the department and university but also will be a boon to the novice in the practice of Gynecology to enhance his skills in this specialty too.

Learning the technique of ART is difficult as it has a long learning curve and is a completely technically diverse modality of treatment. Any ART procedure to be learnt safely has to be done

under proper guidance and mentorship. The current curriculum of post graduate training of gynecology includes very little exposure to training in ART. The current trend therefore makes the learner seek training through attending workshops or attending small short courses with established specialists.

Aims and Objectives of the Fellowship:

1. To train postgraduate degree holders in Obstetrics & Gynecology (OB/GYN) with sufficient skill and knowledge to manage patients with sub fertility & infertility
2. To provide in house training of one year covering all aspects in Reproductive medicine.
3. The faculty and infrastructure developed for this fellowship will pave way for development of the subspeciality of IVF & reproductive medicine in our Institute and will benefit the patients and residents in the institute.

Proposed eligibility and selection of trainee:

Eligibility: Candidate holding any postgraduate qualification in Gynecology and Obstetrics: M.D., M.S., D.N.B. or D.G.O.

The candidate should bear valid registration certificate of Maharashtra Medical Council or MCI.

Number of candidates: Two per year. As an exception an additional candidate per year when the extra candidate is an Alumni/faculty of Bharati Vidyapeeth.

Entrance examination and selection: Written test and interview.

Training period: 1 year for MD/MS/DNB candidate & 1.5 years for DGO candidate.

Program Director: Dr T M Panchanadikar, Department of Obstetrics & Gynecology, Bharati Vidyapeeth (Deemed to be) University Medical College, Pune.

Program Coordinator: Dr D B Inamdar, I/C Fertility unit, Department of Obstetrics & Gynecology, Bharati Vidyapeeth (Deemed to be) University Medical College, Pune

Terms & Conditions:

1. The duration of the course will be 1 or 1.5 years in which the candidate will be posted in the Department of Obstetrics & Gynecology, B.V.D.U.M.C Pune.

2. The candidate will be a part of the Fertility Unit of Bharati Hospital, Pune.
3. The candidate will ensure registration with PCPNDT, Pune as soon as possible after joining the course.
4. The candidate is expected to complete one research paper in infertility and submit the manuscript for publication in peer reviewed reputed journal. He/She will also present one paper and/or one poster in state/national level ART conference.
5. The course will commence on 15th September. Exit Examination will be conducted by Bharati Vidyapeeth (Deemed to be) University in the first week of October in the subsequent year. It is mandatory to pass this examination to acquire the fellowship certificate.
6. The selection of the candidate for the fellowship training will be on the basis of written test & interview
7. Shared accommodation in the hostel shall be provided to the candidate as per the availability.
8. Each candidate selected shall pay a fee of Rs 1,00,000/- (One Lakh Only) for the fellowship. He/she will receive a stipend of Rs 45,000/- per month for the duration of training. The candidate has to submit a refundable deposit of Rs 50,000/- which will be returned at the completion of the tenure of 1 year.
9. The candidate has to have professional indemnity cover and the same letter has to be submitted at the start of course.
10. Leaves: The candidate is allotted 15 leaves in a year (7 leaves in each term). There will be weekly Sunday off.
11. The candidate is bound to attend outreach patient camps conducted by the Hospital for the retrieval of cases.

Course Design:

Consist of lectures, practical & hands on training, discussion on the current guidelines on following topics

1. Evaluating infertile couple

- History taking
- Ordering relevant investigations
- Interpretation & analysis to reach a diagnosis
- Formulating plan of management.
- Counseling

2. Ovulation induction

- Drugs
- Protocols & patient selection

3. Ultrasound in infertility

4. Andrology

5. Endoscopy in infertility

- Hysteroscopy
- Laparoscopy

6. ART (IVF/ICSI)

7. Clinical embryology - Lectures

8. Medicolegal aspects

1. There will be Lecture series in each of the modules covering all aspects of the included topic

2. The candidate has to attend OPD, Operation Theatre, Embryology & andrology lab and observe, assist and perform under supervision as per the availability of the cases.
3. The candidate will attend patients in wards and assess, investigate, treat and do postoperative & post procedural monitoring of the cases.
4. They will attend postgraduate activities, case presentations, seminars and journal club sessions in the department.
5. They will be responsible for proper care and handling of all instruments in the department.
6. They will maintain a logbook of the work done and get it signed by the concerned faculty from time to time.
7. They will be medico-legally responsible for the cases they perform during the training.

Candidate Evaluation

1. **Internal Assessment:** Twenty percent of the total marks shall be for internal assessment which will include personal attributes (availability, sincerity and motivation, diligence, performance and inter-personal communication skills), clinical skills and performance and academic activity (journal club, seminars, case discussion).

2. Examination Pattern:

At the end of the course the candidate will appear for theory and practical examination.

He/she must have fulfilled all the basic requirement of duration, paper presentation, poster presentation and publication. He/she has to submit a no due certificate from the Department and Hospital prior to the examination.

Theory:

There will be two theory papers of 100 marks each which will consist of

2 Long Questions of 20 marks each

6 Short Questions of 10 marks each

The candidate has to score minimum 50% marks to qualify for the fellowship.

Practical: 100 marks

- One long case – 50 marks
- Two short case – 25 marks each
- Viva voce & practical assessment: 60 marks
- Internal assessment – 40 marks

There will be one internal and one external examiner appointed by the University.

Certification: The fellowship will be awarded in the Convocation ceremony of the University.

Salient Features

- *Bharati Hospital being a tertiary hospital and a teaching institute, the Dept of Obstetrics and Gynecology has patients seeking medical care from all nearby villages as also referrals from the Primary Health Centers.*
- *We have an excellent infrastructure and competent resource persons to evolve a good ART Training Institute.*
- *Bharati University can be a pioneer institute in providing training in ART in India.*

Books and study materials:

1. Textbook of Assisted reproductive technologies: David Gardner
2. Textbook of Clinical endocrinology & infertility: Leon Speroff
3. Langmann's Embryology
4. Male Infertility: T Kruger

*Bharati Hospital & Research Centre
Bharati Vidyapeeth Deemed to be University Medical College
Pune, Maharashtra*



Fellowship in Body Imaging

Name of the mentor with academic credentials / qualifications :

1. Dr Priscilla Joshi MD Professor and Head of Department with a special interest in Pediatric Imaging. Trained radiologist with more than 35 years experience in Radiodiagnosis and Imaging in the Armed forces as well as corporate and teaching hospitals in Delhi, Mumbai and Poona. She has done observership at Sick Children's hospital Toronto Canada. Experience in Pediatric body imaging .
2. Dr Nagesh Seth Professor in Radiodiagnosis. Dr Seth has over 30 years experience as radiologist in the Armed forces as well as in a medical college

Overview of the programme:

With the availability of advanced sophisticated equipment , subspeciality imaging has now become inevitable.

Our motivation is to train fellows with the technical and clinical aspects of body CT and MRI who will be able to set up a cutting-edge Body CT and MRI practice i their future positions. This is a 12-month fellowship with focus on Abdominal and Pelvic CT and MRI.

The fellow will be responsible for rendering interpretations of Body CT and MRI studies under the direct supervision of a faculty radiologist. The fellow previews the case, formulates a differential diagnosis (if appropriate), formulates any follow-up recommendations (if any), and then presents the case to the faculty radiologist. The fellow then alters their dictated report, if necessary, to reflect the interpretation of the radiology staff prior to final approval by the faculty. The fellow's patient care responsibility is to report all body CT and MRI scans and communicate findings (especially critical or unexpected ones) with the referring physicians in person, by phone and through dictated report.

The fellow will also participate in supervising the service by writing protocols, obtaining consent, checking images of patients prior to completion of the study when necessary, and teaching residents and medical students.

The fellow will take part, and be encouraged to moderate, in Multidisciplinary Case Conferences with Gastroenterologists, Surgeons and Oncologists. In this role, the fellow will under the general supervision of faculty, prepare and present the imaging findings of patients being discussed at these case conferences.

The radiologists undergoing fellowship will be adequately trained to work in a tertiary care hospital including an Oncology set up.

They will be given an opportunity to conduct at least one *original research study* during the course

Eligibility : Post graduate in Radiodiagnosis either MD/DNB , less than 35 years of age.

Preference would be given to candidates with experience.

Duration of the course : One year

Date of commencement : 15 Sept 2020

Selection Process : On the basis of previous experience, research papers published and an interview.

List of documents required from the candidate

CV with names and contact details of two referees

MBBS degree

Registration of MBBS with renewal if applicable

Post graduate diploma / degree certificate with additional registration

PAN card

Aadhar card

Photograph

Assessment system

Internal assessment

Theory as well as practical examination at the end of the course

No of alumni qualified so far since the inception of the fellowship

One candidate who will be appearing this October

*Bharati Hospital & Research Centre
Bharati Vidyapeeth Deemed to be University Medical College
Pune, Maharashtra*



Fellowship in Diagnostic Neuroradiology

Name of the mentor with academic credentials / qualifications :

1. Dr Abhimanyu Kelkar : Over 40 years experience in Radiodiagnosis and > 35 years experience in MR imaging and Neuro radiology

2. Dr Anand Rahalkar

An experienced radiologist with over 20 years of experience. His special interests are Pediatric and adult neuroradiology

Overview of the programme

With rapid advances in technology , the need has arisen for sub specialisation in radiology which is system based. The fellow would be trained in image interpretation of diseases of the nervous system on both CT and MR.

The fellow will be responsible for rendering interpretations of CT and MRI studies of the Brain and Spine under the direct supervision of a faculty radiologist. The fellow would preview the case, formulate a differential diagnosis (if appropriate), formulate any follow-up recommendations (if any), and then present the case to the faculty radiologist. The fellow's patient care responsibility is to report all neuro CT and MRI scans and communicate findings (especially critical or unexpected ones) with the referring physicians in person, by phone and through dictated report.

The fellow also participates in supervising the service by writing protocols, obtaining consent, checking images on patients prior to completion of the study when necessary, and teaching residents and medical students.

The fellow will take part, and be encouraged to moderate, in Multidisciplinary Case Conferences with adult and pediatric neurologists and neurosurgeons . In this role, the fellow will prepare, under the general supervision of faculty, and present the imaging findings of patients being discussed at these case conferences.

They will be given an opportunity to conduct at least one *original research study* during the course. The radiologists undergoing fellowship will be adequately trained to work in a tertiary care hospital .

Eligibility Post graduate in Radiodiagnosis either MD/DNB , less than 35 years of age.

Preference would be given to candidates with experience.

Selection and Admission Procedure : On the basis of previous experience, research papers published and an interview.

Duration of the course : One year

Date of commencement : 15 Sept 2020

List of documents required from the candidate

CV with names and contact details of two referees

MBBS degree

Registration of MBBS with renewal if applicable

Post graduate diploma / degree certificate with additional registration

PAN card

Aadhar card

Photograph

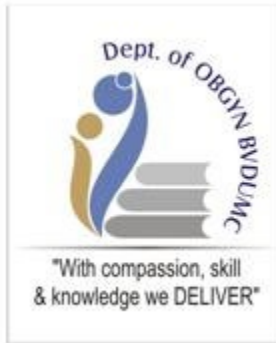
Assessment system

Internal assessment

Theory as well as practical examination at the end of the course

No of alumni qualified so far since the inception of the fellowship

Nil



Bharati Vidyapeeth Deemed University Medical College, Pune

Department Of Obstetrics & Gynecology

Fellowship in Gynecological Endoscopy

Preamble:

The need for a fellowship training program in Gynecological Endoscopy

Knowledge in the field of Gynecology is evolving very fast. Laparoscopy is the need of the hour. Any practicing Gynecologist should have the basic training in Laparoscopy to aid him in diagnosis and management of patients. Patient's awareness of laparoscopy as a advanced and safe mode of intervention is rising day by day and it has become the 'need of the hour'.

Presently very few institutes in the country provide Fellowship courses in Gynece Laparoscopy. Many an institutes are small hospitals which provide weekly, two weekly or six monthly courses in laparoscopy. Due to paucity of clinical material in these institutes very less hands on training is provided.

The department of Obstetrics and Gynecology in Bharati Vidyapeeth Deemed University has established itself as a tertiary care referral center for advanced laparoscopy. The department is providing this treatment modality since last ten years. We have the basic infrastructure to start with a fellowship course of one year for the training in Laparoscopy

This fellowship program will not only help the residents in the department and university but also will be a boon to the novice in the practice of Gynecology to enhance his skills in this specialty also

Learning the technique of endoscopic surgery is difficult as it has a long learning curve and is a completely technically diverse modality of treatment. Any surgical procedure to be learnt safely

has to be done under proper guidance and mentorship and so is true also of endoscopic surgery. The current curriculum of post graduate training of gynecological surgery includes very little exposure to training in endoscopic surgery. The current trend therefore makes the learner seek training through attending workshops or attending small short courses with established surgeons. These unfortunately do not impart training in the right sense and therefore it is observed that the beginners make many mistakes leading to complications which actually could have been avoided..

Developing a state of the art laparoscopy center will also add a feather in the cap of Bharati University.

Aims and Objectives of the Fellowship:

1. To train postgraduates in Obgyn with sufficient skill and knowledge to manage patients with the aid of Endoscopy.
2. To provide in house training of one year covering basics and advances in Endoscopy
3. To provide a viable alternative to endoscopy training imparted abroad and in the country which are often beyond the financial reach of a typical postgraduate in India.
4. The faculty and infrastructure developed for this fellowship will pave way for 'State of Art' endoscopy in our Institute and will benefit the patients and residents in the institute.
5. This kind of proper training will also help decrease the mortality and morbidity associated with this technique which results in hesitancy on the part of surgeons in performing this surgery

Proposed eligibility and selection of trainee:

Eligibility: Candidate holding any postgraduate qualification in Gynecology and Obstetrics: M.D., M.S., D.N.B. or D.G.O.

Number of candidates: One per year. As an exception two candidates per year when the extra candidate is a Alumini of Bharati Vidyapeeth.

Entrance examination and selection: Written test and interview.

Training period: 1 year

Terms & Conditions:

1. The faculty for the fellowship training will be in house teachers with sufficient training in endoscopy, overseas training, and long standing experience in the field of endoscopy and are qualified teachers in the parent subject.
2. The duration of the course will be 1 year in which the candidate will be posted in the Department of Obstetrics & Gynecology, B.V.D.U.M.C Pune.
3. The candidate will be a part of the Endoscopy Unit of Bharati Hospital, Pune.
4. The candidate is expected to complete one research paper in endoscopy and submit the manuscript for publication in peer reviewed reputed journal. He/She will also present one paper and one poster in Endoscopy conference.
5. The course will commence on 15th March. And there will be an Examination conducted by Bharati Vidyapeeth University in the first week of April. It is mandatory to pass this examination to acquire the fellowship certificate.
6. The selection of the candidate for the fellowship training will be on the basis of interview
7. Shared accommodation in the hostel shall be provided to the candidate as per the availability.
8. Each candidate selected shall pay a fee of Rs 1,00,000/- (One Lakh Only) for the fellowship. He/she will receive a stipend of Rs 25,000/- per month for the duration of training. The candidate has to submit a refundable deposit of Rs 50,000/- which will be returned at the completion of the tenure of 1 year.
9. The candidate has to have professional indemnity cover and the same letter has to be submitted at the start of course.
10. The candidate has to work in rotation and do once a week emergency duties in the labor room.
11. Leaves: The candidate is allotted 10 leaves in a year. There will be weekly Sunday off (Except one Sunday in a month where he/she will be on labor room duty.)
12. The candidate is bound to attend outreach patient camps conducted by the Hospital for the retrieval of cases.

Course Design:

Postings:

1. There will be Lecture series on Basic Endoscopy, Anatomy of Pelvis, Port Access.
2. The candidate has to attend Operation Theatre and observe, assist and perform the endoscopy surgeries under supervision as per the availability of the cases.
3. The candidate will attend OPD, and wards and asses, investigate, treat and do postoperative monitoring of the endoscopy cases.
4. They will attend postgraduate activities, case presentations, seminars and journal club sessions in the department.
5. They will be responsible for proper care and handling of all endoscopy instruments in the department.
6. They will maintain a logbook of the work done and get it signed by the concerned faculty from time to time.
7. They will be medico-legally responsible for the cases they perform during the training.
8. They will be initially trained on a endotrainer and gradually will be assessed and then will be given hands on training.

Curriculum:

- 1.) *Introduction to Endoscopy*
 - i. Cadaveric dissection
 - ii. Laparoscopic view
- 2.) *Revision of Pelvic Anatomy*
- 3.) *Basics of Laparoscopy*
 - Instrumentation & Equipment
 - Ports & access to abdomen
 - Hand instruments

- Optics
- Insufflations
- Modern Energy sources
- Port Access
- Endotainers
- Anaesthesia

4.) *Case Situations*

- Diagnostic Laparohysteroscopy
- Adhesiolysis
- Hysteroscopic tubal cannulation
- Hysteroscopic septal resection
- Hysteroscopic submucous polypectomy / Myomectomy
- Endometriotic fulguration
- Endometrioma
- Ovarian cysts
- Other Adnexal pathology ,Ectopic pregnancy

6.) *Advanced Endosurgery*

- Pelvic floor repair – posterior sling
- Burch Colposuspension
- TLH
- LAVH
- Presacral neurectomy
- Laparoscopic suturing

Examination Pattern:

At the end of the course the candidate will appear for theory and practical examination.

He/she must have fulfilled all the basic requirement of duration, paper presentation, poster presentation and publication. He/she has to submit a no due certificate from the Department and Hospital prior to the examination.

Theory:

There will be one theory paper of 100 marks.

There will be 10 short questions of 10 marks each. The candidate has to score minimum 50% marks to qualify for the fellowship.

Practical:

There will be OSCE & viva-voce exam for 100 marks. The candidate has to score minimum 50% marks to qualify for the fellowship.

The candidate has to pass independently in the theory and practical examination to qualify for the fellowship.

Examiners:

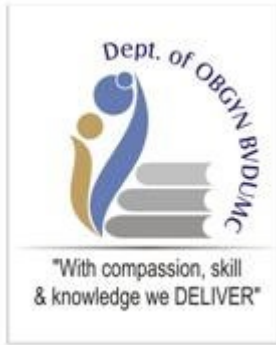
There will be one internal and one external examiner appointed by the University.

Certification:

The fellowship will be awarded in the Convocation ceremony of the University.

Salient Features

- *Bharati Hospital being a tertiary hospital and a teaching institute, the Dept of Obstetrics and Gynecology has patients seeking medical care from all nearby villages as also referrals from the Primary Health Centers.*
- *We have an excellent infrastructure and competent resource persons to evolve a good Endoscopy Training Institute.*
- *No training of this surgery is offered by any Institution in India.*
- *This Course shall be the only one being provided by a University Medical College.*
- *Bharati University can be a pioneer institute in providing training in endoscopic surgery in India with affiliations with other International University.*



Bharati Vidyapeeth Deemed University Medical College, Pune

Department Of Obstetrics & Gynecology

High risk Pregnancy and Critical care in Obstetrics

I. Name of the Course:

Fellowship in “**High risk Pregnancy and Critical care in Obstetrics**”.

Most pregnancies come to term normally, without any unusual complications. However, eight to ten percent of pregnancies are complicated by problems with the health of the mother or fetus. Maternal mortality is very high in some parts of India (350/100,000 pregnancies) compared to the developed countries (less than 30). India compares poorly in the care of the mothers and babies even when compared to countries like Thailand and Srilanka.

Fellowship training provides additional education and practical experience to gain special competence in various obstetrical, medical, and surgical complications of pregnancy. By virtue of this training and technical proficiency, the Obstetric critical care specialist provides care or consultation for both mother and fetus in a complicated pregnancy. In addition, he/she provides education and research concerning the most recent approaches to the diagnosis and treatment of obstetrical problems. He/she thus promotes awareness of the diagnostic and therapeutic techniques for optimal management of these complicated pregnancies.

a. **Goal** of the Fellowship programme is:

- a) To provide high quality training in Obstetric Critical care
- b) To attain proficiency in treatment of high risk pregnancy.
- c) To attain proficiency in the prevention/diagnosis/treatment of fetal problems.
- d) To motivate conduct of epidemiological and clinical research in several Maternal Fetal Medicine problems which are unique to India.
- e) To motivate the fellows to be teachers to the forthcoming generations of Obstetric critical care specialists.

b. **Statement of Objectives of the course**

Maternal Fetal Medicine is a highly specialized and progressively expanding discipline which is concerned with prevention, diagnosis and treatment of high risk mothers and fetus. Due to lack of high risk units and Obstetric Consultants practicing only high risk pregnancies there continues to be high maternal and fetal

morbidity and mortality. The 'Fellowship programme' would fill some void in the need of maternal and fetal medicine specialist.

Skills/attitudes and communication abilities: It is vital that the candidate learns the art of communication with the patients and relatives especially in high risk situations because they could be associated with maternal or fetal mortality or morbidity or both. Grief reaction, easing the pressure caused by the mother being in ICU/NICU and lactation support will form an important part of the training. Ethics and patient choice and communication skills and a basic knowledge of the medicine and law and documentation keeping will also form a part of the curriculum.

c. Course Content:

a) The Basic Knowledge

High risk pregnancy management techniques including decisions of how and when to deliver and balancing of risks shall form an integral component of the course. The trainee would already possess the knowledge of basic sciences and training in Obstetrics & Gynecology. He / She will further learn the anatomy physiology and pathology of the mother and the fetus.

The spectrum of knowledge and skills to be mastered during Fellowship are

- (i) Fetal Physiology, Fetal development and its aberrations
- (ii) Physiology and pathology of maternal adaptation to pregnancy
- (iii) Maternal acid base and electrolyte balance
- (iv) Ventilatory care during pregnancy and postpartum
- (v) Pharmacology including use of vasopressors and higher antibiotics
- (vi) Study of demographic, socio-logic and environmental factors affecting pregnancy
- (vii) Chromosomal disorders, genetic disorders and multi-factor organ dysgenesis.
- (viii) Infections, immunological disorders and pharmacotherapy
- (ix) Normal puerperium and its deviations.
- (x) Preventive aspects of Obstetrics and means to reduce the maternal and Perinatal mortality and morbidity.

Maternal Fetal medicine is unique in that the maternal medications affects the fetus and the neonate. Hence training in the use of pharmaco therapeutic agents is needed.

b) The Clinical Acumen

History takings and examinations in conjunction with investigations is the main stay for diagnosis and treatment of high risk pregnancies. The art of clinical examination of patients is simple and brisk and should be rapidly learnt by the students.

Essential investigation and diagnostic procedures:

a) The noninvasive procedures

It is an indispensable part of High risk pregnancy care and many times, supersedes the more invasive and sophisticated techniques. The use of duplex Scan (Combination of B mode and Doppler ultrasound) is an essential part of

training. The trainee should also be taught the use of hand held Doppler, Fetal surveillance including cardiotocography and various laboratory tests.

b) Invasive procedure

The “Gold Standard” of pathological diagnosis in the fetus is the invasive procedure and obtaining the fetal tissues for pathological diagnosis. This needs specialized training within the “Fellowship” programme.. Diagnostic procedures like CVs, amniocentesis cordocentesis, skin and liver biopsy and therapeutic procedures including amnioreduction, amnioinfusion, intrauterine intra vascular transfusion for Rh isoimmunisation, multi fetal reduction and selective feticide must be suitably emphasized.

c) ICU care of the pregnant women :

Pregnancy causes changes in maternal physiology and special care to maintain blood pressure and oxygen saturation is required. The fellow needs to be proficient in Central Venous line insertion and monitoring, Invasive blood pressure measurements and Ventilatory care including settings for the pregnant patient.

d) Preventive aspects

Critical care in Obstetrics Specialist should be actively involved in the risk factor modification of their patients to prevent progression or recurrence of the diseases. This is not only preventive but also of therapeutic value. This involves premarital and pre pregnancy counseling. Dietetics and nutrition forms an important aspect of this prevention strategy.

e) The Diabetic Clinic – The need for this improperly understood field is of paramount importance in India, since we have the highest number of Diabetics in the world. (30 million) Because of our habits and environments it is likely we will have the highest number of pregnant diabetics leading to maternal and perinatal morbidity & mortality. A multi specialty approach including good glycemic control, a thorough understanding of the physiology and pathology and prevention and therapy can improve the outcome.

f) Anemia clinic: Anemia has been recognized to be the highest contributor to maternal morbidity and mortality. Various types of anemia and their prevention and therapy shall be suitable emphasized.

g) Hypertension Clinic – PIH remains one of the biggest killers of mother and babies. It contributes to 12% of all maternal mortalities, Eclampsia is a preventable disorder. Increasing number of chronic hypertensives becoming pregnant makes it mandatory for the fellow to understand pathology, prevention and management of this disorder,

Procedural and operative skills:

The following lists the minimal requirements to be met by the trainee with graded responsibility accorded during the 6 months.

Key:

- O Washed up and observed
- A Assisted a more senior surgeon
- PA Performed procedures under direct supervision
- PI Performed independently
- OI Observed when opportunity existed

The below suggested categories, level of training and number are minimum requirements. The students / teachers are encouraged to advance these further to the best of their abilities and also strive to gain experience in many procedures that are not listed.

Procedures	Category	Semester	Number
Fetal surveillance			
Electronic Fetal monitoring	PA/PI	I/II	15/15
Ultra sound scan	PA/PI	I/II	25/25
Doppler	PA/PI	I/II	10/10
Fetal invasive procedures			
CVS	A/PA	III	3
Amniocentesis	A/PA	III	4
Cordocentesis	A/PA	III	3
Others	A/PA	III	5
Therapeutic procedures	OI	II/III	5
High risk deliveries	O	I	15
	A	II	15
	PA	III	5
	PI	III	5
Step wise devascularazation	OI/A	c	2
Cervical stitch	A/PA	II	4
Post partum haemorrhage	O/A/PA	I/II/III	8
DIC	O/PA/PI	I/II/III	2
Central Venous line Insertion	O/PA/PI	II/III	4
Invasive arterial monitoring	O/PA/PI	II/III	3
Ventillatory care of the pregnant women	O/PA/PI	I/II/III	4

Cases to be managed

About 5 cases of each of the following must be managed or assisted during the fellowship

1. Severe PH/ Eclampsia
2. APH
3. Multiple Gestation
4. Diabetes
5. Heart disease
6. Respiratory disease
7. Anemia
8. Fetal anomalies
9. BOH
10. Pre term
11. IUGR
12. Fever with pregnancy including malaria/Dengue/H1N1

About 3 cases of each of the following must be managed or assisted during the fellowship

1. Neurological problems/epilepsy
2. Liver problems including jaundice and others.
3. Puerperal problems including DVT/CVT/ARF/Sepsis etc.
4. Any others (Trauma, burns, poisoning, drowning, cord prolapsed, uterine inversion etc in pregnant patient)

Experience to be gained in:

A) RESCUSCITATION

- a) Airway obstruction
- b) Cardiopulmonary Resuscitation (CPR)
- c) Periarrest Arrhythmias
- d) Respiratory Emergencies
- e) Trauma
- f) Shock

B) MEDICAL EMERGENCIES

- a) Anaphylaxis
- b) Transfusion Reactions
- c) Severe Hypertension
- d) Diabetic Ketoacidosis
- e) Congestive Cardiac Failure

- f) Pulmonary Edema
 - g) Thromboembolism
 - h) Oliguria / Anuria
 - i) Seizure – Toxicity due to Magnesium Sulphate
- c) CRITICAL CARE
- a) Central Venous Placement
 - b) Rational use of Blood Products
 - c) Fluid and Electrolytes
 - d) Management of Sepsis and Burns
 - e) High Dependency Unit (HDU)
- D) OBSTETRIC EMERGENCIES
- a) Drills for
 - 1) Eclampsia
 - 2) PPH
 - 3) Crash Caesarean Section
 - 4) Shoulder Dystocia,
 - 5) Cord Prolapse
 - b) Massive Obstetric Haemorrhage- [Conservative surgical ligations, Caesarean Hysterectomy]
 - c) Amniotic fluid embolism
- E) MISCELLANEOUS
- a) Identification of High Risk Pregnancies and Risk Modification
 - b) Triage policy for high risk pregnancy
 - c) High Risk Consents and Patient counseling
 - d) Investigation panels for specific emergencies

e) Medico Legal Aspects

d. Teaching and Learning activities:

- The duration of the course shall be total of 12 months - 10 months in Obstetrics department + 2 months for rotations in different allied (Radiology ,anaesthesia,Critical care, neonatology)and applied subjects/ departments
- The 10 months will be divided into 3 'semesters' of 4 months with progressively graded responsibility assigned during each semester.
- Maximum of 1 and 1/2 months rotation will be allowed during the 3 'semesters'

in the same institution or at other Institutions, to upgrade the knowledge and skills in related specialties.

Education – Both learning and teaching will be an integral part of the Fellowship programmes. The chain of learning from peers and teaching the juniors will never be broken.

Ward rounds and hands teaching in the ward and operating theatre would be the mainstay of the teaching programme, rather than didactic lectures.

The unscheduled and informal discussions to be held as often as possible depending upon the variety and the number of diseases / procedures seen. This method could be an excellent teaching tool, rather than totally regimented scheduling at this level of education.

e. Participation in Department activities :

- ✓ Journal Club Meetings will be held once a month.
- ✓ A mortality / morbidity review and departmental audit will be held bimonthly to review all deaths and complications.
- ✓ Subject seminars to be held once a month to review selected topics.
- ✓ Clinicopathological conference and posting to the laboratory to learn the basic laboratory skills and its implications for clinical practice. This meeting which includes postmortem will be held once in two months.
- ✓ Interdepartmental meetings will be held once in two months and shall include department of Nephrology, Pulmonology, cardiology and Vascular Surgery amongst others.
- ✓ They will actively take part in creating public awareness about high risk factors.
- ✓ The "Fellows" will be encouraged to undertake epidemiological and clinical research programmes on selected topics. They should be taught the basic methods of research and reporting.
- ✓ They will submit at least one scientific paper in national or local conference.
- ✓ They will be encouraged to deliver lecture at the CME programmes conducted at state and local levels as this would not only help them to learn to deliver scientific lectures, but also will increase awareness about high risk cases among Gynecologists..

2. Rotation and Positing in Departments

The following 'rotations' are planned.

a. Basic Medical sciences and allied subjects: (Optional)

Laboratory medicine including Foetal pathology, Cytogenetics, Molecular diagnosis Duration – 1 week

b. Applied subjects:

1. Cardiology – For better management of cardiac problem during pregnancy and have firsthand knowledge of procedure like BMV & valve replacement – Duration 1 week

2. Nephrology – Basic technique of dialysis and fluid management -Duration 1 week

3. Endocrinology – Physiology, pathology clinical features and management of abnormal hormonal milieu and its effect on mother and the fetus. Duration 1 week

4. Pulmonology – Pulmonary function changes and its effect on pregnancy Duration 1 week

5. Vascular – Vascular disorders affecting pregnancy including coagulation disorders and varicose veins Duration 1 week

6. Psychiatry – Psychiatric disorders affecting pregnancy, pregnancies in patients with psychiatric disorders and the effect of pharmacotherapy on pregnancy: Duration: 1 week (optional, if possible)

7. Neurology: Management of Epilepsy, CVT, pituitary tumors and other neurological problems. Duration – 1 week.

c. Allied subjects:

1. *Radiology*

(a) To learn the basic and advanced skills in imaging techniques. Mainly Ultrasound and Doppler, but also about X-ray/CT/ MRI –Duration 1 month.

(b) Anomaly scan and prenatal diagnostic techniques – Duration 1 week.

2. Neonatology: care of the new born, problematic new born feeding and psychosocial problems with NICU care Duration– 1 week. Apart from this formal posting the fellow will do rounds and follow up all the newborns especially premature and IUGR babies.

3. Anesthesiology : Fluid management , High risk Obstetrical Anaesthesia ,choice of anaesthesia ,anesthetic agents and approach in PPH

4. Critical care Unit : Intervention and critical monitoring techniques .

d. Orientation programme:

A team of professionals attached to the hospital will orient the fellows to the use of library and internet. The fellow will also be posted to laboratory to understand the technique and pitfalls of the various tests useful in the field of maternal fetal medicine. Prenatal diagnosis act will form a part of the curriculum. The fellow will participate in the various reproductive and Child health programmes .

4. **Training in Teaching skills and Research methodology:**

The fellows will be encouraged to teach their juniors, residents and nurses. The hospital has a ethics committee for research projects and the members of this committee shall interact with the fellow. Statistics will be arranged as a special course. Research and paper writing will be a integral part of the programme.

5. **Monitoring teaching /Learning activities :**

a, Methods & Frequency : The students will be monitored for basic clinical work on a day to day basis. Their surgical and communication skills will also be monitored. Once every semester they will face a clinical examination.

c. Logbook will be mandatory. Fellows will be asked to keep a record of cases conducted or assisted by them and the number of meetings and papers published/presented by them. Each candidate will be evaluated every semester. The candidate will be asked to put in extra hours or days if found lacking.

6. **Scheme of examination:**

a. Written: The written examination will consist of 2 papers:

Each paper shall consist of long and short questions including MCQ and shall carry 100 marks. 60% needs to be obtaining in each of the papers for passing.

b. Clinical: There will be 2 long cases (75 marks x 2 = 150)

2 Short cases (50 marks x 2 = 100)

c. Viva Voc : 50 Marks

Thus a total of 500 marks of which in each part the candidate is expected to score at least 60%. The exams will have 2 examiners – one internal and one external.

LOGISTICS:

1. **Qualification of student:** Shall preferably be MS/MD/DNB Ob Gyn. degree/DGO holder may be taken in if found suitable, at the time of interview.
2. **Selection process:** Shall be by an entrance examination followed by interview assessing the candidate's interest in high risk pregnancy.
3. **Fee structure:** At present the fee for the entire course shall be 60,000/-.
4. **Qualification of the teacher:** Shall be a person with interest in high risk pregnancy and critical Obstetric care. A minimum of 5 years experience is required.

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*Bharati Hospital & Research Centre
Bharati Vidyapeeth Deemed to be University Medical College
Pune, Maharashtra*



Fellowship in Pediatric Radiology

Name of the mentor with academic credentials / qualifications:

1. Dr Priscilla Joshi MD

Professor and Head of Department with a special interest in Pediatric Imaging. Trained radiologist with more than 35 years experience in Radiodiagnosis and Imaging in the Armed forces as well as corporate and teaching hospitals in Delhi, Mumbai and Poona.

She has done observership at Sick Childrens hospital Toronto Canada.

Experience in Pediatric body imaging and neuroradiology

2. Dr Abhimanyu Kelkar

Professor with experience in Pediatric MSK and neuro radiology. Dr Kelkar has more than 40 years of experience on Radiodiagnosis and is one of the pioneers in the field of MR imaging in Pune.

3. Dr Anand Rahalkar

A professor in the department with more than 20 year's experience. His special interests include neuroradiology both pediatric and adult.

Overview of the programme

Radiodiagnosis and imaging is one of the specialities which has shown tremendous technical advances over the last three decades during which various cross sectional imaging modalities like ultrasound, CT and MRI have emerged ,revolutionized imaging and become a cornerstone in diagnosis of various syndromes and diseases.

“A child is not a young adult” hence the need to impart specialized training to a subset of radiologists to handle children and interpret the diseases and diagnostic problems peculiar to them.

Aim of the program is to train post graduates in Radiodiagnosis in the sub speciality of pediatric radiology.

They will be given an opportunity to conduct at least one *original research study* during the course

Eligibility Post Graduate in Radiodiagnosis either MD/DNB, less than 35 years of age.

Preference would be given to candidates with experience.

Duration of the course: One year

Date of commencement: 15 Sept 2020

Selection and Admission Procedure: On the basis of previous experience, research papers published and an interview.

List of documents required from the candidate

CV with names and contact details of two referees

MBBS degree

Registration of MBBS with renewal if applicable

Post graduate diploma / degree certificate with additional registration

PAN card

Aadhar card

Photograph

Assessment system

Internal assessment

Theory as well as practical examination at the end of the course

No of alumni qualified so far since the inception of the fellowship

Nil

One in service candidate who did not complete the fellowship

Pediatric Radiology Syllabus

1. Radiation safety

2. Pediatric Chest – Imaging in Neonates and young children

Lines and catheters

Childhood Pneumonia

Pulmonary Edema

Esophagus and Airway

Esophageal Atresia

Esophageal Foreign Body

Gastroesophageal Reflux

Bronchopulmonary foregut malformations

Ganglioneuroma

Scrotal neoplasms

Pediatric Cardiac

i. Acyanotic congenital heart disease

ii. Coarctation of the Aorta and Hypoplastic Left Heart

iii. Cyanotic Congenital Heart Disease

2. Pediatric Musculoskeletal imaging - Imaging in Neonates and young children

Skeletal Trauma

Childhood fractures

Legg---Calve---Perthes Disease

Septic Arthritis and Toxic Synovitis

Slipped Capital Femoral Epiphysis

Bone tumors

Metabolic diseases

Bone dysplasias

3. Pediatric Ultrasound – head, spine, pylorus, hips

4. Pediatric ENT– temporal bone, salivary glands, face

5. Imaging Child abuse head to toe, including pitfalls and controversies

6. Pediatric Genitourinary

Duplication of the Collecting System/Ureters

Multicystic Dysplastic Kidneys

Posterior Urethral Valves

Testicular Torsion

Ureteropelvic Junction Obstruction

Vesicoureteral Reflux

7. Pediatric Nuclear medicine basics

8. Pediatric acute abdomen and GI radiology

Appendicitis

Blunt Abdominal Trauma

Congenital Duodenal Obstruction

Hypertrophic Pyloric Stenosis

Intussusception

Jejunal and Ileal Stenosis/Atresia

Malrotation and Midgut Volvulus

Newborn Low Intestinal Obstruction

Omphalocele, gastroschisis,

Diaphragmatic hernia

Pneumoperitoneum

9. Pediatric abdomen liver disease, renal masses

10. Pediatric Neuroradiology – Basics of brain and spine

Pediatric hypoxic ischemic injury

11. Pediatric Neuroradiology – Advanced imaging techniques

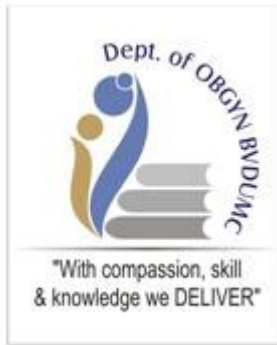
13. Pediatric Spine imaging

Congenital conditions – dysraphism

Tumors

Infections

14. Recent advances



BHARATI VIDYAPEETH DEEMED UNIVERSITY MEDICAL COLLEGE, PUNE

DEPARTMENT OF OBSTETRICS & GYNECOLOGY

FELLOWSHIP IN MATERNAL-FETAL MEDICINE

Rationale – Why This fellowship?

This era is facing a period of dramatic change that is causing the healthcare to redefine their role and strategic direction in the areas of maternal fetal care and neonatology. Technology is allowing for more accurate *in utero* diagnosis of fetal anomalies and malformations while accountable care is compelling some large adult healthcare systems to invest in maternal, fetal and pediatric programs. Medical practice has also changed over the past twenty years such that high-risk mothers are now often transferred to centers with strong neonatal capabilities prior to delivery; in the past, many of these deliveries occurred in community settings and neonates were transferred to regional neonatal centers Postnatally, which may sometimes pose problems.

The continued success of maternal-fetal medicine unit increasingly depends on their ability to identify and manage the care of expectant mothers, their fetuses and their high-risk infants. Developing such teaching programmes and perinatal networks will be better able to screen expectant mothers with high-risk infants, thereby ensuring that these women receive the highest quality perinatal care while also securing their opportunity to serve as the specialty care provider for their infants.

This teaching programme shall ensure departing knowledge about the much-required maternal-fetal medicine to the trainee, which shall in turn enhance maternal, fetal and pediatric outcomes.

Aims and objectives of the program:

Through the course, the fellow shall become proficient in the following thorough hands-on, and observational clinical skills

✓ **OBSTETRICS AND OBSTETRIC ULTRASONOGRAPHY**

- High-Resolution, Targeted Obstetric Ultrasonography: Viability scan, 12 weeks scan (NT), Anomaly scan, Feta Wellbeing Scan, Fetal Dopplers, Assessment of cervix and placenta
- Fetal echocardiography
- Twins and higher order multifetal gestations: Ultrasonography, monitoring, diagnosis, management and delivery decision making
- Rh negative mother: Ultrasonography, monitoring, diagnosis, management and delivery decision making
- Co-Management of preterm labor and other antepartum conditions
- Co-Management of other maternal medical conditions during pregnancy including but not limited to diabetes, hypertension, autoimmune disorders, thyroid, thrombophilia, etc.

- Assessment of Fetal Well-Being – Clinical parameters, Ultrasound, Dopplers, Non-stress test monitoring
- Diagnosis, monitoring, counseling for fetuses with abnormalities
- Fetal MRI

✓ **COUNSELLING AND GENETICS**

- Preconception Counseling
- Genetic Counseling and Genetic Carrier Screening
- Options for aneuploidy screening – Invasive diagnostic testing, Non-Invasive Prenatal Testing (NIPT) – Analysis of Fetal DNA in Maternal Blood
- Counselling and workup of bad obstetric histories
- Recurrent pregnancy loss
- Workup of structural, metabolic and single gene abnormalities

✓ **FETAL DIAGNOSIS AND THERAPY, AS AND WHEN REQUIRED:**

- Chorionic Villus Sampling
- Diagnostic and/or Therapeutic Amniocentesis
- Percutaneous Umbilical Blood Sampling (PUBS)
- Intrauterine Fetal Transfusion (IUT)
- Fetal shunts (Pleural, abdominal)
- When appropriate interventional fetal surgery, including: sacrococcygeal teratoma, congenital diaphragmatic hernia, open neural, twin-twin transfusion and laser therapy for fetal tumors among others

✓ **NEONATAL, PEDIATRIC AND PEDIATRIC SURGERY**

- Training in the basic care of a healthy and sick new born
- Exposure to follow up for a variety of pediatric surgeries diagnosed antenatally and their prognosis

INFRASTRUCTURE, FACULTIES AD STAFF INVOLVED: (Trainee shall be posted in the following departments)

Department of Radiology – High-end Ultrasound machinery, MRI for fetal MRI

Department of Obstetrics – High risk obstetric unit, labour ward, Operation theatres

Department of Genetics

Department of Neonatology and Pediatrics

Department of pediatric surgery

Laboratory services

Eligibility of trainee: DGO/DNB/MD in Obstetrics and Gynecology from a recognized medical college & Hospital

Number of candidates: Two per year,

One extra candidate can be added as in service candidate if he/she is a faculty member of Bharati Vidyapeeth Medical College.

Entrance examination and selection: Written test and interview

Training period: 1 year. The course starts on every 15th September

Programme coordinator: Dr. Pooja Lodha, Lead Consultant, Fetal Medicine & Fetal Therapy, Bharati Vidyapeeth University Medical College, Pune.

Exam and assessment pattern:

- **2 assessments – One at the end of 6 months, and the 2nd; final exit exam. Multiple choice questions, theory papers, and practical viva and demonstrations of ultrasound and procedures.**
- **Log book compulsory**
- **1 research project during the tenure of 1 year compulsory**
- **1 Conference in Maternal-fetal Medicine compulsory**

Proposed fee structure for the fellowship – Rs.60,000/- (Rupees Sixty Thousand Only) per term of six months.

Terms and conditions:

1. The faculty shall include individuals with sufficient post MD or DNB experience in Maternal Fetal Medicine as a teacher.
2. The course duration is of 12 months and course will start on 15th September every year. The candidate would be posted in Department of Radiology, Obstetrics, Neonatology, Genetics, and Pediatric surgery at Bharati. He would rotate with the faculty in other hospitals/health care clinics/centers as and when interesting rare cases being done there (with due permission of the hospital/healthcare clinic/centers)
3. He/she will be expected to complete one research paper in Maternal Fetal Medicine during the training programme at least 2 months prior to his / her completion of the course. This is a part of assessment.

4. At the end of 12 months of training there would be an examination conducted by Bharati Vidyapeeth University. It is mandatory to pass this examination to acquire fellowship certificate.
5. He/she will participate in the teaching programs in the department (case presentations, seminar, journal club, radiology / Obstetrics / Genetics/ pediatrics/ mortality / research project presentation/combined interdepartmental meetings).
6. Logbook of all cases and daily postings will be maintained.
7. Shared accommodation in the hostel shall be provided to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.
8. Each candidate selected shall pay a fee of (Rs.60,000/- Rupees Sixty Thousand Only) per six months, at the start of each term payable to Bharati Vidyapeeth University Medical College, Pune. The in-service candidate would be exempted from course fee; however he / she needs to pay examination fee
9. Examination Fee: Rs.10,000/- only
10. The selected candidate will receive a stipend of Rs.40,000/- (Rupees Forth Thousand Only) per month for the stipulated period of one year of training.
11. Examination & evaluation Fees: the examination will be held once a year in every October. The examination fees will be as per university rules.
12. **The candidate must procure necessary permissions from the PCPNDT Corporation cell before starting the fellowship programme**
13. **Vicarious responsibilities of the institution:** The candidate shall abide by the regulations and shall give written undertaking regarding medical indemnity, medical negligence etc.
14. **Permitted leave:** The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave for every term of 06 months and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination.
15. Based on unsatisfactory reports, the fellowship may be terminated.
16. If the trainee does not complete his / her tenure of 12 months / 18 months, the fellowship certificate shall not be granted.



Bharati Vidyapeeth Deemed University Medical College, Pune
Department Of Obstetrics & Gynecology

FELLOWSHIP IN GYNAEC ONCOLOGY

Preamble:

Rising incidence of malignancy in Gynaecology needs special care & treatment by skilled person trained in this aspect.

Fellowship training provides additional education & practical experience to gain special competence in various gynecological cancers, which is the need of the hour. He/she thus promotes awareness of the diagnosis & therapeutic techniques for optimal treatment of gynaec malignancy.

Trainee in this aspect will go a long way in improving the the health of the nation & help in providing skilled care in this emerging challenge in Gyanecology.

A) AIMS & OBJECTIVES OF THE FELLOWSHIP PROGRAMME IS:-

- a) To provide high quality training in Gynaec oncology.
- b) To attain proficiency in treatment of Gynaec cancers.
- c) To be able to provide expert care in gynaec onco cases.
- d) To be able to set up and handle an Gyn oncology unit.

B) STATEMENT OF OBJECTIVES OF THE COURSE:-

Gynaec oncology is a highly specialized and progressively expanding discipline which is concerned with prevention, diagnosis and treatment of gynaec cancers. Due to increasing

incidence of cancer cases practicing gynaec oncology is essential. The 'fellowship programme' would fill some void in the need of gynaec oncology.

C) SKILLS/ATTITUDES AND COMMUNICATION ABILITIES:-

- a) Developing surgical skills in Gyn Oncology with basic knowledge of chemo and radiation.
- b) To be well versed with different diagnostics in prevention & treatment of Gyn cancers.
- c) It is vital that the candidate learns the art of communication with the patients and relatives because they could be associated with mortality or morbidity or both.
- d) Documentation keeping will also form a part of the curriculum.

D) PROPOSED ELIGIBILITY & SELECTION OF CANDIDATES: -

- a) **Eligibility:** Candidates holding postgraduate qualification in obstetrics & Gynaecology: The qualification should be MD/MS or DNB duly registered with MMC/ MCI/ State Medical Council.
- b) **Number of candidates:** Two per year. As an exception, one extra candidate may be permitted provided he/she is an alumni or faculty in Bharati Vidyapeeth medical college.
- c) **Entrance examination & selection:** The candidate has to appear for a written test based on Gynaec oncology and basic sciences which will be short answer questionnaire.
- d) **Training period:** one year.

E) TERMS AND CONDITIONS:-

- a) The faculty for the fellowship training will be In house teachers with sufficient experience in oncology and long standing experience in the field of subject.
- b) The duration of the course is one year, in which the candidate will be posted in the Department of **OBSTETRICS AND GYNAECOLOGY, B.V.D to be .U.M.C. pune.**
- c) The candidate will be a part of the gynaec oncology unit of BVDU, pune.
- d) The candidate is expected to complete one research paper in gynaec oncology and submit the manuscript for publication in peer reviewed reputed journal. He/she will also present one paper and one poster in a state / national conference pertaining to gynaec oncology.
- e) The course will commence on the 15th September. And there will be an examination conducted by Bharati Vidyapeeth university in the first week of October in the following year (next year). It is mandatory to pass this examination to acquire the fellowship certificate.

- f) The selection of the candidate for the fellowship training will be on the basis of written examination and interview.
- g) Shared accommodation in the hostel shall be provided to the candidate as per the availability. Due charges will have to be paid by the candidate.
- h) Each candidate selected shall pay a fees of Rs1,00,000 for the fellowship. He/she will receive a stipend of Rs.45, 000/- per month for the duration of training. (One year). The candidate has to make a deposit Rs. 50,000/- which will be returned on completion of the fellowship.
- i) The candidate will work as a resident and shall submit all the necessary documents to the college. The candidate will give an undertaking and shall appear as a SR for all the MCI inspections during the tenure of training (if required).
- j) The candidate has to have professional indemnity cover and the same letter has to be submitted at the start of course.
- k) Leaves: the candidate is allotted 7 leaves per term. Prior permission from the head of Department is mandatory. The candidate is eligible for 14 casual leaves during the course
- l) The candidate is bound to attend outreach patients camps conducted by the hospital for the retrievals.

F) COURSE CONTENT:-

a) The basic knowledge

The spectrum of knowledge and skills to be mastered during fellowship are:

- Anatomy of pelvic organs
- Basics of Pathology /Pharmacology / Radio diagnosis
- Study of demographics, social and environmental factors affecting Gynaec cancers.
- Preventive aspects of Gynaec Oncology.

b) The clinical acumen

History taking and examinations in conjunction with investigations is the main stay for diagnosis and treatment of malignancy. The art of clinical examination of the patients is simple and should be rapidly learnt by the students.

c) Procedural and operative skills:

The following lists the minimal requirements to be met by the trainee with graded responsibility accorded during the year of training :

- Screening Modalities

- Insertion of central venous line, arterial line and collection of ABG sample.
- Insertion of endotracheal tube and basics in ventilation.
- Radical surgery – Laparotomy/Endoscopic/Robotic
- Retroperitoneal dissection- Pelvic/ Paraaortic
- Basics in chemotherapy.
- Basics in radiotherapy.

d) ICU care of the malignancy Patient :

The fellow needs to be proficient in central venous line insertion and monitoring invasive blood pressure measurements and ventilatory care including settings for the post operative patient.

Observe and interpret the coagulation report and transfusion of blood and blood components.

e) Cases To Be Managed:-

- Ca cervix
- Ca Endometrium
- Ca ovary
- Ca vulva
- Ca vagina
- GTN

f) Teaching And Learning Activities:-

a) Duration

- 10 months in Gynaec department
- ii) 1 Month in Medical oncology
- ii) 15 days in ICU
- iv) 15 days in Radiation Department

b) Training in teaching skills & Research Methodology

c) Maintain Logbook

g) Participation In Department Activities:-

- Journal club meetings will be held once a month
- Tumour board meet
- The “fellows” will be encouraged to undertake epidemiological and clinical research programmes on selected topics. They should be taught the basic methods of research and reporting.

- They will be encouraged to deliver lecture at the CME programmes conducted at state and local levels as this would not only help them to learn to deliver scientific lectures , but also will increase awareness about high risk cases among Gynecologist

h) Orientation Programme:-

The orientation programme to this course will be conducted at the beginning by the faculty.

G). CANDIDATE EVALUATION:-

a) Theory:

There will be two theory paper of 100 marks each .

There will be 2 long questions of 20 marks each & 6 short questions of 10 marks each.

The candidate has to score min 50% marks to qualify for the fellowship.

b)Practical:-

There will be viva voce exam for 200 marks. The candidate has to score minimum 50% marks to qualify for the fellowship. The Candidate has to pass Theory and Practical examinations separately.

Practical examinations will be conducted as follows:

- 1) Long Case: - 50 Marks
- 2) Two Short cases: - 25 Marks each.
- 3) Viva – voce and Table Viva- 60 Marks.
- 4) Internal Assessment – 40 Marks

c) Examiners:

There will be one internal and one external examiner appointed by the university.

d) Certification:

The fellowship will be awarded in convocation ceremony of the University.

Future prospects and job opportunities

It is an upcoming super subspecialty in which the fellow will have high prospects of being a faculty at various institutions all over India.

*Bharati Hospital & Research Centre
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Pune, Maharashtra*



Fellowship in Fetal Medicine

FETAL MEDICINE FELLOWSHIP (ONE - YEAR)

COURSE OBJECTIVES:

1. To be able to use the ultrasound scan machine effectively.
2. To understand normal and abnormal development in a fetus.
3. To be able to interpret findings on a scan and reach a reasonable diagnosis.
4. To be able to manage common abnormalities integrating the various modalities of investigation for perinatal diagnosis.
5. To be able to liaise with the appropriate departments as dictated by the case and make effective use of the current knowledge and technology available.
6. To be able to provide appropriate pre- pregnancy and perinatal advice to prospective parents.
7. To be able to critically assess available literature and interpret current papers to suit the needs of the patient and the population.
8. To be able to integrate oneself and work as a team showing due respect to colleagues and contribute effectively to the team.
9. To attempt publication of case reports and other review/research articles.

SYLLABUS FOR FETAL MEDICINE FELLOWSHIP COURSE (ONE YEAR)

The fellows will go through the following modules during the one- year course.

MODULE 1 Basics of Fetal Medicine

Relevant Physics of Ultrasound Embryology and fetal development

MODULE 2 Core Fetal Medicine Subjects

Perinatal Genetics

Fetal abnormalities and its management Prenatal Diagnostics and therapy

Perinatal Pathology

MODULE 3 Clinical Obstetrics

Multiple Pregnancies

Perinatal Infectious Diseases

MODULE 4 Personal Development and management skills

Communication, team building and management

Critical Appraisal Skills

Module I

Physics of Ultrasonography (USG)

1. Terminology, Physical & Technical principles
2. USG equipment - knobology
3. Transducers, Real time ultrasound techniques
4. Scanning methods
5. Doppler

Embryology and Fetal development

1. General embryology
2. Ovulation to implantation
3. Development of germ disc, yolksac and trophoplast
4. Development of placenta and membranes
5. Timing and normal development of main organ systems
6. Basic principles of teratogens
7. Mechanism of Teratogenesis
8. Effects of possible teratogens – drugs, infection, radiation

Module – 2

Core fetal medicine subjects

1. Perinatal genetics
2. Basic principles of genetics
3. Genetics disorders
4. Chromosomal disorders (including screening, diagnosis and management)
5. Multiple anomalies and syndromic disorders

Fetal abnormalities and its management

CNS anomalies
Cardiac anomalies
Genito urinary anomalies
Pulmonary abnormalities
Neck and face anomalies
Skeletal anomalies
Fetal tumors
Fetal hydrops
Multiple pregnancies
Disorders of amniotic fluid
Management options including termination of pregnancy
Preconception counseling

Antenatal Screening

1. Invasive Tests– Amniocentesis, Chorion Villous Sampling
2. Maternal serum screening (AFP, BhcG, Estriol, Papp- A)

Perinatal pathology

Analysis of fetal and placental tissues

Module – 3

Clinical Obstetrics

1. Multiple pregnancies – Twins, Triplets and more
2. Antenatal complications – IUGR, Chorioamnionitis, premature rupture of membranes, intrauterine fetal death.
3. Perinatal infectious diseases – Toxoplasmosis, CMV, Herpes, HBV, HIV, HPV, Rubella, Parvovirus, streptococcal infection and syphilis.
4. Common infections in mother – Dengue, malaria, H1N1, Chicken pox

Module 4

1. Communication, teambuilding and management skills.
2. Critical appraisal skills.
3. Interdisciplinary interactions and application of allied sciences for a practical approach to a case

Assessment

Logbook of cases

Clinical Scenario Evaluations.

Publications in national/international journals

Project(Thesis)

Exit Exam

The External examiners will be chosen from the fetal medicine specialty.

Recommended Reading:

1. Text Book of Obstetric Medicine by Catherine Nelson Piercy.
2. Medicine of the fetus & mother by Reece & Hobbins
3. Fetology by Bianchi, Cromblehome, D'alton
4. The unborn patient by Harrison, Evans, Adzick, Holzgrieve
5. The Developing Human : Clinically oriented Embryology by Moore
6. Practical Genetic Counseling by Peter Harper
7. Genetic Disorders & The Fetus : Diagnosis, Prevention & Treatment
8. Diagnostic Ultrasound of Fetal Anomalies – by David A Nyberg et al.
9. Fetal Medicine Basic Science and Clinical practice – Charles H. Rodeck.
Martin J whittle
10. A Practical Guide to Fetal Echocardiography – Alfred Abu Hamad.

Manuscript for Fellowship in GI & HPB Surgery

April 2022

Theory paper pattern with topics

Paper Pattern:

1. Two papers of 100 mark each. Theory will be conducted at BVDUMC, Pune.
2. Each paper shall have 10 short answer type questions for 10 marks each.
3. Each paper shall be for 3 hours.
4. Draw algorithms and diagrams wherever necessary.

Paper I: *Basic Sciences, Upper GI, Small Intestine, Retro peritoneum, Spleen, Bariatric surgery, Laparoscopic surgery, GI Hemorrhage, Pre & post-operative pain management in abdominal surgery, Ethics for surgeons.*

Paper II: *Hepato, pancreatic and biliary surgery, colorectal, anal canal disease, Recent advances in GI Surgery, Organ transplantation.*

Topics

Paper I:

1. GI imaging, infection and antibiotic in GI Surgery, nuclear medicine, Imaging in GI Surgery, Chemo & radiation therapy in GI malignancies.
2. Interventional radiology in GI tract and HPB system, Statistics for GI surgeons. Nutritional support in GI surgical cases.
3. Disease of Esophagus including motility disorders reflux disease, benign & malignant tumors, trauma, corrosive injuries.
4. Peptic ulcer disease benign & malignant disease of stomach, duodenum, small intestine, & retro peritoneum.
5. Disorders of spleen, trauma to spleen
6. Bariatric and metabolic surgery
7. Laparoscopic surgery including robotic surgery.
8. Tumor markers in GI Malignancies.
9. Approach to GI tract hemorrhage including variceal bleeding
10. Ethics in Surgery.

Paper II:

1. Benign and malignant disorders of liver including management of trauma to liver, approach to a patient with jaundice, SOL liver, preoperative management of patients with liver & biliary tract disease.
2. Liver resection surgery in benign & malignant liver diseases.
3. Liver pancreatic & small intestine transplantation, artificial liver support in liver failures.
4. Acute & chronic pancreatitis medical and surgical management, Benign & malignant neoplasm of pancreas included cystic neoplasms of pancreas.
5. Minimal invasive surgical approach to pancreas.
6. Management of pancreaticoduodenal injuries.
7. Acute and chronic disorders including malignancies of Gall Bladder and Biliary system.
8. Benign and malignant conditions of colon & rectum including inflammatory bowel disease, prolapse and incontinence. Minimal invasive surgery for colorectal disorders.
9. Acute and chronic disorders of anal canal including malignant disorders.
10. Recent advances in all GI surgical fields.

Practical Examination pattern**Key aspects:**

1. The practical assessment will be of 200 marks. Will be conducted in Department of General Surgery, Bharati Hospital, and Pune.
2. 40 marks will be allotted to internal assessment based upon the overall performance of the fellow and will be graded by the allotted mentors in the department.

Distribution of marks & Cases:

	Marks
Long Case - one	50
Ward Rounds	50
Table Viva	60
Internal assessment	40
Total	200



Department of Medicine

Syllabus of Fellowship in Infectious Diseases

1. **Introduction to infectious diseases**
Infectious disease history, discovery of antibiotics, discovery of vaccines, timeline of development of antimicrobials and antimicrobial resistance, microbial characteristics, organism pathogenicity and virulence, general principles of diagnosis and management of infectious diseases, emerging infectious diseases
2. **Infectious disease syndromes by body systems**
Symptomatology of infectious diseases and pathogenesis of symptoms, fever and its characteristics, sepsis and its characteristics, infectious disease syndromes by body systems, septic shock and its management
3. **Management of community acquired infections**
Definition of community acquired infections, meningitis, infective endocarditis, respiratory infections, intra abdominal infections, skin and skin structure infections, bone infections
4. **Management of nosocomial infections**
Definition of nosocomial infections, Ventilator associated pneumonia, Catheter associated urinary tract infection, catheter related blood stream infection, surgical site infection, Antimicrobial resistance, choice of antimicrobials in multi-drug resistant organism (MDR) infections
5. **Special populations in infectious diseases**
Infections in patients with oncological and hematological disorders, new fever in intensive care units, rheumatic manifestations of infectious diseases, infectious disease mimics, infections in patients with indwelling devices, prosthetic joint infections, infections in pregnancy, infections in patients with paraplegia and chronic bed-bound state, infections in geriatric population
6. **Infections in immunocompromized hosts**
Infections in patients with solid organ transplantation, infections in patients with hematopoietic stem cell transplantation
7. **HIV and AIDS**
HIV- virology, natural history of HIV infection, diagnosis of HIV infection, symptoms of HIV infections, opportunistic infections, standards of care in HIV infection, HIV/HBV coinfection, HIV/HCV coinfection, antiretroviral therapy, failure of antiretroviral therapy, post-exposure prophylaxis, management of pregnancy with HIV infection, improving adherence to antiretroviral drugs, National AIDS control programme, social issues in HIV infection
8. **Tropical infectious disorders**
Tropical infectious disease epidemiology, Malaria, Filariasis, Dengue hemorrhagic fever, rickettsial infections, leptospirosis, Kala azar, parasitic infections and infestations
9. **Pyrexia of unknown origin**
Definition of pyrexia of unknown origin (PUO), etiology of PUO, diagnostic approach to a case of PUO
10. **Drug sensitive and drug resistant tuberculosis**
Tuberculosis- history and epidemiology, pathogenesis and Symptomatology, management of drug sensitive tuberculosis, Revised national tuberculosis control programme, management of drug-resistant tuberculosis, latent tuberculosis infection, HIV/TB coinfection, infection control in tuberculosis
11. **Atypical mycobacterial infections**

- Microbiology of atypical mycobacteria, American thoracic society recommendations for nontuberculous mycobacterial infections
12. **Anti-infective therapy**
History of antimicrobial discovery/inventions, anti-infective drugs, antimicrobial drug Resistance, hospital antibiotic policy
 13. **Invasive fungal infections and antifungal therapy**
Candidiasis, Aspergillosis, Cryptococcosis, Mucormycosis, Other invasive fungal infections, Azoles, triazoles, Echinocandins, Amphoterecin B
 14. **Geographic and travel medicine**
Travel medicine, Adult immunization clinic, Infections in returned travellers
 15. **Principles of clinical microbiology**
Gram stain, ZN stain, other stains, Gram positive bacteria, Gram negative bacteria, Mycobacteria, clinical mycology, culture methods, organism identification and drug susceptibility, basics of pharmacokinetics and pharmacodynamics, interpretation of antibiograms, minimum inhibitory concentration (MIC) interpretations, newer methods of TB diagnosis
 16. **Principles of hospital infection control**
Definition of infection control, basics of hospital infection control, infection control bundles, how to establish a successful hospital infection control programme, epidemic control, control of hospital outbreaks, infection control indicators
 17. **Biostatistics, how to read a research paper**
Sensitivity, specificity, Positive and negative predictive values, accuracy, tests of significance, characteristics of data, data analysis, how to read a research paper, how to write a research paper for an international journal

Manuscript for Fellowship in Minimal access surgery

April 2022

Theory paper pattern with topics

Paper Pattern:

1. Two papers of 100 mark each. Theory will be conducted at BVDUMC, Pune.
2. Each paper shall have 10 short answer type questions for 10 marks each.
3. Each paper shall be for 3 hours.
4. Draw algorithms and diagrams wherever necessary.

Paper I: *Fundamentals of laparoscopic surgery*

Paper II: *Advanced laparoscopic surgery*

Topics

Paper I: *Fundamentals of laparoscopic surgery*

1. Indications and contra indications in laparoscopy
2. Access to abdomen and extra-peritoneal space
3. HALS , VATS and SILS
4. Hemostasis in laparoscopy
5. Physiology of pneumo-peritoneum
6. Tissue approximation in laparoscopy
7. Laparoscopy in pregnancy, malignancy and acute abdomen
8. Robotic surgery
9. Complications of laparoscopic surgery
10. Optical system, laparoscopy trolley and instrument sterilization

Paper II: *Advanced laparoscopic surgery*

1. Diagnostic laparoscopy
2. Bariatric surgery- types, mechanism of action and complications
3. Metabolic surgery
4. Laparoscopic hernia repair- TAPP,TEP, eTEP, TAR, AWR, IPOM
5. Pediatric laparoscopy
6. Routine laparoscopic surgeries – appendectomy, cholecystectomy, CBD exploration, fundoplication, rectopexy, Heller’s cardiomyotomy etc.

7. Laparoscopic ultrasound in CBD exploration
8. Laparoscopic hepatic, gastric, pancreatoco-biliary surgeries, laparoscopic hydatid cyst management.
9. Recent advances in minimally invasive management of GERD, Achalasia, bariatric procedures etc.
10. NOTES

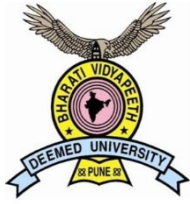
Practical Examination pattern

Key aspects:

1. The practical assessment will be of 200 marks. Will be conducted in Department of General surgery, Bharati Hospital, Pune.
2. 20 marks will be allotted to internal assessment based upon the overall performance of the fellow and will be graded by the allotted mentors in the department.
3. 10 marks for publication done in this one year period

Distribution of marks & Cases:

	Marks
Long Case	50
Ward Rounds/ Short Case	30
Manual Skill Stations [4]	40
Table Viva	30
Spots (5)	20
Internal assessment	20
Publication	10
Total	200



Bharati Vidyapeeth Deemed University Medical College, Pune

Paediatric Fellowship Syllabus

Syllabus

a) Basic principles in paediatric anaesthesia

- Special characteristics of paediatric anaesthesia
- Respiratory physiology in infants and children
- Cardiovascular physiology
- Regulation of fluids and electrolytes
- Thermal regulation
- Pharmacology of paediatric anaesthesia

b) General approach to paediatric anaesthesia

- Preoperative preparation
- Anaesthesia equipment and monitoring
- Induction of anaesthesia and endotracheal intubation
- Intra and postoperative management
- Blood conservation
- Pain management in infants and children
- Regional anaesthesia and analgesia

c) Clinical management of special surgical problems

- Anaesthesia for neonates and premature infants
- Anaesthesia for general, urologic and plastic surgery
- Anaesthesia for ear, nose, and throat surgery.
- Anaesthesia for Ophthalmic surgery
- Anaesthesia for Orthopedic surgery
- Anaesthesia and sedation for procedure outside the OR

- Paediatric outpatient anaesthesia
- Anaesthesia for organ transplantation
- Anaesthesia for trauma

ICU management and ventilation in children

Bharati Vidyapeeth (Deemed University) Medical College and Hospital Pune.

Post-Doctoral Course Pediatric Orthopaedics Syllabus

A. DISCIPLINES

1. Growth and Development
2. The Orthopaedics Examination : A comprehensive Overview
3. Gait Analysis
4. Management of the Child with Development Disabilities.

B. ANATOMIC DISORDERS

1. Disorders of Neck
2. Scoliosis
3. Kyphosis
4. Disorders of the Upper Extremity
5. Developmental Dysplasia of Hip
6. Legg- Calve- Perthes Disease
7. Slipped Capital Femoral Epiphysis
8. Congenital Coxa Vara
9. Disorders of the Femur
10. Disorders of the Knee
11. Disorders of the Leg
12. Disorders of the Foot
13. Limb Length Discrepancy.

C. COMMON ORTHOPAEDIC DISORDERS

1. Limb Deficiencies
2. Infections of the Musculoskeletal System

D. MUSCULOSKELETAL TUMORS.

1. General Principals of Tumor Management.
2. Benign Musculoskeletal Tumors

E. INJURIES.

1. General Principles of Managing Orthopaedic Injuries

2. Spinal Injuries
3. Upper Extremity Injuries
4. Lower Extremity Injuries

F. NEUROMUSCULAR DISORDERS.

1. Disorders of the Brain
2. Disorders of the Spinal Cord
3. Poliomyelitis
4. Disorders of the Peripheral Nervous System
5. Muscle Diseases.

G. MISC ORTHOPAEDICS DISORDERS.

1. Skeletal Dysplasias
2. Metabolic and Endocrine Bone Diseases

Dr. Sandeep Patwardhan

Professor

Orthopaedics Department

Bharati Vidyapeeth Medical College & Hospital Pune.

Dr. G. R. Joshi

Professor & HOD

Orthopaedics Department

Bharati Vidyapeeth Medical College & Hospital Pune.

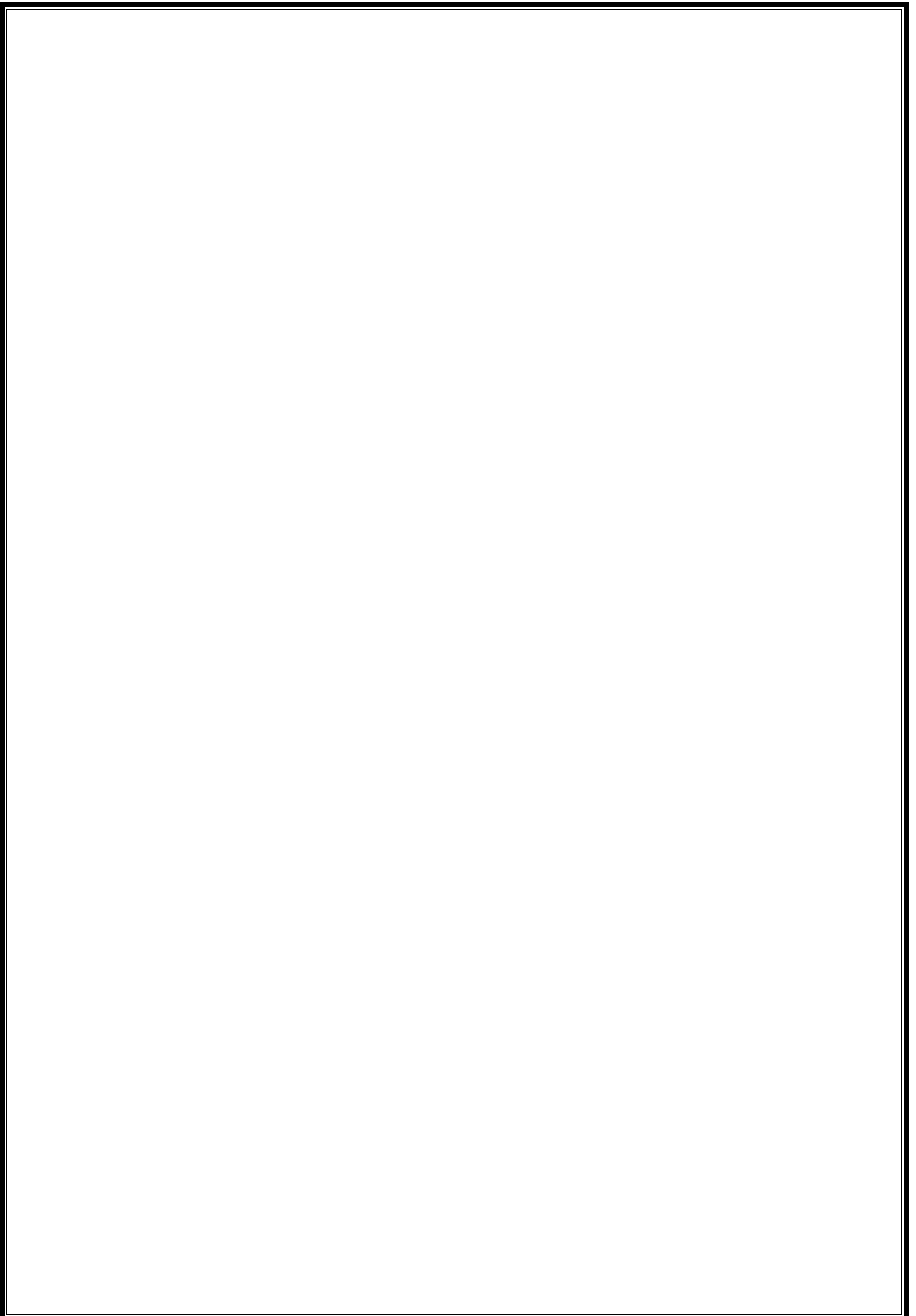
Dr. Ashish Ranade

Consultant

Pediatric Orthopaedics

Orthopaedics Department

Bharati Vidyapeeth Medical College & Hospital Pune.



Dept of Microbiology

Bharati Vidyapeeth (DU) Medical College Pune

Syllabus – Fellowship in Infection Control and Antimicrobial Stewardship

Infection Control	Antimicrobial Stewardship
Introduction to infection control & epidemiology	Interpretation of biochemical tests and clinical pathology related to infections
Structured organization of Infection control program	Laboratory Microbiology Quality control Automation in Microbiology Diagnostic stewardship/Cascaded reporting
Device Care bundles	Antimicrobial therapy including PK PD
CSSD	Antibiotic policy /Antibiogram
Hand hygiene: Requirement, moments, audits Personal protective equipment Pre exposure prophylaxis Post exposure prophylaxis Transmission based precautions Root cause analysis Audits related to infection control	Data collection of antimicrobial use Antimicrobial consumption calculation DDD/DOT/Cost metrics
Major healthcare-associated infections : <ul style="list-style-type: none"> • Catheter associated urinary tract infections • Central line associated blood stream infections • Ventilator associated pneumonia • Surgical site infections 	Clinical rounds with ID physician/Medicine/Surgery/Ortho
Surveillance of Health care associated infections, HAI Indicators Environmental surveillance <ul style="list-style-type: none"> • Water • Air • Environmental surface surveillance 	Setting up an AMS Programme
Disinfection and cleaning Biomedical waste management	Resident /ICN /Clinical pharmacist training
Infection control in special situations <ul style="list-style-type: none"> • laundry • dialysis unit • transplant unit • ICU • Operation theatre • OPD • laboratory • blood bank • canteen 	
Microbiology specimen collection Outbreak investigation NABH requirement of Infection control	

Assessment :

Internal assessment

- a) Log book – 25 cases – complete microbiological and clinical follow up including infection control and antimicrobial stewardship efforts (infections – Both HAI and community acquired)
- b) 10 audits/RCA related to infection control: Hand Hygiene, Surface cleaning, needle stick injury, device care bundles
- c) Minimum of 2 lectures/ seminars in 12 months

Exam pattern

Theory : 200 marks – 2 papers, each paper will have 10 question of 10 marks each

S No	Sub Head	Max Marks
1	Paper 1: Sterilization/Disinfection, Infection Control, Hospital infections, Automated tests, Device insertion/care bundles	100
2	Paper 2: Antimicrobials, Antibigram, Antimicrobials, Biomarkers, Recent advances	100

Practical : 200 marks

S No	Sub Head	Max Marks
1	1 long case – clinical – Microbiological diagnosis and antibiotic therapy, infection control	50
2	Bacteriology: Identification, antimicrobial testing and interpretation	50
3	Sample collection on Simulator- Blood culture, catheterised Urine sample	25
4	Serology tests and interpretation	25
5	Disinfectants and CSSD	25
6	Viva	25

Suggested Seminar topics: (Will be decided as per requirement)

- 1) Automation in clinical Microbiology
- 2) Sterilisation of reusable devices
- 3) Outbreak surveillance
- 4) Care bundles for HAI prevention.
- 5) Audits in infection control

*Bharati Hospital & Research Centre
Bharati Vidyapeeth Deemed to be University Medical College
Pune, Maharashtra*



Fellowship in Women's Imaging

Duration Of Course

1 Year

Curriculum

Mammography/Women's Imaging fellowship is designed to provide an opportunity to develop expertise in all aspects of breast imaging and intervention as well as female pelvic imaging. Fellows work closely with staff consultant. Opportunities exist for involvement in current research programs or formulation of original investigations.

Women's Imaging and Intervention Training

- Screening and diagnostic mammography
 - Breast ultrasound
 - Breast MRI
 - Image-guided procedures: Stereotactic, US
 - Training in quality control and assurance.
 - Body MRI – includes pelvic MRI
 - Body US – includes pelvic US (OB US possible by special arrangement)
 - Body CT – includes abdomen and pelvic CT
 - Additional time in breast imaging and intervention
-

Program Highlights:-

1. A 1 year comprehensive and well-balanced training program encompassing all the basic and advanced clinical areas of women's imaging.
2. Training in breast, gynaecological and obstetrical imaging.
3. Modular Fellowship course format
4. Obstetrical imaging training includes performing and interpreting OB ultrasound and exposure to fetal MR.
5. The fellow will be involved with all aspects of breast imaging and procedures including mammography, ultrasound, breast MRI, breast biopsy and wire localizations.
6. Gynaecological training includes MR interpretation, hands on endo-vaginal scanning and fluoroscopic procedures and sonographic evaluation of the endometrium and fallopian tubes.
7. The fellow receives "hands-on" experience at the workstation as well as through active procedure services with image-guided aspirations and biopsies.
8. Fellows fully participate in all aspects of clinical services, with frequent contact.
9. Fellows will be given an opportunity to conduct at least one ***original research study*** during the course duration.



POST DOCTORAL CERTIFICATE COURSE IN DIAGNOSTIC HAEMATOLOGY

DEPARTMENT OF PATHOLOGY

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY) MEDICAL COLLEGE AND HOSPITAL, PUNE

SYLLABUS

- Basic biology and pathology of haematological conditions.
- Laboratory procedures, Diagnostic approaches and interpretative analyses in laboratory haematology.
- Diagnosis of acute and chronic leukaemias - bone marrow studies- morphology, special stains, flow cytometry, genetic studies
- Diagnosis of nutritional, deficiency anaemias
- Diagnosis of thalasseмииs, haemoglobin disorders, haemolytic anaemias
- Genetic basis of diseases and their genotype-phenotype correlation.
- Diagnosis of congenital and acquired bleeding disorders
- Understanding of obstetric and gynaecological haematology, haematological conditions in ICU and HDU
- Quality control in haematology



FELLOWSHIP IN ONCOPATHOLOGY

DEPARTMENT OF PATHOLOGY

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY) MEDICAL COLLEGE AND HOSPITAL, PUNE

SYLLABUS

General Pathology

- Cellular adaptation
- Cell injury and death
- Tissue renewal and repair
- Genetic disease and tumor immunology
- Carcinogenesis and neoplasia
- Hereditary cancers and familial cancer syndromes.

Systemic Pathology

- Tumors of GIT and hepato biliary system
- Tumors of soft tissue and bone
- Tumors of lung and mediastinum
- Tumors of lymph node and hemopoietic system
- Tumors of CNS and Eye
- Tumors of Thorax
- Tumors of Head and neck
- Tumors of breast
- Tumors of Female genital system
- Tumors of male genital system
- Tumors of urinary system
- Tumors of Endocrine system
- Tumors of skin
- Tumor like lesions in all sites
- Pediatric tumors
- Immunohistochemistry and FISH for accurate subcategorisation of specific tumors.





Cyto-Oncopathology

Cytopathology techniques

Routine, guided (computed tomography (CT) and, ultrasound guided fine needle aspiration cytology.

- Liquid based cytology
- Non gynaec cytology including fluids, bronchial wash and BAL
- Automated cytology
- Oncocytology of different systems :
 - ▶ Lung and mediastinum
 - ▶ Soft tissue and bone
 - ▶ Lymph node
 - ▶ Salivary glands
 - ▶ Breast
 - ▶ GIT, liver, abdominal organs
 - ▶ Thyroid
 - ▶ Kidney
- FNA for cytogenetics, cell blocks, IHC and ISH
- FNA for flowcytometry of lymphoproliferative disorders and paediatric solid tumors.

Molecular Pathology

- Techniques in cytogenetics - routine karyotyping
- IMA (Tissue micro array)
- FISH (Fluorescence in-situ hybridization)
- CGH (Comparative genomic hybridization)
- PCR (Polymerase chain reaction) and RT-PCR
- NGS (Next generation Sequencing)

Recent advances in Oncopathology

Recent advances in molecular pathology



**BHARATI VIDYAPEETH
(DEEMED TO BE UNIVERSITY), PUNE**

**Faculty of Medical Sciences
Fellowships
Old Syllabus**



**Bharati Vidyapeeth Deemed to be University,
Pune**

Faculty of Medical Sciences

Curriculum for Fellowships

Fellowship in Neonatology

Preamble:

- i. The current syllabus for postgraduates in Pediatrics gives insufficient exposure to the subject of Neonatology. They are therefore unable to meet the increasing demand for treating the newborns, with sufficient expertise or skill especially in semi urban and rural India. This results in increasing referral of critically ill or low weight Newborns to a tertiary care center in a city.
- ii. There is high mortality among Newborns. India's Neonatal mortality is one of the highest in the world. Majority of these deaths occur in rural India, due to lack of basic care and expertise.
- iii. There are very few centers in India, that provide an opportunity to learn Neonatal care of sufficient quality to enable pediatricians to practice Neonatology with confidence, in such a rural/semi urban setting.

Aims and objectives:

- i. The objective of this fellowship program is to provide an insight into both basic and advanced Neonatal care so as to equip the postgraduates in pediatrics with sufficient knowledge and skill to provide tertiary care in any peripheral center in India.
- ii. This fellowship will enable us to contribute to reducing the Neonatal mortality rate in India.
- iii. This will make us one of the few centers of its kind in India that provide such training and fellowship. It will also improve the quality of patient care and academics at both centers.
- iv. The reason for training at two distant centers in India is to enable the Fellow a learning experience in different clinical settings across India.
- v. The fellowship will provide a viable alternative to the current two-year course of DM (Neonatology), which is unavailable to the majority of postgraduates in pediatrics. It will emphasize on the same curriculum in a concise manner in the stipulated one-year period.
- vi. The faculty and infrastructure developed would pave the way for super specialty course of DM (Neonatology) at our centers in the near future.

Terms and conditions:

- i. The fellowship shall involve eligible teachers appointed by both organizations as faculty for the Department of Pediatrics, BVDU Medical College and Department of Neonatology, MOSC Medical College, Kolenchery- Kochi – 682311, Kerala.
- ii. Prof. K. K. Diwakar, HOD of Neonatology MOSC Medical College, Kochi will be the Director of this clinical fellowship program.
- iii. The faculty shall include individuals with sufficient post- MD or DNB (pediatrics) experience Neonatology (DM / overseas training/ long standing

experience in pure Neonatology as a teacher). The final deciding authority shall be the BVDU.

- iv. The training center at Department of Neonatology, MOSC Medical College shall be accredited by the members appointed by the Bharati Vidyapeeth Deemed University, Pune for recognition as a postgraduate fellowship-training center.
- v. **Any future collaboration with other national or international institute related with this fellowship shall be between that institute and BVDU and MOSC jointly.**
- vi. Six candidates shall be selected per year, which shall be done at BVDU Pune with representatives of BVDU & MOSC jointly comprising the panel of selectors. The selected candidates shall be sent to the specific centers for the 6 monthly rotation training.
*An exception to this procedure is being made from the year 2004 resulting in independent selection at the MOSCMCH medical college & at BVDU. **However MOSCMCH shall accommodate candidates selected by the BVDU subject to the availability of vacancy for the Fellowship at MOSCMCH medical college Hospital.**
- vii. The duration of this course is 12 months for MD / DNB candidates and duration will be 18 months for DCH candidates .
- viii. Of the total 12 months of this residential fellowship, six months shall be with the Department of Neonatology, BVDU Medical College, Pune 411043 and six months with the Department of Neonatology, MOSC Medical College, KOCHI – 682311 for MD / DNB Candidates

For DCH candidates from 18 months duration, nine months shall be with the Department of Pediatrics, BVDU Medical College, Pune 411043 and nine months with the Department of Neonatology, MOSC Medical College, KOCHI – 682311
- ix. The first term of this twinning at BVDU medical college will tentatively be from 15th September every year
- x. The period of shifting shall be after “6 or 9 months of scheduled training”.
- xi. The examination shall be held in the October every year.
- xii. Each candidate selected shall pay a course fee of rupees 60,000/- (MD/DNB candidate) or Rs.90,000/- (DCH candidate) payable to Bharati Vidyapeeth deemed university. **Stipend will be of Rs.30,000/- per month.** At the end of the year 50% of the fees shall be disbursed to Malankara Orthodox Surian Church Medical College, Kolenchery, Kochi - 682311, Kerala.
- xiii. The respective training center shall pay selected candidates a stipend of rupees 30,000/- per month for the stipulated six / nine months of training.
- xiv. Examination & evaluation Fees: As applicable.
- xv. Shared hostel accommodation shall be provided at free cost to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.

- xvi. This MOU is valid for a period of three years w.e.f _21.02.2004 and can be renewed by mutual consent on completion of the above mentioned period.

Eligibility:

- i. Candidates must have passed the MD(pediatrics)/DNB(pediatrics)/Postgraduate Diploma in Child Health from a MCI recognized institution/College of Physicians and surgeons Mumbai. Preference will be given to persons who have worked for at least 6 months after their post-graduation in a pediatric unit. Additional credit will be given to candidates who have worked in a Neonatal unit.
- ii. Age: Normally not over 30 years.

TRAINING PROGRAM:

AIMS:

- 1) Familiarize with neonatal resuscitation and general care of the newborn
- 2) Provide an exposure to neonatal care in outreach health centers
- 3) Introduction to advanced neonatal care.
- 4) Preparation of scientific papers in Neonatology.

The training period shall be continuous and simultaneous involving the following program. The entire academic program including the symposia shall be similar at both the centers. The one-year training shall be comprehensive and involve the following,

CLINICAL/PRACTICAL TRAINING;

- i. The trainee shall be included in the regular duty roster of the postgraduates posted to the NICU. This will include attending the normal deliveries and caesarean section... This will provide an exposure to basic neonatal care.
- ii. The training shall also include 1) Introduction to basic ventilator settings 2) interpretation of blood gases of ventilated infants. Procedures like arterial line Cannulation, ventricular tap etc. will be permitted, under supervision

THEORY:

Theoretical training shall be based on symposia and seminars in pure Neonatology. Once a week general Clinics in Neonatology will be conducted in the NICU. The trainee will be expected to present a seminar once a month. Topics for the seminars will be provided in advance. In addition to these, daily ward rounds will provide opportunities for clinical and theoretical discussions.

The detailed curriculum will be provided at beginning of the course.

Scientific Paper:

The trainee is expected to present at least ONE scientific paper in Neonatology at any of the state or national forum. **This will be considered a mandatory requirement for granting the certificate of training.**

Research credit will be jointly given to both centers.

Internal assessment:

Proposed Internal Assessment

Twenty percent of the total marks shall be for internal assessment which includes

Personal attributes*

Clinical skills and performance

Academic activity (journal club, seminars, case discussion)

*Availability, Sincerity and motivation, Diligence and performance, Inter-personal skills

Certification examination:

The trainee shall have to present himself for a Theory examination consisting of two papers of 100 marks each on day one followed by a practical and viva voce session to a constituted board, to be conducted at Bharati Vidyapeeth deemed university medical college. The constituted board would include one internal assessor from either of the center and one external assessor. The certificate would be granted after the SATISFACTORY completion of ONE year's training and examination.

Practical exam: OSCE pattern. And Viva Voce

Candidate would have to pass independently in both theory and practical to be eligible for certification.

The theory papers shall be for 3 hours each; comprising of 10 short notes of 10 marks each

Paper ONE: Basic neonatology, neonatal nursing, resuscitation, common neonatal problems (eg infectious diseases, jaundice, seizures, metabolic disturbances etc. postnatal management of these problems, community neonatology.

Paper TWO: Advanced neonatal care, Intensive care with an overview of neonatal organ systems eg, Neonatal nephrology, cardiology; Neonatal Ventilation; Recent advances.

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term.

Books and study materials: both centers shall extend all assistance regarding library facilities for preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows. They shall be as follows:

Textbooks in Neonatology (the minimum):

- i. Assisted Ventilation of the Newborn. Eds. Goldsmith JP, Karotin EH. Philadelphia, WB Saunders and Company, Latest Edition
- ii. Textbook of Neonatology. Ed. NRC Robertson. London, Churchill Livingstone, (latest edition)
- iii. Neonatology – Pathophysiology & Management of the newborn Eds. Avery GB, Fletcher MA, Macdonald MG. 4th edn. (Or later edition) JB Lippincott Company, Philadelphia

Journals:

- (a) Clinics in Perinatology
- (b) Archives of Diseases in Childhood (British Edition)
- (c) Journal of Perinatology (US publication)
- (d) Acta Paediatrica Scandinavia.

Specific parts of the books, when required can be photocopied and sent to the either center library.

The journals shall be circulated to MOSCMC library from the BVP library or vice versa on a regular basis not later than 2 months after receipt and the same shall be sent back to the respective library after a retaining period of not more than 2 months per journal. When required for research purposes 'back editions of journals' will be requested for and obtained as an inter-library transfer between the 2 institutions. The mailing cost shall be born by the sender.

**(23) Special arrangements for Clinical Fellows trained by faculty at cochin/
Faculty at BVDUMC exclusively *.**

Candidates (maximum one from each center per year) working under the guidance of at Cochin / Faculty at BVDUMC exclusively, for ONE year shall be permitted to appear for the BVP deemed university certification examination subject to the fulfillment of the following conditions

- (a) The candidate should have worked for a continuous period of not less than ONE year at the Department of Neonatology of the associate institution (MOSC Medical College Hospital/ BVDUMC) as Clinical Fellow under the guidance of at Cochin / Faculty at BVDUMC respectively.
- (b) On completion of the one year period, He / She should be certified as Satisfactory by the guide.
- (c) The Candidate should have paid the examination fees notified by the BVP deemed university.
- (d) The candidate shall attend the written examination and viva voce of the BVDU at his / her own expense at the time prescribed and notified by the university.

Since BVDU will be using their Share of academic fee toward payment of the faculty members at our center, MOSC Medical College, Kochi – 682311, Kerala will utilize its funds towards the same.

Fellowship in Pediatric Critical Care

1. The BHARATI VIDYAPEETH DEEMED UNIVERSITY, PUNE 411 043 will conduct this one-year certificate course.

This course will involve training of twelve months in Paediatric ICU

Preamble:

- i. The course is being started with the view to augment the exposure in the super specialty of Pediatrics i.e. Pediatric Critical Care.
- ii. This will facilitate hand on experience to the in-house faculty as well as Pediatricians from in and around Pune to improve the exposure in treating the critically ill children.
- iii. Certificate course will be utilizing mostly the infrastructural facilities which are available over and above the minimum requirements of MCI prescribed for teaching undergraduate and postgraduate diploma and degree course in pediatrics.
- iv. There is a high mortality among children under the age of five. India's Neonatal and under five mortality are amongst the highest in the world. Majority of these deaths occur in rural India, due to lack of basic care and expertise. Significant proportion of these can be prevented by training pediatricians to handle emergencies in any peripheral setup.
- v. There are very few centers in India, that provide an opportunity to learn Pediatric intensive care of sufficient quality to enable pediatricians to practice Critical Care Paediatrics with confidence, in such a rural/semi urban setting.

Aims and objectives:

- i. The objective of this certificate program is to provide an insight into Pediatric critical care so as to equip the postgraduates in pediatrics with enhanced knowledge and skill to provide expert care at any peripheral center in India.
- ii. This certificate course will enable us to contribute to reducing the Under Five mortality rate in India.
- iii. **This will make us one of the few centers of its kind in India that provide such training and certification.** It will also improve the quality of patient care and academics at our center.
- iv. The certificate course will provide a viable alternative to the fellowship program offered outside India, which is unavailable to the majority of postgraduates in Paediatrics. It will emphasize on the same curriculum in a concise manner in the stipulated one-year period.
- v. The faculty and infrastructure developed would pave the way for super specialty course of DNB paediatric critical care/Diploma in Pediatric Critical Care course of Indian Society of Paediatric Critical Care Medicine at our center in the near future.

Terms and conditions:

- i. The fellowship shall involve eligible teachers appointed by BVDU as faculty for the Department of Pediatrics, BVDU Medical College.
- ii. Professor and Head of Department of Pediatrics will be the Director of this Certificate program.

- iii. The faculty shall include individuals with sufficient post- MD or DNB (Pediatrics) experience in Paediatric Critical care (DM / overseas training/ long standing experience in Paediatric Critical care as a teacher). The final deciding authority shall be the BVDU.
- iv. **Three** candidates shall be selected per year, which shall be done at BVDU Pune with representatives of BVDU and the Faculty for teaching comprising the panel of selectors.
- v. The duration of this course is 12 months for MD / DNB candidates and duration will be of 18 months for DCH candidates. .
- vi. The first term of this will be from 15th September every year.
- vii. The examination shall be held in October every year.
- viii. Each candidate selected shall pay a fee of rupees 60,000/- (MD/DNB candidate) or Rs.90,000/- (DCH candidate) per year payable to Bharati Vidyapeeth deemed university. Stipend will be Rs.30,000/- per month.
- ix. Examination & evaluation fees : as applicable
- x. Shared hostel accommodation shall be provided at free cost to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.

Eligibility:

- i. Candidates must have passed the MD(pediatrics)/DNB(pediatrics)/Postgraduate Diploma in Child Health from a MCI recognized institution/College of Physicians and surgeons Mumbai. Preference will be given to persons who have worked for at least 6 months after their post-graduation in a pediatric unit. Additional credit will be given to candidates who have worked in a Pediatric critical care facility.
- ii. Age: Normally not over 30 years.

TRAINING PROGRAM:

AIMS:

- 1) Familiarize with paediatric resuscitation and care of seriously ill child
- 2) Introduction to advanced Paediatric care.

The training period shall be continuous and simultaneous involving the following program.

CLINICAL/PRACTICAL TRAINING;

- i. The trainee shall be included in the regular duty roster of the postgraduates posted to the PICU.. This will provide an exposure to basic and advanced pediatric intensive care.
- ii. Understand the principles of emergency medical services for children (EMS-C),
 - a. Describe the organization of emergency medical systems in the area, including:
 - Pre-hospital care. Rapidly assess urgent patients:
 - Recognize respiratory failure and/or shock.
 - Formulate a diagnosis quickly, especially with respect to conditions which may need respiratory or cardiovascular support or an immediate intervention (e.g., tension Pneumothorax, emergent cerebral edema, and cardiac tamponade).
 - Assist in evaluating and stabilizing a child with multiple trauma.
 - b. Establish and manage airway for infants, children, and teens.
 - Demonstrate proficiency in: Bag - valve - mask ventilation b) Nasal and oral airways c) Endotracheal intubation d) Mechanical ventilation
 - Explain indications and describe technique for and complications of a) Nasotracheal intubation b) Emergency cricothyrotomy
 - c. Identify priorities for vascular access, establish access, and perform fluid resuscitation. Demonstrate proficiency in:
 - a) Cannulation of peripheral veins b) Intraosseous needle insertion c) Umbilical vessel Cannulation
 - Explain indications and describe technique for:
 - Central venous access
 - Arterial access
 - d) Demonstrate proficiency at cardiopulmonary resuscitation:
 - Obtain certification as a provider of Pediatric Advanced Life Support.
 - Understand how to manage common illnesses and injuries presenting emergently.
 - e) Make a decision regarding discharge from the ED, admission, or transfer.
- iii. The training shall also include 1) Introduction to basic ventilator settings 2) interpretation of blood gases of ventilated infants. Procedures like arterial line Cannulation, ventricular tap, chest drain, peritoneal dialysis etc. will be permitted, under supervision.
- iv. Attending and managing emergencies like status asthmaticus and epilepticus, hypertensive crisis, renal and hepatocellular failure; septic, hypovolumic and cardiogenic shock, endocrine emergencies, poisonings and envenomation. Emphasis will be on resuscitation and stabilization

THEORY:

Theoretical training shall be based on symposia and seminars in Pediatric critical care. Once a week general Clinics in PICU will be conducted. The trainee will be expected to present a seminar once a month. Topics for the seminars will be provided in advance. In

addition to these, daily ward rounds will provide opportunities for clinical and theoretical discussions.

The detailed curriculum will be provided at beginning of the course.

EVALUATION AND EXAMINATION

ASSESSMENT METHODS

INTERNAL ASSESSMENT:

- Twenty percent of the total marks shall be for internal assessment which includes
Personal attributes*
Clinical skills and performance
Academic activity (journal club, seminars, case discussion)
**Availability, Sincerity and motivation, Diligence and performance, Inter-personal skills*
- The topics for academic activity will be given well in advance and the assessment will be done by the faculty at the end of the presentation.
- Assessment of the candidate for other attributes would be an on going process.
- All the help and advice required for the betterment of academic activity will be extended by the faculty.
- At the end of the term compilation of all the marks will be done as the marks for internal assessment.

CERTIFICATION EXAMINATION:

The trainee shall have to present himself for a Theory examination consisting of two papers followed by a Objective Structure Clinical Examination (OSCE) to be conducted at Bharati Vidyapeeth deemed university medical college. The constituted board would include one internal assessor and one external assessor. The certificate would be granted after the SATISFACTORY completion of ONE year's training and examination.

1.Paper One will cover topics in basic sciences as applied to Pediatric critical care

2.Paper Two will cover advanced Pediatric Critical care and recent advances

3.Practical exam will be Objectively Structured Clinical Exam pattern

Candidate would have to pass independently in both theory and practical to be eligible for certification.

Practical exam: OSCE pattern. And Viva Voce

Candidate would have to pass independently in both theory and practical to be eligible for certification.

The theory papers shall be for 3 hours each.

Comprising of 2 essay type questions of 25 marks each. : Descriptive pattern.
and 5 brief answer questions of 10 marks each with stress on analytical questions and deductive problems.

Paper ONE: Basic Sciences as applied to Pediatric critical care like nursing, resuscitation, common pediatric problems (eg infectious diseases, jaundice, seizures, fluid electrolyte balance, shock, toxicology, trauma, metabolic disturbances etc..

Paper TWO: Advanced pediatric care, Intensive care with an overview of organ systems eg, respiratory nephrology, cardiology; Ventilation and Recent advances.

Professional insurance: The candidate must possess a Professional insurance cover.

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term.

Books and study materials: BVDUMC shall extend all assistance regarding library facilities for preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the candidates . They shall be as follows:

Textbooks in paediatric critical care (the minimum):

- i. The ICU Book Paul Marino latest edition
- ii. Mechanical ventilation Tobin latest edition
- iii. Respiratory Physiology Nunn latest edition
- iv. Text book of nephrology Holliday& Barrat

Journals:

- a) Critical care medicine
- b) Paediatric critical care medicine
- c) Pediatrics
- d) Chest The American College of Chest Physicians

- (a) The candidate shall attend the written examination and viva voce of the BVDU at his / her own expense at the time prescribed and notified by the university.



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE,
PUNE**



**PEDIATRIC EPILEPSY-NEUROLOGY UNIT
DEPARTMENT OF PEDIATRICS**



**FELLOWSHIP IN PEDIATRIC EPILEPSY AND NEUROLOGY
2023-2024**

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BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of Deemed University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE, PUNE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 950 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric sub-specialty services viz. Epilepsy & Neurology, Hemato-oncology, Endocrinology, Neonatology, Pediatric Rheumatology, Pediatric Infectious Diseases, Pediatric Orthopedic, High risk newborn clinic etc. The Department runs post-doctoral certificate courses in Neonatology, Pediatric Critical Care, Epilepsy & Neurology, Endocrinology, Pediatric Hematology-Oncology, Pediatric Infectious Diseases, Development and Behavioral Pediatrics, Pediatric Genetics and Metabolic Disorders etc.

PEDIATRIC NEUROLOGY- EPILEPSY UNIT

The Pediatric Neurology- Epilepsy unit was established in 2004. The aim was to provide diagnostic and treatment modalities to children with seizures and other neurological disorders. Postgraduate courses in pediatrics fall short of capacity building in neurology and thus they do not have sufficient expertise in this field. Super-specialty courses available (DM Pediatric Neurology) are of three years duration and very few centers offer them.

Ours is one of the few centers in India to impart training in the field of Pediatric Neurology with a curriculum that covers the entire gamut of developmental, neurological and epileptic disorders in children. Video-EEG facility, Bedside EEG facility immensely help in evaluation and management of Status epilepticus and encephalopathic patients in PICU and NICU. Ketogenic Diet is being managed by trained dietician with rich experience. Under the umbrella of Bharati hospital, other services needed for such patients are provided in the same campus, including other co-specialties like Audiology and speech therapy, Child Guidance Clinic, Occupational and Physiotherapy, along with a dedicated social worker.

Since the clinic started, more than 7000 new patients have been registered. The faculties attached to the clinic have constantly endeavored to keep abreast with the latest knowledge and impart evidence based care to the children referred to us from all over Maharashtra. Every referred patient is thoroughly evaluated by detailed history taking, neurophysiological and neuroradiological (and if needed neurogenetic) evaluation followed by management offered at a very affordable price.

The unit also boasts of hosting several regional as well as national level pediatric neurology conferences / symposia on focused topics. The unit is also involved in several multicentre research projects at national and international level. Many of our projects have been published in reputed international peer reviewed journals, as well as have won awards for best papers at several national and International conferences. Thus, the unit boasts of strong foundation building in clinical care, academics and research aptitude amongst the students enrolling our fellowship programs.

The Neurology Chapter of **Indian Academy of Pediatrics** has accredited the unit to conduct the Fellowship in Pediatric Neurology from January 2013. Initially it was 1 year course, since 2017 onwards, the IAP Neurology Chapter has made it a 2 year course for better learning and completion of study projects, which was not possible in 1 year duration earlier. Twenty fellows have passed from the institute, all are doing well as child neurology practitioners, many of them have now occupied important positions in child neurology bodies of India.

DEPARTMENT OF PEDIATRICS

Dr. Sanjay K Lalwani, MD, DNB

Vice Principal,
Professor and Head

Dr. Vijay Kalrao, MD

Professor

PEDIATRIC NEUROLOGY UNIT FACULTY

Dr. Kavita Srivastava (GUIDE),

MD, Fellowship in Pediatric Epilepsy

Professor

Incharge & Co-ordinator Fellowship Program

Dr. Umesh Kalane,

DNB Pediatrics,

Fellowship in Clinical Neuro-physiology and Pediatric Neurology

Dr. Brig. Sankar Prasad Gorthi,

MD (Medicine), DM (Neurology)

Dr. Suyog Doshi,

MD (Medicine), DM (Neurology)

Aims and Objectives of the Fellowship Program

The duration of course shall be for a period of one year.

Program Goals: To train a postgraduate fellow in Pediatric Epilepsy and Neurology

- ❑ To practice as a Consultant in Pediatric Epilepsy and Neurology equipped with appropriate knowledge and skills necessary to care for the child with various types of acute and chronic seizure disorders.
- ❑ To practice Pediatric Epilepsy and Neurology in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- ❑ Understand how to diagnose and manage epileptic and neurological disorders, which generally do not need referral.
- ❑ Understand how to diagnose and initiate management of epileptic and neurological disorders which generally need referral.
- ❑ Understand the presentation and prognosis of various types of epilepsies and neurological disorders in children and adolescents.
- ❑ Understand the appropriate methods of diagnosis and management of a child with these disorders.
- ❑ Understand the indications and complications related to the use of various drugs.
- ❑ Understand the pediatrician's role in the prevention of neurological disorders.
- ❑ To gain an insight into various other overlapping neurological disorders
- ❑ Problems encountered in the management of epileptic and neurological disorders.

Program objectives

The objectives to be fulfilled at the completion of the course are:

Knowledge:

- ❑ Describe, identify and monitor normal patterns of development, which occur in the neonate, infant, child and the adolescent.
- ❑ Describe etio-pathogenesis, principles of clinical diagnosis, investigations and treatment of diseases of Nervous System in childhood.
- ❑ Demonstrate an understanding of Basic (Pre and Para clinical) Sciences and its application to the normal and abnormal processes, with reference to the nervous system in children.
- ❑ Analyze clinical and investigation data approach and manage the epileptic manifestations of the nervous system in children.
- ❑ Identify and understand socio-economic, environmental and cultural factors in healthcare in diseases of the nervous system in children.

Skills: Clinical

- ❑ Elicit an appropriate clinical history.
- ❑ Demonstrate appropriate clinical and physical and neurological examination skills on children to identify motor and mental age as well as co-morbidities requiring intervention.
- ❑ Plan, decide upon and interpret appropriate cost effective investigations.
- ❑ To be able to do an EEG independently along with interpretation for management of epileptic disorders, including neonatal, video and bedside EEG.
- ❑ To be able to do EMG, NCV, VEP independently along with interpretation for management of neuromuscular and vision disorders.

Skills: Technical

- **Electro-encephalography**, including Video-EEG, bedside EEG in NICU and PICU.
- **EMG, Nerve Conduction Velocities, BAER and VER**-knowledge & clinical correlation.
- Be able to do and interpret CSF examination, including advanced studies.
- Be able to interpret a Cranial USG, CT Scan, MRI Brain , etc
- A working knowledge of the various molecular and cytogenetic methods e.g., Genetics, PCR, Thrombo-philia profile, Metabolic workup etc. and its application to Epilepsy and Neurology.

Communication and Attitudes:

- Communicate appropriately with guardians and children, assisting in their health care and decision-making.
- Practice child health care at the highest ethical level, protecting the child at all costs.
- Apply the highest level of ethics in Research, publication Reference and Practice of Pediatrics.

LOGBOOK FOR

FELLOWSHIP IN

EPILEPSY and NEUROLOGY



BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

PUNE (INDIA)

Grade 'A' Accreditation by NAAC

Competency Framework for Sub-Specialty
Fellowship Training in Pediatric Epilepsy and Neurology
[Document valid until October 2024]

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

.....

4. Name of the Guide

5. Name of the Head of the Department

.....

Signature of the Candidate

Date.....

.....

Signature of the Guide

Date.....

.....

**Signature of the Head of the Department,
Department of Pediatrics,**

Bharati Vidyapeeth Deemed to be University Medical College, Pune

General Rules and Regulations

Eligibility:

- i. Candidates should be MD/ DNB (Pediatrics) with work experience in Pediatric Neurology
- ii. Age not over 35 years

Professional insurance: The candidate must possess a Professional insurance cover. Professional liability insurance coverage is the responsibility of the fellow, proof of which must be provided within one week of joining the course.

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination. The fellow is not permitted for any festival vacation.

Books and study materials: All assistance is available for library facilities e.g. preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows.

The books have been kept in the Neurology clinic itself for easy access and are available for reference on request and making the necessary entry in outward register. The fellows are expected to take due care of the reference textbooks or journals and return them in time. Few of the books are available in the Central library also.

Core Curriculum for Fellowship in Pediatric Epilepsy-Neurology

CURRICULUM STRUCTURE

1. **Basic Neurology:** Neuro-anatomy, Neuro-pathology, Neuro-pharmacology
2. **Neuro-Physiology:** EEG, EMG, NCV, Evoked Potentials.
3. **Clinical Neurology-** Epilepsy-EEG OPD, Inpatient, Critical Care, Speciality clinics like Child Guidance Clinic, Audiology, Speech Therapy, Ophthalmology, Rehabilitation Physiotherapy.
4. **Neuro-Diagnostics:** Lumbar puncture, Neuro-USG, CT Scan, MRI, MRA, MRS, Genetic, Metabolic, Thrombotic Profile, Nerve and muscle biopsy etc.

CURRICULUM CONTENT

I. Clinical Evaluation

1. General aspects of neurological history.
2. Neurological examination of neonate
3. Neurological examination of infant
4. Neurological examination of older child and adolescent

II. Lab Evaluation

1. Pediatric and Neonatal EEG and Evoked potentials
2. EMG, NCV
3. Spinal fluid examination

III. Disease Categories

1. Epilepsy in children:
 - Types of seizures
 - Causes of seizures
 - Neonatal seizures
 - Febrile seizures
 - Epileptic Syndromes at various ages
 - Approach to Management and counseling
 - EEG and Neuro-imaging
 - Role of other investigations
 - Pharmacologic treatment
 - Refractory epilepsy
 - Other modalities of treatment eg. Ketogenic diet
 - Non-epileptic equivalents
 - Status epilepticus
 - Genetics of epilepsy
 - Epidemiology of Epilepsy
- EEG :
 - Basics, Procedure, activation methods
 - In neonates at various gestational ages
 - In awake state and sleep in children
 - In partial and generalized epilepsies
 - In epileptic/ non-epileptic encephalopathies
 - In brain death

- Neurological disorders:
 - Mental Retardation
 - Speech and Language Disorders
 - Headache, including Migraine
 - Gait and Movement disorders
 - Cerebral Palsy
 - Congenital malformations of CNS
 - Genetic and chromosomal Disorders
 - HIE in newborn
 - Encephalopathy/ Coma
 - Increased intracranial tension
 - Inborn Errors of metabolism
 - Infections of the nervous system
 - Cerebro-vascular disorders
 - Traumatic Brain injury
 - Determination of brain death in children
 - Grey and white matter degeneration
 - Neuro-cutaneous syndromes
 - Learning Disabilities
 - Attention deficit Hyperactivity disorders
 - LMN disorders of clinical importance
 - Disorders of neuro-muscular junction
 - Principles of Rehabilitation
 - Neuro-surgery

Acquisition of practical competence is the keystone of fellow's medical education. The learning should essentially be self-directed and emanating from clinical and academic work.

A candidate has to cater to the hospitalized inpatient in the wards everyday besides looking after outpatients in the various OPDs like Epilepsy, Audiology, Physiotherapy and Child Guidance Clinic so that they develop a complete understanding of entire spectrum and natural course of the disorders .

The fellows will primarily be posted in Epilepsy –EEG OPD where the major part of learning will take place through clinical case discussions, didactic lectures, grand rounds, seminars, journal clubs etc. along with rotational postings in the other sub-specialties relevant to the field of Pediatric Epilepsy.

Continued emphasis on scholarship and learning is essential for development and maturation of the fellow into the field of child epilepsy. To optimize time, concurrent training agendas have been planned.

It is mandatory to use electronic data management systems, The trainee is expected to be conversant with the use of computer and network to enhance learning and storage and recovery of data. The early clinical assignments will be based on direct patient responsibility for a limited number of patients. Subsequent assignments will place the fellow in a position of taking increased responsibility for patients in a liaison relationship with the faculty staff. In case of extramural referral, the referring doctors should be communicated about the child's investigations and the tentative treatment plan.

Evaluation:

The theory examination will be held in October every year.

Final Evaluation would be based on:

Internal assessment (including logbook): 100 marks

Final Examination: Theory: 200 marks

Final Examination: Practical: 200 marks.

Final Examination: Theory: 200 marks

There shall be two papers of 100 marks each -

Paper-I: 100 marks:

Part I- Pediatric Epilepsy (50marks)

Part II- Pediatric EEG (25 marks)

Part III -Co-morbidities (25marks)

Paper-II: 100 marks:

Part I- Pediatric Neurology (50 marks)

Part II- Basic Sciences (25 marks)

Part III- Recent advances (25 marks)

Duration of examination: three hours for each theory paper.

Final Examination: Practical: 200 marks

Part I: Case presentations: 1 long case (40 marks) : 30 minutes

2 short cases (2 x 20 = 40 marks) : 15 minutes each.

4 OSCE (case scenarios,) (4x 5=20 marks): 5 minutes each.

4 spot diagnosis- (photos, EEG, MRI etc.): (4x5= 20 marks): 5 minutes each:

Part II: Procedures: To do him/herself:

(1) EEG Technique and interpretation: 20 marks

(2) EMG/NCV/VEP Technique and interpretation: 20 marks

Viva based on thesis: 20 marks

Viva based on diagnosis and management (External): 20 marks.

Log Book

During his / her training, the candidate should maintain the Log Book.

The purpose of the Log Book is to:

- a) Help to maintain a record of the work done during training.
- b) Enable the consultant to have first hand information about the work done and to intervene whenever necessary.
- c) Use it to assess the clinical experience gained periodically.

Records should include:

1. Recording of Pediatric, Bedside and neonatal EEG/ EMG/NCV/VEP done by him/her.
2. Supervised and independent interpretation of EEG/EMG/NCV/VEP done by him/her.
3. The diagnosis and classification of various epilepsies and epileptic syndromes and other neurological disorders with rational use of available therapies- the cases that are following up in the Pediatric epilepsy clinic on fixed days.
4. Case presentations (Epilepsy / Neurology), Grand rounds, Guest Lectures, Journal clubs and Seminars.
5. Duration and work done in postings in other specialties like Neuro-physiology (EMG-NCV), Audiology & Speech Pathology, Child Guidance Clinic, Neuro-Radiology, Neuro-anatomy etc.
7. Any CME/ workshop/ conference (related to the specialty) attended
8. Protocol writing, mid-term and final presentation on the assigned thesis or project work.

The entries in the Log Book should be made on a “daily basis” and should be signed by the faculty every month. Prior to the final examination the logbook should also have to be certified by the Head of the Department of Pediatrics.

Month – wise Distribution of Curriculum

October : **Orientation to the Epilepsy- Neurology clinic, EEG Basics**

November : **Neuro-anatomy lectures**

Allocation of thesis topic

Didactic lectures- EEG

Types of seizures in children

December-January: Posting in Audiology and Speech therapy

Neuro-Radiology

Types of epileptic syndromes in children

Case Discussions, Seminars

Classification of Epilepsy cases with

Supervised interpretation of EEGs (100/ month)

Performing independent EEG (5 Pediatric)

Performing and interpreting EMG/NCV/VEP.

February-March: Posting in Child Guidance Clinic

Case discussions, Seminars, Journal and Drug reviews

Classification of Epilepsy cases with

Supervised interpretation of EEGs (100/ month)

Performing independent EEG (4 Pediatric, 2 neonatal)

Performing and interpreting EMG/NCV/VEP.

April-May : Posting in Neuro-ophthalmology, Neurosurgery

Performing Independent EEGs (3 Pediatric, 2 neonatal,

2 bedside) along with independent interpretation

Mid-term Thesis presentation

Rest same as previous month

June-July: Posting in Neuro-rehabilitation (OT/PT/High risk Clinic)

August-September : Thesis submission, Compilation of data

1. The candidate is required to make e-folders (including history, investigations, photos/videos etc) for all interesting neurological patients.

2. He/she will have to contribute to data entry of the OPD, IPD patients on daily basis.

3. He/she will present cases of interest at Neuro-meets, Pune on every 3rd Saturdays of month.

Targets for the candidates:

1. Performing and interpret EEGs independently- Pediatric 18, Neonatal 6, Bedside 4
2. Able to perform EMG, NCV, VEP and interpret them independently.
3. Classifying and recording 1000 cases of seizures referred to the Epilepsy OPD 100/ month- both new and old cases)

Topics included in the Syllabus

(To be covered by didactic lectures followed by case discussions, seminars)

EEG Syllabus:

1. Technical basics – Amplifiers, Voltage, Time, Space, References, Filters, Electrodes, Localization principles, Montages, Artifacts, Activation procedures.
2. Normal EEG – 3 months to 3 years; Posterior dominant rhythm, Background, changes in drowsiness and various stages of sleep.
3. Normal Variants- Skull defects, posterior slow waves, etc.
4. Abnormal patterns- IRDA, Periodic waves, Coma patterns
5. Generalised epileptiform patterns, Focal epileptiform patterns
6. Epileptic encephalopathies, Brain death
7. Neonatal EEG at various gestational ages
8. How to read and report an EEG- Components of a report
9. Correlation of EEG findings with type of epilepsy.

Epilepsy Syllabus:

1. Types of seizures, Acute symptomatic seizures
2. Neonatal seizures
3. Febrile seizures
4. Epilepsies and epileptic syndromes at various ages
5. Approach to management and counseling
6. Role of investigations – EEG, Neuro-imaging, others
7. Pharmacologic therapy
8. Other modalities of therapy in refractory epilepsy
9. Non-epileptic equivalents
10. Status epilepticus
11. Epidemiology and genetics of epilepsy

Neurology Syllabus:

Exposure to the following specialties:

1. Audiology - including OAE, Audiometry, BERA and speech therapy
2. Child Guidance Clinic- DQ/IQ, identification and management of various behavioral disorders, learning disabilities, autism etc.
3. EMG/NCV/ VEP/ SSEP (neuro-physiology) –procedure and application
4. Principles of rehabilitation by OT/PT
5. Neuro-anatomy and Neuro-radiology(MRI,MRA, CT, DSA, MRS, PET)
6. Genetics –application to neurology

Neurological Disorders (covered through case discussions / seminars)

1. Mental retardation, Learning disabilities, ADHD, PDD
2. Gait and movement disorders
3. Cerebral palsy, Speech and language disorders
4. Headache, Migraine
5. Congenital malformations of brain and spine
6. Genetic and chromosomal disorders
7. Encephalopathy/ Coma, Increased Intracranial tension
8. Inborn errors of Metabolism
9. Infections of the nervous system
10. Cerebro-vascular disorders
11. HIE in newborn
12. Traumatic brain injury
13. Determination of brain death in children
14. Grey and white matter degeneration
15. Neuro-cutaneous Disorders
16. Floppy infant
17. Hydrocephalus

Grading and Evaluation of Performance- key indicators:

The grades will be entered by the guide every month for the following –

1. Level of Neurophysiology performance and reporting
2. Level of understanding of epilepsy and neurological disorders in children
3. Level of case discussions, Seminars, Journal and Drug reviews
4. Progress of thesis work

These grades will be entered in the prescribed format as given in the following pages.

Grading of Neurophysiology:

Date, Case number	Application of Electrodes	Artifacts Recognition	Settings & Recording	Activation	Report
1					
2					
3					
4					
5					
6					
7					

Grading of EEG Training (Reporting) levels

Level 1:

If the trainee has achieved the following goals –

- # Understand the physiological basis of EEG potentials and waveforms
- # Understand the technology of EEG recording
- # Aware of the ontogeny of EEG between infancy and adolescence
- # Able to interpret an EEG in the clinical context
- # Aware of the role and limitations of EEG in Epilepsy
- # Aware of normal and abnormal EEG

Level 2:

In addition to level 1, the trainee has achieved the following goals –

- # Able to read and interpret EEG studies in infants and children
- # Able to independently identify the various EEG phenomena mentioned
- # Able to report and interpret EEG findings in clinical context
- # Correctly localize focal epileptiform discharges and slow activity
- # Able to supervise a technician for a private practice

Level 3:

In addition to Level 2, the trainee has achieved the following goals –

- # Able to interpret Video – EEG studies
- # Able to interpret Bedside EEG studies
- # Able to interpret Neonatal EEGs according to the gestational age

Candidate's Report and Grading should be done monthly –

Total number of EEGs reported (S if supervised, I if independent)

Total number of EEGs performed (S if supervised, I if independent)

Finally, the breakup of the types of EEG done, including:

Video EEG

Neonatal EEG

Bedside EEG

Target:

Total EEGs to be performed- 25: (Neonatal-6, Bedside-4)

Total EEGs to be reported -1000 (old plus new cases) along with the classification of the cases.

Classification of the cases of Epilepsy (1000 cases):

These include the ongoing as well as old cases of seizures referred for evaluation. The cases should be evaluated and recorded in a register. This register should be checked by the guide weekly and graded monthly. The register entries should be made in the following format-

1. EEG Number
2. Name of the patient
3. Age
4. Sex
5. Onset of seizures since what age
6. Exact seizure semiology
7. Full seizure history along with treatment taken
8. Perinatal history
9. Developmental history
10. Family history
11. EEG findings (to interpret under supervision initially)
12. Neuro-imaging findings (if any)
13. Any other investigations
14. Axis 1: Type of seizure
15. Axis 2: Type of epilepsy
16. Axis 3: Type of epileptic syndrome
17. Axis 4: Etiology
18. Axis 5: Co-morbidities
19. Management Strategy

The grading will be done on the basis of following - (monthly)

Level 1: Understanding of the types and cause of seizures and epilepsy

Level 2: Understanding of the epileptic syndrome and **etiology**, to be aware of the natural course of the various types of syndromes.

Level 3: Application of the above knowledge to solve clinical problems of epilepsies, forming rational management strategies, management of co-morbidities, ability to counsel regarding the course and problems encountered in treatment of epilepsy

Level 4: Ability to prognosticate, manage Epileptic encephalopathies and manage refractory and difficult to treat cases in epilepsy.

Grading of EEG Reporting and Classification of Epilepsy cases

(Monthly grading on the basis of entries made by the candidate in the register) - 100 cases to be evaluated per month: total 1000 cases.

Date of assessment	Number of EEGs reported	Average level of EEG reporting	Number of Cases of epilepsy classified	Average level of understanding of epilepsy
Oct 2023				
Nov 2023				
Dec 2023				
Jan 2024				
Feb 2024				
Mar 2024				
Apr 2024				
May 2024				
Jun 2024				
Jul 2024				
Aug 2024				
Sept 2024				

Grading of Progress of Thesis Work

(Monthly after allocation of thesis topic)

Grades: Satisfactory, Unsatisfactory.

Date of review	Progress	Level of work
Oct 2023	Allocation of thesis topic	-
Nov 2023		
Dec 2023		
Jan 2024		
Feb 2024	Mid-term presentation	
Mar 2024		
Apr 2024		
May 2024		
Jun 2024		
Jul 2024	Submission of thesis	
Aug 2024		
Sept 2024		

Postings in Co-specialties:

Neuro-anatomy

Neuro-Radiology

Audiology & Speech therapy

Child Development and Guidance

Child Psychiatry

Pediatric Genetics

EMG/ NCV /VEP Clinic

Rehabilitation / High Risk Clinic

Neuro-ophthalmology

Neuro-surgery

Other Co-specialty Guest lectures

Date	Topic	Faculty
	Neuro-endocrine	
	Hemato-oncology	
	Genetics	
	Nuclear medicine	

Evaluation Form : Seminar

	1.	2.	3.
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Evaluation Form : Seminar

	4.	5.	6.
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Evaluation Form : Seminar

	7.	8.	9.
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Evaluation Form : Seminar

	10	11.	12.
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Evaluation Form : Seminar

	13	14	15
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Evaluation Form: Seminar

	16	17	18
Date			
Seminar Topic			
Understanding of subject			
Completeness of preparation			
Cogency of presentation			
Consulted all relevant literature			
Ability to answer questions:			
Overall performance.			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members:

1.

2.

3.

Mean Score:

Case Presentation

1.

2.

3.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Case Presentation

4

5.

6.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Case Presentation

7

8.

9.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Case Presentation

10

11.

12.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Case Presentation

13

14.

15.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Case Presentation

16

17.

18.

Date			
Case presented			
Logical order in presentation			
Complete /Relevant history			
Accuracy of General Physical Examination			
Accuracy of Systemic Examination			
Diagnosis – Logical flow based on History & findings			
Order of differential diagnosis (logical)			
Investigations required: Relevant order, Interpretation			
Treatment: Principles & details			
Patient/Relatives communication			
Abilities to defend diagnosis			
Ability to justify differential diagnosis			
Acceptability of plan of management			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Journal Club

1.

2.

3.

Date			
Article presented			
Choice of article relevant			
Cogency of presentation			
Whether understood and conveyed the purpose of the article			
How did he / she defend article			
Whether cross references have seen consulted			
Understood explained basics of statistic in article			
Whether relevant information mentioned from other similar articles			
Use of audio visual aids			
Presentation			
Response to questioning			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Journal Club

4.

5.

6.

Date			
Article presented			
Choice of article relevant			
Cogency of presentation			
Whether understood and conveyed the purpose of the article			
How did he / she defend article			
Whether cross references have seen consulted			
Understood explained basics of statistic in article			
Whether relevant information mentioned from other similar articles			
Use of audio visual aids			
Presentation			
Response to questioning			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Faculty members: 1.

2.

3.

Mean Score:

Clinical Work Quarterly review (01 Oct 2023 to 31 Dec 2023)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:
12. Knowledge of Epilpesy & EEG as a subject:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Clinical Work Quarterly review (01 Jan 2024 – 31 March 2024)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:
12. Knowledge of Epilepsy & EEG as a subject:

Guidance for Scoring	0	1	2	3	4

	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Clinical Work Quarterly review (01 April 2024 – 30 June 2024)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:
12. Knowledge of Epilepsy & EEG as a subject:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Clinical Work Quarterly review (01 July 2024 – 04 October 2024)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:
12. Knowledge of Epilepsy & EEG as a subject:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Overall Grading at the end of the Term:

1. Level of Neurophysiology Performance-

.....

2. Level of Neurophysiology

Reporting.....

3. Understanding of childhood neurological disorders

4. Understanding of co-specialties

5. Academic presentations.....

6. Personal attributes (sincerity, commitment etc.).....

7. Thesis work.....

Signatures:

.....

Dr. Kavita Srivastava (GUIDE),

MD, Fellowship in Pediatric Epilepsy

Professor

Coordinator Fellowship Program

.....

Dr. (Prof.) Sanjay K Lalwani

Vice Principal

Medical Director

Professor -Department of Pediatrics

.....

**CERTIFICATE COURSE IN
DUAL FELLOWSHIP IN
NEONATOLOGY AND PEDIATRIC CRITICAL CARE**

1. The BHARATI VIDYAPEETH DEEMED UNIVERSITY, PUNE 411043 will conduct this one and half year (18 months) certificate course in Dual Fellowship in Neonatology and Pediatric Critical Care.
2. This course will involve training of nine months in Neonatal ICU and nine months in Pediatric ICU.

Preamble:

- i) There is high mortality among Newborns and children under the age of five. India's Neonatal and under five mortality is one of the highest in the world. Majority of these deaths occur in rural India, due to lack of basic care and expertise. Significant proportions of these deaths can be prevented by training pediatricians to handle emergencies in any peripheral set up.
- ii) There are very few centers in India that provide an opportunity to learn Pediatric and Neonatal Intensive Care of sufficient quality to enable pediatricians to practice Critical Care Pediatrics with confidence in such a rural/urban setting.
- iii) The course is being started with a view to augment the exposure in the subspecialty of Pediatrics i.e. Neonatology and Pediatric Critical Care.
- iv) This will facilitate hand on experience to the in-house faculty as well as opportunity for the pediatricians all around the country to improve the exposure in treating the critical ill children.
- v) Certificate course will be utilizing mostly the infrastructural facilities which are available over and above minimum requirements of M.C.I. prescribed for teaching undergraduate and postgraduate diploma and degree course in pediatrics.

Aims and objectives:

1. The objective of this certificate program is to provide an insight into both Pediatric and Neonatal Critical Care so as to equip the postgraduates in pediatrics with enhanced knowledge and skill to provide expert care at any peripheral center in India.
2. This certificate course will enable us to contribute to reducing the Neonatal and under five mortality rate in India.
3. This will make us first center of its kind in India that provides such training and certification. It will also improve the quality of patient care and academics at our center.
4. The certificate course will provide a viable alternative to the fellowship program offered outside India, which is unavailable to the majority of postgraduates in Pediatrics. It will emphasize on the same curriculum in a concise manner in the stipulated one and half years.

5. The faculty and infrastructure developed would pave the way for super-specialty course of DM (Neonatology) / DNB Pediatric Critical Care / Diploma in Pediatric Critical Care course of Indian Society of Pediatric Critical Care Medicine at our center in the near future.

Terms and Conditions:

1. The fellowship shall involve eligible teachers appointed by BVDU as faculty for the Department of Pediatrics, BVDU Medical College, Pune
2. Professor and Head of Department of Pediatrics will be the Director of this Certificate Course.
3. The faculty shall include individuals with sufficient post – MD or DNB (Pediatrics) experience in Pediatric Critical Care and / or Neonatology (DM / overseas training / long standing experience in pure Neonatology / Pediatric Critical Care as a teacher). The final deciding authority shall be the BVDU.
4. **Six candidates shall be selected per year**, which shall be done at BVDU Pune with representatives of BVDU and the Faculty for teaching comprising the panel of selectors. The selected candidates shall rotate for nine months each in the Neonatal and Pediatric Intensive Care units.
5. The duration of this course is 18 months.
6. The first term if this will begin from 01st January 2014 for the first year of the certificate course.
7. The period of shifting from NICU to PICU and vice versa shall be after 09 months of scheduled training.
8. The examination shall be held in the July / august 2015
9. Each of the six candidates selected shall pay a fees of Rs.30,000/- (Rupees Thirty Thousand Only) per term payable to Bharati Vidyapeeth Deemed University. The Bharati Vidyapeeth Deemed University shall pay selected candidates a stipend of Rs.22,000/- (Rupees Twenty Two Thousand Only) per month for the stipulated eighteen months training.
10. For in-service faculty enrolled for the fellowship, he /she will not be required to pay fellowship course fees but will pay the examination fees.
11. Examination and evaluation fees: As per university norms
12. A single status free hostel accommodation shall be provided to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.

Eligibility:

1. Candidates must have passed the MD (Pediatrics) / DNB (Pediatrics) / Postgraduate Diploma in Child Health from a MCI recognized institution / college of Physicians and surgeons, Mumbai. Preference will be given to persons who have worked for at least 6 months after their post-graduation in a PICU/NICU. Additional credit will be given to candidates who have worked in a Neonatal unit or Pediatric Critical care facility.
2. Age: Normally not over 30years.

TRAINING PROGRAM:

AIMS:

1. Familiarize with neonatal and pediatric resuscitation and general care of the newborn
2. Introduction to advanced Neonatal and Pediatric Care

The training period shall be continuous and simultaneous involving the following program.

Clinical / practical training:

1. The trainee shall be included in the regular duty roster of the postgraduates posted to the NICU and PICU. This will include attending the normal deliveries and caesarean section. This will provide an exposure to basic and advanced neonatal and pediatric intensive care.
2. Understand the principles of emergency medical services for children (EMS-C),
 - a. Describe the organization of emergency medical systems in the area including:
 - i. Pre-hospital care, Rapidly assess urgent patients:
 - ii. Recognize respiratory failure and/or shock
 - iii. Formulate a diagnosis quickly, especially with respect to conditions which may need respiratory or cardiovascular support or an immediate intervention (e.g. tension Pneumothorax, emergent cerebral edema and cardiac tamponade).
 - iv. Assist in evaluation and stabilizing a child with multiple traumas.
 - b. Establish and manage airway for infants, children and teens.
Demonstrate proficiency in:
 - a. Bag – valve – mask ventilation
 - b. Nasal and oral airways
 - c. Endotracheal intubation
 - d. Mechanical ventilation
 - e. Explain indications and describe technique for and complications of
 - i. Nasotracheal intubation
 - ii. Emergency cricothyrotomy
 - iii. Identify priorities for vascular access establish access and perform fluid resuscitation, Demonstrate proficiency in:
 - 1) Cannulation of peripheral veins
 - 2) Intraosseous needle insertion
 - 3) Umbilical vessel Cannulation Explain indications and describe technique for:
Central venous access
Arterial access
 - 4) Demonstrate proficiency at cardiopulmonary resuscitation:
Obtain certification as a provider of Pediatric Advanced Life Support.
Understand how to manage common illness and injuries presenting emergently.
 - 5) Make a decision regarding discharge from the ED, admission or transfer.

3. The training shall also include
 - a. Introduction to basic ventilator settings
 - b. Interpretation of blood gases of ventilated infants, Procedures like arterial line Cannulation, ventricular tap, chest drain, peritoneal dialysis etc. will be permitted under supervision.
4. Attending and managing emergencies like status asthmaticus and epilepticus, hypertensive crisis, renal and hepatocellular failure: septic, hypovolumic and cardiogenic shock, endocrine emergencies, poisonings and envenomation. Emphasis will be on resuscitation and stabilization

Theory:

Theoretical training shall be based on symposia and seminars in pure Neonatology and Pediatric critical care. Twice a week general Clinics in Neonatology/PICU will be conducted. The trainee will be expected to present a seminar once a month. Topics for the seminars will be provided in advance. In addition to these, daily ward rounds will provide opportunities for clinical and theoretical discussions.

The detailed curriculum will be provided at beginning of the course.

Internal assessment:

Proposed Internal Assessment

Twenty percent of the total marks shall be for internal assessment which includes personal attributes *

Clinical skills and performance

Academic activity (journal club, seminars, case discussion)

*Availability, Sincerity and motivation, Diligence and performance, Inter-personal skills

Certification examination:

The trainee shall have to present himself for a Theory examination consisting of two papers of 100 marks each on day one followed by a practical and viva voce & OSCE session to a constituted board, to be conducted at Bharati Vidyapeeth Deemed University Medical College (BVDUMC), Pune. The constituted board would include one internal assessor from BVDUMC, Pune and one external assessor. The certificate would be granted after the **SATISFACTORY** completion on one and half years training and examination

Practical Exam: OSCE pattern and Viva Voce

Candidate would have to pass independently in both theory and practical to be eligible for certification.

The theory papers shall be for 03 hours each
100 marks with 10 short notes

Paper ONE: Basic neonatology and neonatal nursing, resuscitation, common neonatal and pediatric problems (e.g. infectious disease, jaundice, seizures, fluid electrolyte balance, shock, toxicology, trauma, metabolic disturbances etc. community neonatology.)

Paper TWO: Advanced neonatal and pediatric care, Intensive Care with an overview of organ systems e.g. respiratory, nephrology, cardiology, Ventilation, Recent advances

Vicarious responsibilities of the institution: the candidate shall abide by the regulation and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 07 days of paid leave every term.

Book and study materials: BVDUMC shall extend all assistance regarding library facilities for preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the candidates. They shall be as follows:

Textbooks in Neonatology (the minimum)

1. Assisted Ventilation of the Newborn. Eds. Goldsmith JP, Karotin EH. Philadelphia, WB Saunders and Company latest Edition
2. Textbook of Neonatology, Ed.NRC Robertson, London Churchill Livingstone (latest Edition)
3. Neonatology – Pathophysiology and Management of the newborn Eds. Avery GB, Fletcher MA, Macdonald MG 4th edition (or late edition) JB Lippincott Company, Philadelphia

Journals:

- (a) Clinics of Perinatology
- (b) Archives of Diseases in Childhood (British Edition)
- (c) Journal of Perinatology (US publication)
- (d) Acta Paediatrica Scandinavia

Textbooks in Pediatric Critical Care (the minimum)

- (i) Roger's textbok of Pediatric Critical Care
- (ii) The ICU Book Paul Marino latest edition
- (iii) Mechanical ventilation Tobin latest edition
- (iv) Respiratory physiology Nunn latest edition
- (v) Text book of nephrology Holliday & Barrat

Journals:

- (a) Critical Care Medicine
- (b) Pediatric Critical Care Medicine
- (c) Pediatrics
- (d) Chest: The American College of Chest Physician

The candidate shall attend the written examination and viva voce of the BVDU at his / her own expense at the time prescribed and notified by the university.

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

.....

4. Name of the Guide

5. Name of the Head of the Department

.....

Signature of the Candidate

Date.....

.....

Signature of the Guide

Date.....

.....

**Signature of the Head of the Department,
Department of Pediatrics,**

Bharati Vidyapeeth Deemed to be University Medical College, Pune

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of an University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY) MEDICAL COLLEGE, PUNE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, Nephrology etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 839 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE, PUNE

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric sub-specialty services viz. Epilepsy & Neurology, Hemato-oncology, Endocrinology, Neonatology, Pediatric Rheumatology, Pediatric Infectious Diseases, Pediatric Orthopedic, High risk newborn clinic etc. The Department runs post-doctoral certificate courses in Neonatology, Pediatric Critical Care, Epilepsy & Neurology, Endocrinology, Pediatric Hematology-Oncology, Pediatric Infectious Diseases, Development and Behavioral Pediatrics, Pediatric Genetics and Metabolic Disorders etc.

FACULTY – UNIT HEADS

Dr. S K Lalwani, MD, DNB
Vice Principal,
Professor and Head
Department of Pediatrics

Dr. V. R. Kalrao, MD
Professor
Department of Pediatrics

Dr. Rahul Jahagirdar
Professor in Pediatrics
Incharge – Pediatric Endocrinology Clinic

Dr. Vaman Khadilkar
Consultant Pediatric Endocrinologist

Competency Framework for Sub-Specialty
(Logbook)
Training in Pediatric Endocrinology
[Document valid until September 2024]

The use of the Syllabus, the Competency Assessment and completion of the Portfolio

- The Syllabus defines in detail the knowledge, skills and attributes which define Sub-Specialty Training in Pediatric Endocrinology.
- The candidate should use the Syllabus in consultation with the educational supervisor to plan an individualized training programme.
- There are defined 10 key competencies, derived from the Syllabus, which all sub-specialty trainees will achieve. Each is divided into three levels. All trainees must achieve Level 3 for each key competency.
- The trainee's progression will be assessed by the level of achievement attained every 3 months for one year.
- In addition the candidate's portfolio should provide:
 - _ A record of continuing professional educational activities undertaken(symposia, Journal club etc.) other than the above, including locally organised educational opportunities.
 - _ Copies of abstracts submitted and publications achievement during the trainee's career.
 - _ Reports of statistics & audits performed by the trainee (alone or as part of a team)
 - _ Evidence of certification for courses claimed in the Competency Assessment.

Fellowship in Pediatric Endocrinology

Preamble:

The need for a training program in Pediatric Endocrinology:

Knowledge in the field of pediatrics is now very vast. With the increase in knowledge and concomitant increase in investigative modalities and therapeutic avenues, specialization has become necessary to maintain excellence in health care. Specialist in specific areas of need have now become necessary to fulfill, the need of increased demand of subspecialty training.

Pediatrics has lagged behind in the development of specialties. Pediatric specialists so far have either been trained abroad or have been trained by mentors in the corresponding adult specialty. As a result the country now has in place only a handful of pediatric specialists in teaching institutions, who can now function as the mentors. Among the pediatric specialties, pediatric endocrinology is one of the youngest in India.

Pediatric endocrinology encompasses areas such as growth and puberty, the very child development and pediatrics. Even the appreciation of the normal in these aspects of pediatrics is inadequately taught in general pediatric training. Proper management of disorders such as diabetes mellitus, growth retardation, metabolic bone disease, disorders of sexual differentiation, and other hormonal abnormalities requires specialized training and exposure than is available in a typical pediatrics training program. Relatively newer problems such as childhood obesity, type 1 and 2 diabetes have now become commonplace in routine pediatric practice. To ensure good care of children with these and other disorders in India, there is an urgent need to augment the numbers of trained manpower in the field.

Aims and objectives of the program:

1. Early recognition of pediatric endocrine and growth disorders, improvement in the care of children and adolescents with pediatric endocrine disorders
2. To train postgraduates in pediatrics with sufficient knowledge and skill to recognize and manage growth and pediatric endocrine disorders at peripheral centers in India.
3. To provide an alternative to similar super specialty training programme abroad which are often beyond the reach of a typical pediatric post graduate in India.
4. To provide a viable alternative to much longer DNB of DM courses in endocrinology which are only available as super specialty of adult medicine. The course will aim at emphasizing a similar curriculum in a concise manner in the stipulated one year period.
5. The faculty and infrastructure development would pave the way for similar DNB courses in pediatric endocrinology at our center.

Proposed eligibility and selection of trainee:

Eligibility: Pediatrician holding MD or DNB degree in pediatrics

Number of candidates: One per year. As an exception 2 per year when the extra candidate is a faculty of Bharati Vidyapeeth University Medical College.

Entrance examination and selection: Written test and interview

Training period: 1 year

Terms and conditions:

1. The faculty shall include individuals with sufficient post MD or DNB experience in pediatric endocrinology/overseas training/long standing experience in pediatric endocrinology as a teacher
2. The course duration is of 12 months where the candidate would be posted in dept of pediatrics at Bharati and would rotate with the faculty at other training centers in Pune.
3. He/she will be expected to complete one research paper in pediatric endocrinology during the training programme at least 2 months prior to his completion of the course.
4. The fellowship would start on 01st September 2023.
5. There would be an examination in the month of October (1st / 2nd week). It is mandatory to pass this examination to acquire fellowship certificate.
6. Shared accommodation in the hostel shall be provided to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.
7. Each candidate selected shall pay a fee of rupees 60,000/- per six months, at the start of each term payable to Bharati Vidyapeeth Deemed University Medical College, Pune A/C MD-MS
8. The selected candidate will receive a stipend of rupees 40,000/- per month for the stipulated period of one year of training.
9. Examination & evaluation: as applicable

Course design:

Postings:

The trainee will spend at least 21 months in clinical pediatric and adolescent endocrinology / diabetes rotation and at least 3 months in the laboratory training. He/she will complete at least one paper acceptable for publication in a peer reviewed journal, and participate in the teaching programs in the department (case presentations, seminar, journal club, radiology/nuclear medicine meetings and pathology/mortality/research project presentation/combined endocrinology surgery meeting).

He/she will be responsible for caring for all inpatient pediatric endocrinology and diabetes admissions, as well as pediatric endocrinology interdepartmental consultations and emergencies. Log book of all cases seen will be maintained. Diabetes education of patients as well as nurses will also be his/her responsibility.

During the laboratory posting he/she is expected to become familiar with the performance and interpretation of laboratory assays.

The candidate is expected to attend Pediatric Endocrine clinic at Bharati Hospital and attend to other endocrine patients along with the faculty at various hospitals and laboratories.

Examination Pattern

The theory examination will consist of two papers of 100 marks each on day one followed by a practical and viva voce session conducted at Bharati Vidyapeeth Deemed to be University Medical College. The constituted board would include one internal assessor and one external assessor. The certificate would be granted after SATISFACTORY completion of ONE year's training, research project and examination.

Practical exam: OSCE pattern. And Viva Voce

Candidate would have to pass independently in both theory and practical to be eligible for certification.

The theory paper shall for 3 hours each comprise of descriptive questions and multiple choice questions.

Professional insurance: The candidate must possess a Professional insurance cover.

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination.

Books and study materials:

Textbooks in Endocrinology (the minimum):

1. Handbook of Clinical Pediatric Endocrinology – CGD Brook, R. S. Brown, Blackwell Publishing, 2008
2. Pediatric Endocrine Disorders – Orient Longman, Editors: Meena Desai, Vijayalaxmi Bhatia, PSN Menon
3. Handbook of Endocrine investigations in children – IA Hughes, Wright publications.

Journals:

1. Journal of Endocrinology and Metabolism Journal of the American Endocrine Society
2. Journal of Pediatric Endocrinology and Metabolism- Journal of the European Pediatric Endocrine Society

Curriculum:

1. Principles of hormone measurement

Principles of RIA/IRMA/ELISA. Definition of sensitivity, specificity, inter and intraassay CV. When to accept or reject an assay -preliminary knowledge. Practically perform at least 2 immunoassays and observe 2 ELISAs and 2 spectrophotometric assays.

2. Principles of hormone action

Categories (and examples) of hormones, type of receptors, second messengers -broad categories with some examples, particularly relevant to disease.

3. Genetics in pediatric endocrinology

Definition of and familiarity with Southern, Northern and Western blots, RFLP, PCR, FISH, karyotyping.

Awareness of genetics forms of pediatric endocrine diseases, for example, hypopituitarism / growth hormone deficiency, childhood thyroid disease, genes in sexual differentiation.

4. Fetal-neonatal

Adult consequences of fetal disease

- neonatal hypoglycemia and IDM
- neonatal hypo and hyper calcemia and magnesemia
- neonatal thyrotoxicosis and hypothyroidism

5. Growth : short and tall stature

-Normal growth – patterns, control of (including details of hormonal control of growth), measurement, bone age and growth charts

-Short stature causes, diagnosis and management

-Tall stature differential diagnosis, treatment, Marfan, Sotos Dysmorphic syndromes –

-Details of Turner, Noonan, Prader Willi, Klinefelter.

-Others – Briefly (Down, Russell Silver, Laurence Moon Beidel)

6. Skeletal dysplasias

Achondroplasia, spondyloepiphyseal dysplasia (SED), SEMD, Morquio, hypochondroplasia, metaphysial dysplasia - clinical and radiological features

7. Disorders of Growth Hormone (GH) production and action and treatment of GH deficiency.

Etiology of GHD including genetic causes, cranial irradiation (GHD) and tumours, clinical features. (Detailed knowledge of problems in GH testing). Detailed knowledge of indications for monitoring of GH therapy. Clinical features and diagnosis of Laron dwarfism and gigantism, of tall stature, differential clinical features and diagnosis of gigantism.

8. Puberty

- Initiation of normal puberty, physical changes in normal puberty
- Delayed puberty, definition, CDGP, hypo and hyper hypogonadotropic hypogonadism. Kallman, Klinefelter and Turner syndromes in detail, diagnosis and management primary and secondary amenorrhoea. Precocious puberty -definition, true puberty, peripheral puberty, precocious thelarche and pubarche, diagnosis and management.
- Gynecomastia-causes and treatment.

9. Periphebertal hyperandrogenism

PCOD – pathogenesis, differential diagnosis and management

10. Thyroid

- Physiology
- Genetic causes of congenital hypothyroidism
- Interpretation of thyroid function tests
- Congenital hypothyroidism-newborn screening, etiology, treatment, outcome studies.
- Goitre in childhood, thyroiditis
- Iodine deficiency disorders- daily requirement, typical syndromes of iodine deficiency
- Graves disease-etiology, clinical features, treatment including permanent ablation.
- Neonatal graves – details of clinical features and treatment -
- Thyroid hormone resistance – preliminary knowledge, types and important clinical features

11. Adrenal

- Steroidogenic pathways – names of intermediary, metabolites and enzymes
- CAH -21 hydroxylase deficiency – genetics, clinical features, management, long term outcome; prenatal diagnosis and therapy – basic knowledge.
- 11 β OH, 3 β HSD, 17OH, 17 β HSD – presentation and management
- Cushing syndrome-clinical features, peculiarities of different etiologies of Cushing's and differences from adults; interpretation of the various screening and definitive tests, imaging, IPSS. Treatment medical, surgical, radiotherapy and outcome. Non Cushing adenoma, carcinoma, incidentaloma

Hypertension with hypokalemia, and differential diagnosis.

Addison's disease – etiology, clinical features and treatment, polyglandular autoimmune syndromes.

Phaeochromocytoma-clinical features, diagnosis (biochemistry, precautions and interpretation), imaging and treatment.

12. Sexual differentiation, Cryptorchidism, Micropenis, Hypospadias

- Normal embryology and hormonal influences.
- Genes involved – basic knowledge of current status.
- Details of clinical features, diagnosis and treatment

13. Pituitary:

- Hypopituitarism
- Diabetes insipidus and SIADH, cerebral salt wasting-basic knowledge of osmoregulation., differentiation of central/nephrogenic/primary polydipsia and treatment
- Craniopharyngionia-detail knowledge of presentation imaging and management

- 14. *Diabetes mellitus and lipids***
Classification, differences between type 1, type 2 and FCPD.
MODY – basic knowledge of differentiating clinical features and management
Type 1-pathogenesis – (basic knowledge) and pathophysiology
Details of clinical features, management, long term follow-up-detail, including complication screening, DKA/hypoglycemia.
Lipids –only basic knowledge relevant to clinically management.
- 15. *Hypoglycemia***
Neonatal hypoglycemia and IDM - details of causes, but only superficial
Knowledge for disorders of fuel metabolism. Persistent hyperinsulinemic hypoglycemia of infancy – details of pathogenesis, clinical features management and outcome.
- 16. *Obesity***
Control of appetite and satiety
Definition – clinically relevant knowledge
Management – strategies and some knowledge of outcome
- 17. *Metabolic Bone Disease, Calcium, Phosphorus and Magnesium metabolism***
Hypocalcemia, especially neonatal hypocalcemia etiology, diagnosis and management.
Hypercalcemia, etiology, diagnosis and management.
Calcium sensing receptor disorders and William syndrome
Rickets – complete details of etiology, clinical features, diagnosis and management.
Bone turnover studies, bone physiology – clinically relevant areas only
Osteogenesis Imperfecta, glucocorticoid induced osteoporosis
Fibrous dysplasia and metabolic bone disease of prematurity-full details of pathogenesis and management.
Pediatric DEXA (bone densitometry): interpretation and use.

Key Competencies

(Sequence of following remains flexible and can be inter changed)

1. Function and chemical nature of hormones

Level 1 _

- a. Synthesis, storage, release and transport of hormones
- b. Hormone actions and feedback

Level 2 _

- a. Biorhythm
- b. Neuroendocrinology and hypothalamic function

Level 3 _

- a. Laboratory methods and hands on training
- b. Molecular basis of paediatric endocrine disorders
- c. Dynamic stimulation tests

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

2. Foetal and neonatal endocrinology

Level 1 _

- a. Hypoglycemia (including neisidioblastosis, PHHI)
- b. Pituitary disorders

Level 2 _

- a. Disorders of determination
- b. Adrenal disorders

Level 3 _

- a. Hypothyroidism congenital & perinatal disorders
- b. Hypothyroid screening
- c. Calcium & Vitamin D metabolism & abnormalities
- d. Infant of diabetic mother

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

3. Normal and abnormal growth

Level 1 _

- a. Physiology of growth
- b. Assessment of growth
- c. Growth charts

Level 2 _

- a. Short stature
 - i. Evaluation
 - ii. Investigations
 - iii. Management
- b. Bone age and adult height prediction
- c. Pharmacological & physiological tests of growth hormone stimulation

Level 3 _

- a. Growth hormone suppression tests
- b. Tall stature and overgrowth syndromes
- c. Skeletal dysplasia's and other dysmorphic syndromes causing short stature

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

4. Disorders of pubertal development

Level 1 _

- a. Physiology of puberty
- b. Dynamic stimulation tests (GnRh stimulation tests, Adrenal stimulation tests)

Level 2 _

- a. Delayed puberty
- b. Precocious puberty (water deprivation test)

Level 3 _

- a. Gynecomastia
- b. Hirsutism
- c. Menstrual disturbances
- d. Turner syndrome

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

5. Thyroid gland

Level 1_

- a. Physiology & development of thyroid gland
- b. Goiter
- c. Iodine deficiency

Level 2_

- a. Congenital hypothyroidism
- b. Juvenile hypothyroidism
- c. Thyroiditis

Level 3_

- a. Hyperthyroidism
- b. Thyroid nodule

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

6. The adrenal

Level 1 _

- a. Physiology & diagnostic test (Stimulation test - urinary tests for adrenal function, adrenal medulla & cortex, Suppression tests)

Level 2 _

- a. Congenital adrenal hyperplasia
- b. Congenital adrenal hypoplasia and insufficiency, Addison disease

Level 3 _

- a. Cushing syndrome and disease
- b. Endocrine hypertension

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

7. Disorders of sexual development

Level 1 _

- a. Child with ambiguous genitalia & DSD

Level 2 _

- a. Micropenis
- b. Stimulation tests (HCG stimulation, LHRH stimulation, Test of 5 alpha reductase , Testosterone / DHT ratio)

Level 3 _

- a. Undescended testes

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

8. Diabetes Mellitus

Level 1 _

- a. Pathogenesis and epidemiology, obesity, metabolic syndrome, type II DM, Normal values, Definition of diabetes, IGT, IFG.

Level 2 _

- a. OGTT, IVGTT
- b. Management of DKA

Level 3 _

- a. Ambulatory management of diabetes
- b. Complications of childhood diabetes

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

9. Hypoglycemia in infancy and childhood

Level 1 _

- a. Glucose homeostasis & metabolic pathways

Level 2 _

- a. Definition
- b. Etiology and clinical features

Level 3 _

- a. Approach and diagnosis
- b. Treatment
- c. PHHI

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

10. Obesity

Level 1 _

- a. Definition and anthropometry & Biochemical parameters (ratios, W/H, Abdomen, BMI)
- b. Nutritional & caloric - Balance & estimation

Level 2

- a. Etiology and Pathophysiology
- b. Clinical features

Level 3 _

- a. Investigations and management
- b. Prevention of obesity
- c. Syndromes associated with obesity

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 31 Aug 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

11. Procedures & Skills –

1. Anthropometry
2. Plotting of growth charts & interpretation
3. Nutritional calculation - obesity
4. Lab techniques - RIA, ELISA
5. Tanner staging
6. Hirsutism score
7. Insulin - types, delivery system, Technique
8. DEXA scan interpretation - technique
9. Bone age assessment
10. Articles and Paper writing
11. Interpretation of Pediatric pelvic ultrasound
12. Glucometers, CGMS & pumps

12. Academic activities: 01 September 2023 – 29 February 2024

- Seminars
- Case presentation
- Journal review
- Admission and Monthly audit

Date	Topic	Content	Quality	Understanding	Research	Grade

Academic activities: 01 March 2024 – 31 August 2024

- Seminars
- Case presentation
- Journal review
- Admission and Monthly audit

Date	Topic	Content	Quality	Understanding	Research	Grade

Evaluation Forms

Seminar

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Cogency of presentation:
4. Use of audiovisual aids.
5. Understanding of subjects:
6. Ability to answer questions:
7. Time scheduling:
8. Consulted all relevant literature:
9. Overall performance.

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Seminar

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
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Guidance for Scoring

1	2	3	4
Below average	Average	Above average	Excellent

Faculty members:

- 1.
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Seminar

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Guidance for Scoring

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3

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Below average

Average

Above average

Excellent

Faculty members:

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Guidance for Scoring

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3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Case Presentation

Case:

Date:

1. Logical order in presentation:
2. Cogency of presentation:
3. Complete /Relevant history:
4. Accuracy of General Physical Examination:
All signs elicited correctly.
5. Accuracy of Systemic Examination:
6. Diagnosis – Logical flow based on History & findings:
7. Order of differential diagnosis (logical):
8. Investigations required:
(Complete list, Relevant order, Interpretation of investigations, Unnecessarily investigations asked)
9. Treatment: Principles & details
10. Patient/Relatives communication
(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
5. Confidence

Guidance for Scoring

1

2

3

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Faculty members:

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Below average	Average	Above average	Excellent

Faculty members:

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Below average	Average	Above average	Excellent

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4. Accuracy of General Physical Examination:
All signs elicited correctly.
5. Accuracy of Systemic Examination:
6. Diagnosis – Logical flow based on History & findings:
7. Order of differential diagnosis (logical):
8. Investigations required:
(Complete list, Relevant order, Interpretation of investigations, Unnecessarily investigations asked)
9. Treatment: Principles & details
10. Patient/Relatives communication
(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
5. Confidence

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Case Presentation

Case:

Date:

1. Logical order in presentation:
2. Cogency of presentation:
3. Complete /Relevant history:
4. Accuracy of General Physical Examination:
All signs elicited correctly.
5. Accuracy of Systemic Examination:
6. Diagnosis – Logical flow based on History & findings:
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Guidance for Scoring

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2

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Below average

Average

Above average

Excellent

Faculty members:

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Mean Score:

Case Presentation

Case:

Date:

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(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
5. Confidence

Guidance for Scoring

1	2	3	4
Below average	Average	Above average	Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Case Presentation

Case:

Date:

1. Logical order in presentation:
2. Cogency of presentation:
3. Complete /Relevant history:
4. Accuracy of General Physical Examination:
All signs elicited correctly.
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(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
5. Confidence

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
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6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Clinical Work

Quarterly review

Points to be considered: (/ / to / /)

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:

Guidance for Scoring	1	2	3	4
	Below average	Average	Above average	Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Clinical Work

Quarterly review

Points to be considered: (/ / to / /)

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
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7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Clinical Work

Quarterly review

Points to be considered: (/ / to / /)

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:

Guidance for Scoring	1	2	3	4
	Below average	Average	Above average	Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Clinical Work

Quarterly review

Points to be considered: (/ / to / /)

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:

Guidance for Scoring	1	2	3	4

	Below average	Average	Above average	Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Overall Grading at the end of the Term:

Signature:

Guide – Dr. Rahul Jahagirdar

Signature:

**Dr. S K Lalwani
Vice Principal
Medical Director
Professor – Department of Pediatrics
Bharati Vidyapeeth Deemed to be University Medical College, Pune**



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE,
PUNE**



**CHILD DEVELOPMENT & GUIDANCE CLINIC (CDGC)
DEPARTMENT OF PEDIATRICS**



**FELLOWSHIP IN DEVELOPMENTAL & BEHAVIORAL PEDIATRICS
2022 - 2023**

CONTENTS

1. Overview of Bharati Vidyapeeth Deemed to be University, BVDU Medical College
2. Highlights of the Department of Pediatrics and Child Development and Guidance Clinic
3. Aims and Objectives of the course
4. General rules and regulations
5. Curriculum and Syllabus
6. Academic schedule
7. Overview of the Logbook
8. Grading and Evaluation

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of Deemed University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)
MEDICAL COLLEGE, PUNE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 950 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDTU MEDICAL COLLEGE, Pune

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 90 bedded ward including pediatric surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric super-specialty services viz. Nephrology, Neurology-Epilepsy, Hemato-oncology, Endocrinology, Neonatology, HIV, Developmental & Behavioral Pediatrics, High risk newborn clinic gastroenterology, cardiology and genetics. The Department is running Fellowship Program in most of the above pediatric subspecialties.

CHILD DEVELOPMENT & GUIDANCE CLINIC (CDGC)

The Child Development & Guidance Clinic was established in 2007. The aim was to provide diagnostic and treatment modalities to children with developmental and other behavioral problems. The clinic caters to children with developmental, behavioral, emotional, scholastic problems. Every referred patient is thoroughly evaluated by detailed history taking, evaluation by the Developmental Pediatrician. Detailed assessments as required in the form of IQ, Psychoeducational work up, psychometric assessments are done with detailed printed reports. Management in the form of individualized multidisciplinary therapy plans are formulated and monitored by the Developmental Pediatrician. Along with visiting Psychiatrists there is a full time team of Psychologists, Physiotherapists, Occupational therapists. There is a college of Audiology and Speech-Language pathology in the campus working in close association with the CDGC with its satellite audiology and speech clinics in the pediatric OPD. Other specialties like Pediatric Orthopedics, Pediatric Ophthalmology, Pediatric Neurology-Epilepsy, Genetics are available in the Bharati hospital premises.

Since the clinic started, approximately 7000 new patients have been registered. Monthly around 1100-1200 sessions of patients are done in the CDGC unit.

There is no available specialization at present in India in this field. There is also a lack of knowledge of these disorders in the undergraduate and postgraduate study syllabus taught in Pediatrics. There is an ever increasing burden of childhood disability with an urgent need for early diagnosis, early intervention and rehabilitation services in our country. This fellowship hopes to make a humble contribution by imparting training to pediatricians in this field thus increasing centers working in this field.

FACULTY FOR THE COURSE

Dr. S K Lalwani, MD, DNB

Clinical director of fellowship

Vice Principal,

Professor and Head

Dr. VIJAY. R. KALRAO, MD

Mentor

Professor

DR LEENA SRIVASTAVA

PGDDN, Fellowship in Pediatric Neurology-Epilepsy

IAP Hon Fellowship in Childhood Disability & Early intervention

Developmental Pediatrician & Neurologist

Guide

In charge Child Development & Guidance Clinic.

Aims and Objectives of the Fellowship Program

The duration of course shall be for a period of one year.

Program Goals: To train a postgraduate fellow in Developmental & Behavioral Pediatrics.

- To practice as a Consultant in Developmental & Behavioral Pediatrics equipped with appropriate knowledge and skills necessary to care for the child with various types of Developmental disorders.
- To practice Developmental & Behavioral Pediatrics in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- Understand how to diagnose and manage developmental & behavioral disorders, which generally do not need referral.
- Understand how to diagnose and initiate management of developmental & behavioral disorders which generally need referral.
- Understand the presentation and prognosis of various types of developmental & behavioral disorders in children and adolescents.
- Understand the appropriate methods of diagnosis and management of a child with these disorders.
- Understand the indications and complications related to the use of various drugs.
- Understand the pediatrician's role in the prevention of developmental disorders.
- To gain an insight into various other overlapping neurological disorders
- Problems encountered in the management of developmental & behavioral disorders.

Program objectives

The objectives to be fulfilled at the completion of the course are:

Knowledge:

- ❑ Describe, identify and monitor normal patterns of development, which occur in the neonate, infant, child and the adolescent.
- ❑ Describe etio-pathogenesis, principles of clinical diagnosis, investigations and treatment of developmental disorders in childhood.
- ❑ Demonstrate an understanding of Basic (Pre and Para clinical) Sciences and its application to the normal and abnormal processes, with reference to the nervous system in children.
- ❑ Analyze clinical and investigation data approach and manage the behavioral manifestations of the developmental disorders in children.
- ❑ Identify and understand socio-economic, environmental and cultural factors in healthcare in developmental diseases in children.

Skills: Clinical

- ❑ Elicit an appropriate clinical history.
- ❑ Demonstrate appropriate clinical and physical and neurological examination skills on children to identify motor and mental age as well as co-morbidities requiring intervention.
- ❑ Plan, decide upon and interpret appropriate cost effective investigations.
- ❑ To be able to do a DQ independently along with interpretation for management of developmental disorders.
- ❑ To be able to interpret IQ & other basic psychometric tests for management of developmental & behavioral disorders.

Skills: Technical

- Be able to administer basic Development screening & assessment tools.
- Be able to interpret basic Psychoeducational & Psychometric tests, Audiology and Speech language reports.
- Be able to plan Individualized therapy and intervention plan for all developmental & behavioral disorders.
- Be able to give behavioral management to childhood behavioral disorders.
- Be able to counsel parents & caregivers about the diagnosis, intervention and prognosis in developmental disorders.
- Be able to interpret a Cranial USG, CT Scan, MRI Brain , etc
- A working knowledge of the various molecular and cytogenetic methods e.g., Genetics, PCR, Metabolic workup etc. and its application to Developmental Pediatrics.

Communication and Attitudes:

- Communicate appropriately with guardians and children, assisting in their health care and decision-making.
- Practice child health care at the highest ethical level, protecting the child at all costs.
- Apply the highest level of ethics in Research, publication Reference and Practice of Pediatrics.

LOGBOOK FOR
IAP FELLOWSHIP
IN
DEVELOPMENTAL
&
BEHAVIORAL PEDIATRICS



BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

PUNE (INDIA)

Grade 'A+' Re-Accreditation by NAAC

Competency Framework for Sub-Specialty
Fellowship Training in Developmental & Behavioral Pediatrics
[Document valid until August 2023]

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

.....

4. Name of the Guide

5. Name of the Head of the Department

.....

Signature of the Candidate

Date.....

.....

Signature of the Guide

Date.....

General Rules and Regulations

Eligibility:

- i. Candidates should be MD/ DNB or DCH
- ii. Age preferably not over 35 years

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Monday to Saturday as per schedule. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination. The fellow is not permitted for any festival vacation.

Books and study materials: All assistance is available for library facilities e.g. preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows.

The books have been kept in the department of pediatrics itself for easy access and are available for reference on request and making the necessary entry in outward register. The fellows are expected to take due care of the reference textbooks or journals and return them in time. Few of the books are available in the Central library also.

CORE ROTATION

- **Psychology**

The goal of the Clinical Child Psychology Rotation is to expand the Developmental Behavioral Fellow's skills in dealing with a wide range of clinical child problems. This involves assessment and treatment of problems such as Attention-Deficit/Hyperactivity Disorder; Oppositional Defiant Disorder; learning disabilities; Dyslexia and other academic problems; nonverbal learning disabilities; Autistic Spectrum Disorders; psychological aspects of medical disorders including neurological problems; anxiety disorders; Depression, Post Traumatic Stress Disorder; and other less frequent clinical child problems.

- **Psychiatry**

During this rotation, the fellow gains experience in the interviewing, assessment and treatment (including psychopharmacology) of children with psychiatric concerns encompassed by the internalizing and externalizing conditions. The fellow gains exposure to assessment of children with complex issues such as substance abuse and gender identity concerns and those requiring inpatient pediatric psychiatric facilities through consultation of inpatients who are medically unstable after suicide attempt.

Principles of Psychiatry for Developmental Behavioral Pediatrics Seminar

This weekly psychiatry skills seminar provides residents with technical supervision as they acquire clinical skills critical in developmental behavioral pediatrics, such as

1. diagnostic interviewing,
2. generating differential diagnoses and
3. parent/child guidance training.

The course trains residents to identify and treat psychiatric disorders including

1. mood disorders,
2. anxiety disorders,
3. eating disorders,
4. psychotic disorders,
5. disruptive behavior and
6. conduct disorders.

Fellows learn about therapeutic modalities including

1. play therapy,
2. cognitive-behavioral therapy and
3. psychopharmacology

- **Psychopharmacology in Developmental Disabilities**

During this rotation, the fellow gains experience in the ongoing psychopharmacologic treatment of individuals with developmental disabilities (young childhood through adolescence) who have comorbidities of internalizing, externalizing and attention concerns. The fellow gains exposure to treatment of children who require complex medication regimens.

- **Occupational Therapy/Physical Therapy/Speech & Language**

Professionals from OT, PT and Speech and Language work directly with the Developmental Behavioral Fellow in multi-disciplinary team experiences throughout the year. The fellow also has direct rotations in OT, PT and Speech and Language, which occur quite early in training.

These allied health professionals teach the fellows (during the rotations, team experiences and through specific didactics) assessment and treatment from their perspective, allowing the fellow to become more adept at recognizing typical and atypical development and to improve their skills in these areas. The fellow becomes acquainted with these individuals, which facilitates communication over the course of the fellowship regarding specific patients. Also, this allows the fellow an opportunity to understand the role that therapists have with our families.

- **Neonatal Follow-up**

During this rotation, the fellow has the opportunity to observe the effects of prematurity and other high-risk neonatal follow up.

- **Journal Club**

Bimonthly review of a recent publication in developmental-behavioral pediatrics.

OTHER ROTATIONS

- **Clinical child neurology**

This rotation is designed to provide the Developmental Behavioral Fellow with a background in pediatric neurology. This will allow the fellow to have a better understanding of the neurologic basis of developmental and behavioral issues and a working knowledge of appropriate referral to our neurology colleagues. Structured blocks include, but are not limited to outpatient child neurology and epilepsy services

- **Genetic clinic**

During this rotation, the fellow will work closely with the Genetics Faculty to gain expertise in dysmorphology, metabolic disorders and chromosomal disorders. The fellow will also gain experience in the biologic underpinnings of a wide range of neurological, developmental and behavioral issues.

- **Clinical and basic sciences**

Understanding the anatomical basis of development of brain and its function, neuroradiology and interpretation.

- **Biostatistics Course**

Bimonthly one-and-a-half hour didactic and discussion session for fellows in all fellowship programs

Research program

Fellows will work directly with a research mentor to develop and implement their research projects, and submit for publication or present their research in a conference either as a free paper/ Poster before appearing for their fellowship examination.

DAILY DUTIES

Acquisition of practical competence is the keystone of fellow's medical education. The learning should essentially be self-directed and emanating from clinical and academic work.

A candidate has to cater to the everyday outpatients in the various OPDs like CDGC, Psychology, Audiology, Speech, Physiotherapy so that they develop a complete understanding of entire spectrum and natural course of the disorders.

The fellows will primarily be posted in CDGC OPD where the major part of learning will take place through clinical case discussions, didactic lectures, seminars, journal clubs etc. along with rotational postings in the other sub-specialties relevant to the field of Developmental Pediatrics.

It is mandatory to use electronic data management systems, The trainee is expected to be conversant with the use of computer and network to enhance learning and storage and recovery of data. The early clinical assignments will be based on direct patient responsibility for a limited number of patients. Subsequent assignments will place the fellow in a position of taking increased responsibility for patients in a liaison relationship with the faculty staff. In case of extramural referral, the referring doctors should be communicated about the child's investigations and the tentative treatment plan

1. The candidate is required to make e-folders (including history, investigations, photos/videos etc) for all interesting developmental patients.
2. He/she will have to contribute to data entry of the OPD patients on daily basis.
3. He/she will present cases of interest

Continued emphasis on scholarship and learning is essential for development and maturation of the fellow into the field of developmental pediatrics. To optimize time, concurrent training agendas have been planned.

Recommended reading

1. AAP Textbook of Developmental and Behavioral Pediatrics
Authors Robert G. Voight, Michelle M. Macias, Scott M. Myers
2. Developmental-Behavioral Pediatrics
Authors William B. Carey MD (Author), Allen C. Crocker MD
3. Introduction to Psychology by Morgan & King
4. Developmental Psychology by Elizabeth Hurlock

Log Book

During his / her training, the candidate should maintain the Log Book.

The purpose of the Log Book is to:

- a) Help to maintain a record of the work done during training.
- b) Enable the consultant to have first hand information about the work done and to intervene whenever necessary.
- c) Use it to assess the clinical experience gained periodically.

Records should include:

1. Recording of Pediatric history taking, developmental screening & assessment done by him/her.
2. Supervised and independent interpretation of DQ/IQ/basic psychometric tests done by him/her.
3. The diagnosis and classification of various developmental & behavioral disorders with rational use of available therapies- the cases that are following up in the CDGC clinic on fixed days.
4. Case presentations, Guest Lectures, Seminars and Journal clubs.
5. Duration and work done in postings in other specialties like Psychology, Psychiatry, Audiology & Speech Pathology, Pediatric Neurology, High risk follow up clinic, Neuro-Radiology, Neuro-anatomy etc.
7. Any CME/ workshop/ conference (related to the specialty) attended

The entries in the Log Book should be made on a “daily basis” and should be signed by the faculty every month. Prior to the final examination the logbook should also have to be certified by the Head of the Department of Pediatrics.

LOG BOOK

12 pages

YEAR: _____ MONTH: _____

1. Total cases (New and f/u) : _____
:
2. Interesting cases : _____
:

1. Assessments seen/done
2. Counseling sessions seen/done

Teaching:

1. Seminars : _____
2. Case Studies : _____
3. Lectures : _____
4. Journal Club : _____

Signature of Faculty

Grading of DQ assessment:

Case no.	Date	Rapport Building	Administering test	Report
1				
2				
3				
4				
5				
6				
7				

Postings in Co-specialties:

Neuro-anatomy

Neuro-Radiology

Audiology & Speech therapy

Child Psychology

Child Psychiatry

Rehabilitation

High Risk Clinic

Neuro-ophthalmology

Evaluation Forms

Seminars

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Cogency of presentation:
4. Use of audiovisual aids.
5. Understanding of subjects:
6. Ability to answer questions:
7. Time scheduling:
8. Consulted all relevant literature:
9. Overall performance.

Guidance for Scoring	0	1	2	3	4

	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

5 cases

Case Presentation

Date:

Case Title:

1. Logical order in presentation:
2. Cogency of presentation:
3. Complete /Relevant history:
4. Accuracy of General Physical Examination:
5. Accuracy of Systemic Examination:
6. Diagnosis – Logical flow based on History & findings:
7. Order of differential diagnosis (logical):
8. Investigations ordered:
(Complete list, Relevant order, Interpretation of investigations)
9. Treatment: Principles & details
10. Patient/Relatives communication
(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
5. Confidence

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Article presented:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he / she defend article:
5. Whether cross references have been consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Clinical Work

Quarterly review : (/ / to / /)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:

Guidance for Scoring	0	1	2	3	4
	-----	-----	-----	-----	-----
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Overall Grading at the end of the Term:

0	1	2	3	4
-----	-----	-----	-----	-----
Poor	Below average	Average	Above average	Very Good

1. Level of Neurodevelopment assessment Performance-

.....

2. Level of psychological reporting & interpreting

.....

3. Understanding of Developmental disorders in children

.....

4. Understanding of childhood behavioral & emotional disorders

.....

5. Understanding of co-specialties

6. Academic presentations.....

7. Personal attributes (sincerity, commitment etc.).....

8. Research work

Signature:

**Guide – Dr. Leena Srivastava
Developmental Pediatrician & Neurologist
In charge, Child Development & Guidance Clinic**



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE,
PUNE**



**PEDIATRIC GENETICS UNIT
DEPARTMENT OF PEDIATRICS**



Fellowship in Pediatric Genetics and Metabolic Disorders

2023-2024

CONTENTS

- 1] Overview of Bharati Vidyapeeth Deemed to be University (BVDU) Medical College
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BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including Dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of Deemed University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

MEDICAL COLLEGE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, Paediatric surgery, Fetal Medicine etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 950 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE, PUNE

The Department of Paediatrics at BVDUMC is one of the most well-equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various paediatric diseases under one roof, at an affordable cost and even free for deserving cases. It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We are offering pediatric super-specialty services viz. Neurology-Epilepsy, Hemato-oncology, Genetics and Metabolics, Endocrinology, Neonatology, Nephrology, Infectious diseases, Critical care, Rheumatology, Pulmonology, High risk newborn clinic etc. The Department is running numerous Fellowship Programs in various super-specialities.

CLINICAL GENETICS UNIT, DEPT OF PEDIATRICS:

The field of Paediatrics is rapidly expanding. With the increasing knowledge and availability of the latest investigative modalities and therapeutic avenues, specialisation has become necessary to maintain excellence in health care. Our country has made significant progress in providing basic Paediatric care and now the focus should shift to chronic and rare diseases. To meet these demands of our vast population the department has established various sub-speciality OPD services.

It has well been observed that Genetic disorders which constituted only a small tip of the iceberg are slowly comprising a larger proportion of outpatient and inpatients in hospitals. The reason being availability of better modalities of accurate diagnosis. Many diseases where etiology was not defined are now understood to have a genetic basis. India is considered to be a gold mine of genetic disorders because many rare disorders manifest in our population due to factors such as consanguinity, inbreeding and a high birth rate. Many disorders go undetected and unmanaged because of the lack of proper diagnostic and management facilities. There is a need to develop diagnostic counselling and supportive services and provide comprehensive care . Building manpower and training them so that they remain dedicated to the speciality of Genetic and Metabolic Medicine is of utmost priority. With a larger vision and given the scope of this field of medicine the department at BVDU envisaged starting a fellowship in Clinical Genetics. The department aims to provide excellent clinical services and later even state of the art diagnostic facilities at an affordable cost to the needy patients.

Many genetic disorders are not treatable and prevention is the best method to reduce the disease burden. This can be achieved if there are good prenatal diagnostic and counselling facilities. The Genetics unit coordinates with the Fetal Medicine unit to provide the umbrella of services. Starting of such a fellowship is unique at Bharti Hospital and the trained experts in genetics will make a huge contribution to provide the services at medical institutions. The department has made a beginning and the academic program will be an important milestone for the BVDU.

Services in Clinical Genetics were initiated in the year 2012 when Dr Chaitanya Datar started the OPD services. Patients are referred from General Paediatric OPD and from other Sub-specialities such as - Child Guidance Clinic, Neurology, Endocrine, Pediatric Orthopedic and Surgery, NICU and PICU. Over the years a lot of patients are referred from Maharashtra and the neighbouring states. The referral group essentially comprises of children with dysmorphic features, development delay, congenital anomalies, inborn errors of metabolism. Large numbers of patients are referred from the Obstetric and Gynecology department for preconception counselling where there is a previous affected child, prenatal diagnosis, bad Obstetric history etc. Every referred patient is thoroughly evaluated by the consultants. After establishing the diagnosis, genetic counselling is offered to the

family. Screening of family members at risk is also undertaken. The clinic has a case load of about 900 cases per year. Most of these patients have to go through a stepwise approach to diagnosis, they are referred for radiology, neurophysiology, and genetic tests. At Bharti Hospital there is a lot of support from all departments for opinion and treatment of the affected children. Our team also works with Audiology, Speech pathology, Occupational and Physiotherapy and staff of the Child Guidance Clinic so that the cases are evaluated and later rehabilitation is planned in the best possible manner. Dietician is consulted during planning special diet for the cases with IEM.

Services are also offered in the speciality of Fetal Medicine. Patients are referred for first and second trimester anomaly scans, Dopplers, evaluation of high-risk pregnancies and procedures for prenatal diagnosis [chorionic villus sampling, amniocentesis, cord blood sampling]. The department of Fetal Medicine is also expanding the scope of their services and Fetal MRI is being done in indicated cases.

Efforts are underway to start in-house diagnostic tests, cytogenetic testing (karyotype) has already been established. Some biochemical and molecular tests will be started in near future. Data analysis for NGS based techniques is being developed to interpret raw data along with correlation with the clinical presentation.

DEPARTMENT OF PEDIATRICS

Dr. Sanjay K Lalwani, MD, DNB

Vice Principal,

Professor

Dr. Vijay Kalrao, MD

Professor and Head

Dr Chaitanya A. Datar, MBBS, MD

Consultant Clinical and Metabolic Geneticist

Aims and Objectives of the Fellowship Program

The duration of course shall be for a period of one year.

Program Goals: To train a postgraduate fellow in Evaluation, Management and Counseling of genetics cases.

- To practice as a Consultant in Genetics and have appropriate knowledge and skills necessary to care for the child with common and rare genetic disorders.
- To practice clinical genetics in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- Understand the approach to different cases- dysmorphism, congenital anomalies, metabolic disorders, cases with neuroregression and neuromuscular disorders, intellectual & developmental disorders.
- Understand how to diagnose, plan the step wise approach to diagnosis and initiate management of the disorders which generally need referral.
- Understand the presentation and prognosis of various types of genetic and metabolic disorders in children and adolescents.
- Being able to interpret reports—Biochemical, Cytogenetic and Molecular tests. Introduce to NGS data analysis.
- Understand the basic principles of management in IEMs, planning special diets.
- Understand the progression of these disorders, and being able to manage the acute crisis in IEMs.
- Being able to counsel the family about the disorder.
- Understand the in the prevention of Genetic disorders.
- To gain an insight into various other overlapping neurological and metabolic disorders.
- Planning appropriate methods of prenatal diagnosis.

Program objectives:

The objectives to be fulfilled at the completion of the course are:

Knowledge:

- ❑ Information about basic genetics, inheritance patterns, cytogenetic and molecular genetics, Mutations and mechanisms of genetic diseases.
- ❑ Common and rare syndromes- Chromosomal, Dysmorphology, skeletal dysplasias.
- ❑ Metabolic disorders and single gene disorders.
- ❑ Principles of management, newer drugs and therapies.
- ❑ Analyze clinical and investigation data, knowledge about principles of cytogenetics molecular and biochemical tests.
- ❑ Principles of genetic counselling, including psychosocial aspects.
- ❑ Identify and understand socio-economic, environmental and cultural factors in healthcare in genetic diseases.
- ❑ Prevention of genetic disorders, population genetics, and methods of prenatal diagnosis.

Skills: Clinical

- ❑ Elicit an appropriate clinical history. Identifying whether the problem is genetic, chromosomal, metabolic.
- ❑ Pedigree drawing, charting of family history.
- ❑ Approach to a dysmorphic child, evaluation of the features, documentation, clinical photographs.
- ❑ Basic knowledge and interpreting reports – Cytogenetic, Molecular [and NGS], Biochemical and Metabolic.
- ❑ Managing IEMs, Special diets, indigenous diets and supplements.
- ❑ Genetic counselling in various case scenarios.
- ❑ Demonstrate appropriate clinical and physical and neurological examination skills on children to identify motor and mental age as well as co-morbidities requiring intervention.
- ❑ Plan, decide upon and interpret appropriate cost effective investigations.

Skills: Technical

- Hands on experience in basic cytogenetic techniques, biochemical tests.
- Understand principles of Fetal MRI, anomaly scan, Prenatal tests, MRI, ECHO, Fetal autopsy

Communication and Attitudes:

- Communicate appropriately with parents, guardians and children, assisting in their health care and decision-making.
- Practice child health care at the highest ethical level, protecting the child at all costs.
- Apply the highest level of ethics in Research, publications Reference and Practice of Pediatrics.



BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
PUNE (INDIA)

Grade 'A+' Re accreditation by NAAC

**Fellowship in Pediatric Genetics and Metabolic
Disorders**

(Logbook)

[Document Valid until November 2024]

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

.....

4. Name of the Guide

5. Name of the Head of the Department

.....

Signature of the Guide

Dr.

Date.....

.....

Signature of the Head of the Department,

Prof. Sanjay Lalwani

Department of Pediatrics,

Bharati Vidyapeeth Deemed To Be University Medical College, Pune

General Rules and Regulations

Eligibility:

- i. Candidates should be MD/ DNB with work experience in Pediatrics, Neurology and exposure to allied pediatric subspecialties during post graduation.
- ii. Age not over 35 years

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centres regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination. The fellow is not permitted for any festival vacation.

Books and study materials: All assistance is available for library facilities e.g. preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows.

The books have been kept in the Genetic clinic itself for easy access and are available for reference on request and making the necessary entry in outward register. The fellows are expected to take due care of the reference textbooks or journals and return them in time. Few of the books are available in the Central library also.

Core Curriculum and Syllabus:

- Basic Genetics, Patterns of inheritance, chromosomal disorders.
- Inborn errors of Metabolism, Treatment, newer modalities
- Lysosomal storage disorders.
- Congenital anomalies, Teratogens, Common syndromes
- Skeletal Dysplasias.
- Neuromuscular disorders, Neuroregression
- Congenital Heart defects , Cardiomyopathies
- Bad obstetric history, Counselling
- Antenatal screening
- Prenatal Diagnosis, Fetal autopsy
- Basic concepts in biochemical tests, Molecular Medicine, Cytogenetics
- Basic Concepts in Neurophysiology EEG/EMG/VEP/BERA and Imaging modalities- Antenatal scans, Fetal MRI.
- Rehabilitation services for patients with Genetic disorders.
- Psychosocial aspects in Genetic Disorders.
- Interpretation of reports- Karyotype, FISH, Double markers, TMS, Urine GAG/GCMS, NB screening, Molecular tests— Next Gen sequencing , Microarray, Sanger sequencing, NIPT
- Pharmacogenetics, Epigenetics, Population Genetics.

Time Lines:

- October 23: Basic Genetics Common syndromes, Pedigree charting
- November 23: Common IEMs, Dietary interventions, Dysmorphology, Documentation and Clinical Photographs
- December 23: Preparation Of posters/Papers for IEM conference
- January 24: Neurometabolic cases, Lysosomal storage disorders, Conference
- February 24: Molecular tests, Biochemical tests, Cytogenetic tests, Interpretation of tests and reports, Case presentation
- March 24: Neurogenetics, Neurotransmitter disorders, Case presentation.
- April 24: Microarray, Microdeletion syndromes, Analysis of reports, case presentation, Skeletal dysplasias.
- May 24: Hands on experience, Visits to Labs, Journal review.
- June 24: Treatment of Genetic Disorders, Enzyme replacement therapies, Special diets, Transplants. Seminar presentation
- July 24: Hematology and GI cases, Prenatal diagnosis.
BOH and High risk OBGY cases.
- August 24: Discussion of interesting cases, Population Genetics
- September 24: Revision and Thesis work.
- October 24: Revision and Thesis Presentation.

Grading of Thesis work:

Nov 23:	Allocation of thesis work
Nov 23 to April 24:	Data Collection
May 24 to August 24:	Data analysis, Discussion
September 24:	Thesis completion
Oct 24 to Nov 24:	Exams.

Rotations in other specialities:

Cytogenetics, Laboratory, Radiology, Fetal Medicine, Child Development clinic, Neurology, Rehabilitation, Nutrition, Private Genetic clinic, Laboratory rotation

Daily Schedule:

Monday:	Indoor References, Diet Clinic
Tuesday:	OT/PT/ Development Clinic/Lab
Wednesday:	Fetal Medicine Class, Genetic OPD, Radio-genetics cases
Thursday:	Neurophysiology, Anomaly Scan, Fetal MRI
Friday:	Genetic Clinic,
Saturday:	Follow up ward cases, Indoor referrals, Neuromet.

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Specialty Posting: Laboratory

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Laboratory

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Dry Lab

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Dry Lab

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Fetal Autopsy

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Fetal Autopsy

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Fetal Medicine / Radiology

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Fetal Medicine / Radiology

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Pediatric Neurology

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Rehabilitation / Audiology etc

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Diet Clinic

From: _____ / _____ / _____ to _____ / _____ / _____

Specialty Posting: Child Development and Guidance Clinic

From: _____ / _____ / _____ to _____ / _____ / _____

Case Counselling

Sr. No.	Date	Case	Details	Remarks

Case Counselling

Sr. No.	Date	Case	Details	Remarks

Details of CME/ Conference attended/ paper / poster presentation:

Date, Venue	Conference/ CME	Talks attended

Reference Books:

- 1] Emery and Rimoin : Principles and Practice of Medical Genetics and Genomics. By R E Pyeritz , B R Korf, W W Grody. 7 th ED 2018.
- 2] Thompson and Thompson Genetics in Medicine by R L Nussbaum, R R Molnnes, H F Williard, 2015.
- 3] The Metabolic and Molecular Basis of Inherited Disease 4 vol set. C Scriver, A L Beaudet, W Sly, D Valle. 2001.
- 4] Sanders, Structural Fetal anomalies 3rd ED 2016.
- 5] New Clinical Genetics: A Read , D Donnai 3 rd ED 2015.
- 6] Smiths recognizable Patterns Of Human Malformation 7 th ED K Lyons, M Jones, M Campo, 2014.
- 7] A Guide to Genetic Counselling: W R Uhlmann, J L Scheutte, B Yashav 2011.
- 8] IAMG Publication.
- 9] Practical Genetic Counselling by P Harper.
- 10] ICMR Publication: Clinical Manual for IEM editors V Kalra, M kabra, S Kappoor, 2008.
- 11] Clinical Protocols for IEMs- S Jagadeesh, S Bijarnia, N Gupta, C Datar, 2022

Journals:

- 1] American Journal of Medical genetics
- 2] American Journal of Human genetics
- 3] European Journal of Medical genetics
- 4] Journal Of Human Genetics
- 5] Journal of Indian Society of Human Genetics
- 6] Publication Quarterly by IAMG

Internet Resources:

- 1] National Human Genome Research Institute <http://www.genome.gov>
- 2] OMIM -Online Mendelian Inheritance in Man www.ncbi.nlm.nih.gov/omim
- 3] Gene Clinics
- 4] Genereviews

Overall Grading at the end of the Term:

- 1. Level of Assessment of cases -
-
- 2. Level of interpretation of reports -
-
- 3. Understanding of co-specialties
- 4. Academic presentations.....
- 5. Personal attributes (sincerity, commitment etc.).....
- 6. Thesis work.....

Signatures:

.....
Dr. Chaitanya Datar,
Consultant Clinical and Metabolic Geneticist
Coordinator Fellowship Program

.....
Dr. (Prof.) Sanjay K Lalwani
Vice Principal
Medical Director
Professor Department of Pediatrics
.....

Fellowship Program course curriculum

Aims-

The aim of the fellowship program in Neonatology is to provide basic and advanced training in neonatology to produce competent doctors, who are able to provide clinical care of highest order to the newborn infant.

Objectives-

Knowledge-

- a. To be conversant with common neonatal problems – their etiology, pathophysiology, diagnosis, management and prevention
- b. To acquire knowledge regarding neonatal morbidity and mortality and prevention strategies to decrease these
- c. To be aware of and recognize importance of multi disciplinary approach in the management of neonatal problems.
- d. To acquire knowledge with respect to neonatal care in the community
- e. To acquire knowledge with respect to organizing and planning neonatal intensive care units and managing neonates requiring intensive care.

Practice-

1. To be able to analyse neonatal health problems and develops preventive strategies to decrease neonatal morbidity and mortality at hospital and community level
2. To provide primary, secondary and tertiary level care of the highest standard to critically ill neonates.
3. To be able to plan, establish and manage level I , II and III neonatal care units.
4. To be able to use and maintain equipments required in the NICU

Attitudes / Communication-

- a. To take rational decisions in the face of ethical dilemmas in neonatal and perinatal practice
- b. To exhibit communication skills of a high order and demonstrate compassionate attributes befitting a caring neonatologist
- c. To be able to counsel parents regarding neonatal problems including genetic and hereditary diseases

Eligibility for Admission-

MD. DNB- Pediatric- Duration of Course 1 year

DCH- Duration of Course 1 and 1/2 year

Prerequisites-

1. All fellows admitted to the IAP Neonatology Fellowship Programme should be members of Central IAP and IAP Neonatology Chapter. (See membership category details on www.iapindia.org)
2. All such students who are not the members of Central IAP at the time of admission shall be considered to have their admissions provisional till documents of IAP membership are submitted.
3. Fellows who are not members of Central IAP/IAP Neonatology Chapter shall not be considered eligible for examination.

Eligibility-

Trainee:

Any student of Indian nationality who has completed the M.D / D.N.B / DCh course in Pediatrics from a Medical Council of India or State Medical Council recognized University in India is eligible for this fellowship program. Preference would be accorded to MD / DNB passed Candidates. If such candidates are not available then a DCh qualified candidate may be selected for the course While the course tenure would be one year for MD / DNB candidates, it would be one and half years for a DCh candidate. At the time of application the trainee would have to produce – 1) A bonafide certificate from the Head of Department of Pediatrics of his / her institution where he / she has completed the post graduate training in Pediatrics, 2) Photocopies of the certificate of the post graduate degree from the University concerned, and 3) Certificate of registration with the appropriate State Medical Council or Medical council of India.

Any foreign student or a non-resident Indian student who wishes to apply should be a degree holder in Pediatrics post-graduate training and would have to produce a bonafide certificate from the Head of Department of Pediatrics of his / her institution where he / she has completed the post graduate training in Pediatrics, along with photocopies of the certificate of post graduate degree from the University concerned. The undergraduate and postgraduate degrees should be recognized by the Medical council of India/ State medical council

All trainees joining the Neonatology fellowship program shall work as Full Time Residents during the period of training for one year (MD / DNB) or one and half years (DCh)

Since the students are trained with the aim of practicing as independent specialists, this course content will

be mainly a guideline. They have to manage all types of cases and situations and seek and provide consultation. The emphasis shall therefore be on the practical management of the problem of the individual cases and the community within the available resources.

Course Contents:

A. Academic topics

Basic sciences pertaining to Neonatology:

- Genetics
- Applied anatomy and embryology
- Fetoplacental physiology
- Fetal growth
- Neonatal adaptation

B. Physiology and Development of various systems

- Respiratory system
- Cardiovascular system

- Nervous system
- Gastrointestinal system
- Renal system
- Hematopoietic system
- Endocrinal system
- Fetal and neonatal immunology
- Fluids, electrolytes, glucose, proteins, complex carbohydrates and lipids, and vitamins, minerals and trace elements

Common diseases and conditions in neonates of the:

- Respiratory system
- Cardiovascular system
- Nervous system
- Gastrointestinal system
- Renal system
- Hematopoietic system
- Endocrinal system
- Fetal and neonatal immunology
- Inborn errors of metabolism

Neonatal Therapeutics

- Pharmacology
- Nuances of drug dosage, administration, monitoring and toxicity

General Topics

- Research methodology
- Biostatistics
- Computer & Information technology

C. Perinatology

- Perinatal and neonatal mortality, morbidity, epidemiology
- High risk pregnancy & impact on the fetus
- Fetal monitoring
- Intrapartum monitoring and procedures
- Genetic counseling
- Diagnosis and management of fetal diseases

- Fetal intervention
- Fetal origin of adult disease

Detailed list of topics for training in fellowship:

1) General Neonatology

Neonatal resuscitation

Management of normal newborn

Management of LBW, VLBW, ELBW infants

Management of sick neonate

Emergency neonatal care

Thermoregulation

Neonatal transport

Fluid & electrolyte management

Neonatal ventilation

Blood gas and acid base disorders

Neonatal assessment

Assessment of gestation, neonatal behavior, neonatal reflexes

Developmental assessment, detection of neuromotor delay, stimulation techniques

2) Respiratory system

Neonatal airways: physiology, pathology; management

Pulmonary diseases: hyaline membrane disease, transient tachypnea, aspiration Pneumonia, pulmonary air leak syndromes, pulmonary hemorrhage, developmental defects

Oxygen therapy and its monitoring

Pulmonary infections

Miscellaneous pulmonary disorders

3) Cardiovascular system

Fetal circulation, transition from fetal to neonatal physiology

Examination and interpretation of cardiovascular signs and symptoms

Special tests and procedure (Echocardiography, angiography)

Diagnosis and management of congenital heart diseases

Rhythm disturbances

Hypertension in neonates

Shock: Pathophysiology, monitoring, management

4) Gastrointestinal system

Disorders of liver and biliary system

Bilirubin metabolism

Neonatal jaundice, Prolonged hyperbilirubinemia, Kernicterus

Congenital malformations

Necrotizing enterocolitis

5) Neurology

Clinical neurological assessment

EEG, Ultrasonography, CT scan

Neonatal seizures

Intracranial hemorrhage

Brain imaging

Hypoxic ischemic encephalopathy

Neuromuscular disorder

Degenerative diseases

CNS malformation

6) Renal system

Development disorders

Renal functions

Fluid and electrolyte management

Acute renal failure (diagnosis, monitoring, management)

7) Hematology

Physiology

Anemia

Polycythemia

Bleeding and coagulation disorders

Rh hemolytic disease

Blood Component therapy

8) Nutrition

Fetal nutrition

Physiology of lactation

Lactation management

Parenteral nutrition

Vitamins and micronutrients in newborn health

Human Milk Banking

9) Surgery and orthopedics

Diagnosis of neonatal surgical conditions

Pre and post operative care

Neonatal anesthesia

Metabolic changes during anesthesia and surgery

Orthopedic problems

10) Neonatal infections

Intrauterine infections

Superficial infections

Diarrhea

Septicemia

Meningitis

Osteomyelitis and arthritis

Pneumonias

Perinatal HIV

Miscellaneous infective disorders & fungal infections

11) Metabolic & Endocrine

Glucose metabolism, hypoglycemia, hyperglycemia

Calcium disorders

Magnesium disorders

Thyroid disorders

Adrenal disorders

Ambiguous genitalia

Inborn errors of metabolism

12) Neonatal ophthalmology

Development aspects

Retinopathy of prematurity

Sequelae of perinatal infections

13) Neonatal Hearing assessment

14) Community neonatology

Vital statistics

Health system

Neonatal care priorities

Care at primary, secondary & tertiary level of care

Role of different health functionaries

National programs

15) Neonatal dermatology

16) Neonatal Imaging

17) Development assessment & follow up

18) Organization of neonatal care

19) Adoption

20) Recent Advances

21) Neonatal procedures

22) Therapeutic agents

23) Biomedical equipments, use & maintenance

List of Skills

Clinical

Neonatal examination & anthropometry

Developmental assessment

Neonatal resuscitation

Neonatal ventilation: CPAP, Mechanical ventilation

Blood sampling: Capillary, venous, arterial

Insertion of peripheral venous, umbilical venous / arterial catheters

Monitoring: invasive, non-invasive

Enteral feeding (katori-spoon, gavage, breastfeeding)

Lactation management

Parenteral nutrition

Endotracheal Intubation

Lumbar puncture and ventricular tap

Placing of 'chest tube'

Exchange transfusion

Bed side tests: Hemoglucometer glucose estimation, Apt test etc.

Neonatal drug therapy

Nursery housekeeping routines

Infection control & Universal precautions

Handling, effective utilization and trouble shooting of neonatal equipment.

Decision making, clinical diagnosis, planning & interpreting investigations

Management of Neonatal problems

Communication

Communication with parents, families and communities

Interdepartmental communication

Education / Training

Teaching skills

Learning skills

Participatory and small group learning skills

Preparing learning resource material

Self-Directed Learning

Learning needs assessment, literature search, evaluating evidence

Research Method

Framing of research question

Designing and conducting study

Analyzing and interpreting data

Publication & writing a paper

Review & presentation of research findings

TEACHING LEARNING METHODS AND ACTIVITIES

Learning will be self directed and will take place as a continuous process but in addition the following formal sessions are recommended

Academic session

In addition to attending all the academic sessions, the candidate needs to make a minimum number of presentations in these academic sessions during the training period of 1 year

Presentations Frequency

- a. Seminars / Symposia 1 per month
- b. Journal club 4 per month
- c. Perinatal meeting 1 per month
- d. Clinical case conference 1 per month
- e. Bedside presentation 10 per month
- f. Interdepartmental meeting with 1 per month

Radiology / Pediatric surgery and others

- g. Grand rounds 1 per week
- h. Mortality meeting and audit meeting 1 per month

Teaching learning process will also take place during the daily ward rounds and during teaching rounds.

Clinical postings:

Total period of fellowship course is 12 months for MD/DNB and 18 months for DCH. Minimum 85% attendance is compulsory.

Rotation(optional)

- Obstetrics department 15 days
- Pediatric surgery 15 days

Conference, CME's and Workshops

During the one year training period he/she should attend at least

One State / National/Regional Conference

Three CME Programme local/outside city of fellowship hospital

Should present a paper/poster in the conference

Teaching

The candidate will be involved in teaching nursing students, nursing staff

Undergraduate and post - graduate students

Special Training Programme

The candidate should attend and be certified in the following training programs-

1-NRP workshop- mandatory

2-Quality improvement workshop- mandatory

3- NEST workshop

4- DSC workshop

5- Developmental follow up program

6- Nutrition of preterm

7- Research methodology

8- FBNC training

DISSERTATION

Preparation and presentation of a dissertation:

Every Fellow trainee will be required to carry out one research project over one year under the supervision of his guide as identified by the institution. The project should be completed within 10 months of training, and then reviewed by the guide and given its final shape by the end of eleven months, one month before the stipulated date of completion of the Fellowship course. It should be a 'Quality Improvement' project.

LOG BOOK

Log book for evaluation of the following

- Medical knowledge
- Clinical Care
- Procedures
- Communication skills
- Case and seminar presentations
- Teaching
- Attendance and availability
- Conferences & CME's
- Dissertation
- Know your environment-Knowledge of equipments, Asepsis & disinfection protocol and system based approach to develop NICU
- Enthusiasm and responsiveness

There will be mandatory monthly reporting by fellowship co-ordinators to the IAP Neochap fellowship committee through e mail. Compliance to this reporting is must for continued accreditation of the fellowship center.

Monthly reporting by fellowship co-ordinator includes-

- 1- Attendance of all fellows
- 2- Details of activities done as per log book

Online seminars and case discussions are under consideration and if finalized, there will be online presentation on zoom or equivalent media every fortnight or as recommended by fellowship committee by designated fellowship center in succession.

Recommended Books

No	Name of the Book	Author
1	Neonatal –Perinatal Medicine; Diseases of the fetus and infant	Avroy A Fanaroff, Richard J Martin
2	Neonatology - Pathophysiology & Management of the Newborn	Gordon Avery, Mary Ann Fletcher, M.G. MacDonald
3	Avery Diseases of Newborn	S. Avery, Taeusch, Ballard
4	Polin & Fox - Fetal and Neonatal Physiology	Richard A Polin; William W Fox
5	Robertson's Textbook of Neonatology	Janet M Rennie, N.R.C Robertson
6	Neonatology - Principles and Practice	Dipak K. Guha
7	Manual of Neonatal Care	John P. Cloherty
8	Neonatology - Management, Procedures, On call problems; Diseases And Drugs	Tricia Lacy Gomella
9	Breastfeeding- A Guide to the Medical Profession	Ruth A. Lawrence; Robert M. Lawrence
10	Physical Diagnosis in Neonatology	Mary Ann Fletcher
11	Nelson's Textbook of Neonatology	Behrman, Kleigman, Arvin
12	Assisted Ventilation of the Neonate	Jay P. Goldsmith Edward H. Karotkin
13	Infectious Diseases of the Fetus & Newborn Infant	Remington & Klein
14	Neurology of Newborn	Joseph J. Volpe
15	Smith's Recognizable Patterns of Human Malformations	Kenneth Lyons Jones
16	Moss and Adams Heart Disease in Infants, Children, & Adolescents Including the Fetus & Young Adult	Emmanouilides, Riemenschneider Allen & Gutgesell
17	The Clinical Recognition of Congenital Heart Disease	Joseph K. Perloff
18	Pediatric Cardiology	Myung Park
19	Pediatric Hematology	Nathan , Oski
20	Medical disorders In Obstetric Practice	Michel Deswite
21	Neonatal drug formulary	IAP
22	Textbook of Preventive & Social Medicine	Park

List of Journals (Previous three years)

S No	List of Journals
1	Archives Diseases of Childhood: Fetal & Neonatal edition
2	The Journal of Pediatrics
3	Pediatrics (English Edition)
4	Indian Journal of Pediatrics
5	Indian Pediatrics
6	Clinics in Perinatology
7	Journal of Neonatology
8	Journal of Perinatology
9	Pediatrics Today
10	Archives of Pediatrics and Adolescent Medicine
11	Pediatric Clinics of North America
12	Pediatric Clinics of India
13	Recent Advances in Pediatrics
14	Seminars in Neonatology
15	Seminars in Perinatology
16	The Year Book of Pediatrics
17	Acta Paediatrica: an international journal of Pediatrics

Websites

S No.	Website
1	www.cochrane.mcmaster.ca/neonatal /
2	www.nichd.nih.gov/cochrane
3	www.neonatology.org
4	www.emedicine.com/ped/neonatology.htm
5	www.nnfi.org



IAP FELLOWSHIP IN PEDIATRIC NEUROLOGY



Logbook

**PEDIATRIC
NEUROLOGY UNIT
DEPARTMENT OF PEDIATRICS
BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE, PUNE**



2023 - 2025

CONTENTS

1. Overview of Bharati Vidyapeeth Deemed to be University, BVDU Medical College
2. Highlights of the Department of Pediatrics and Pediatric Neurology Clinic
3. Aims and Objectives of the course
4. General rules and regulations
5. Curriculum and Syllabus
6. Academic schedule
7. Overview of the Logbook

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of Deemed University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY MEDICAL COLLEGE, PUNE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 950 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE, PUNE

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We are offering pediatric super-specialty services viz. Nephrology, Neurology-Epilepsy, Hemato-oncology, Endocrinology, Neonatology, High risk newborn clinic, Pediatric Infectious Diseases, Pediatric Genetics, Pediatric Rheumatology etc. The Department is running Fellowship Programs in Pediatric Critical Care, Neonatology, Pediatric Hemato-Oncology, Pediatric Infectious Diseases, Pediatric Rheumatology, Pediatric Endocrinology since last many years.

PEDIATRIC NEUROLOGY- EPILEPSY UNIT

The Pediatric Neurology- Epilepsy unit was established in 2004. The aim was to provide diagnostic and treatment modalities to children with seizures and other neurological disorders. Postgraduate courses in pediatrics fall short of capacity building in neurology and thus they do not have sufficient expertise in this field. Super-specialty courses available (DM Pediatric Neurology) are of three years duration and very few centers offer them.

Ours is one of the few centers in India to impart training in the field of Pediatric Neurology with a curriculum that covers the entire gamut of developmental, neurological and epileptic disorders in children. Video-EEG facility, Bedside EEG facility immensely help in evaluation and management of Status epilepticus and encephalopathic patients in PICU and NICU. Ketogenic Diet is being managed by trained dietician with rich experience. Under the umbrella of Bharati hospital, other services needed for such patients are provided in the same campus, including other co-specialties like Audiology and speech therapy, Child Guidance Clinic, Occupational and Physiotherapy, along with a dedicated social worker.

Since the clinic started, more than 7000 new patients have been registered. The faculties attached to the clinic have constantly endeavored to keep abreast with the latest knowledge and impart evidence based care to the children referred to us from all over Maharashtra. Every referred patient is thoroughly evaluated by detailed history taking, neurophysiological and neuroradiological (and if needed neurogenetic) evaluation followed by management offered at a very affordable price.

The unit also boasts of hosting several regional as well as national level pediatric neurology conferences / symposia on focused topics. The unit is also involved in several multicentre research projects at national and international level. Many of our projects have been published in reputed international peer reviewed journals, as well as have won awards for best papers at several national and International conferences. Thus, the unit boasts of strong foundation building in clinical care, academics and research aptitude amongst the students enrolling our fellowship programs.

The Neurology Chapter of **Indian Academy of Pediatrics** has accredited the unit to conduct the Fellowship in Pediatric Neurology from January 2013. Initially it was 1 year course, since 2017 onwards, the IAP Neurology Chapter has made it a 2 year course for better learning and completion of study projects, which was not possible in 1 year duration earlier. Twenty fellows have passed from the institute, all are doing well as child neurology practitioners, many of them have now occupied important positions in child neurology bodies of India.

DEPARTMENT OF PEDIATRICS

Dr. Sanjay K Lalwani, MD, DNB

Vice Principal,
Professor and Head

Dr. Vijay Kalrao, MD

Professor

PEDIATRIC NEUROLOGY UNIT FACULTY

Dr Surekha Rajadhyaksha (Chief),

MD, DCH

Professor

Consultant Pediatric Neurology Unit

Dr. Kavita Srivastava (CO-GUIDE),

MD, Fellowship in Pediatric Epilepsy

Professor

Incharge & Co-ordinator Fellowship Program

Dr. Umesh Kalane,

DNB Pediatrics,

Fellowship in Clinical Neuro-physiology and Pediatric Neurology

Dr. Brig. Sankar Prasad Gorthi,

MD (Medicine), DM (Neurology)

Dr. Suyog Doshi,

MD (Medicine), DM (Neurology)

Aims and Objectives of the Fellowship Program

The duration of course shall be for a period of one year.

Program Goals: To train a postgraduate fellow in Pediatric Epilepsy and Neurology

- ❑ To practice as a Consultant in Pediatric Epilepsy and Neurology equipped with appropriate knowledge and skills necessary to care for the child with various types of acute and chronic seizure disorders.
- ❑ To practice Pediatric Epilepsy and Neurology in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- ❑ Understand how to diagnose and manage epileptic and neurological disorders, which generally do not need referral.
- ❑ Understand how to diagnose and initiate management of epileptic and neurological disorders which generally need referral.
- ❑ Understand the presentation and prognosis of various types of epilepsies and neurological disorders in children and adolescents.
- ❑ Understand the appropriate methods of diagnosis and management of a child with these disorders.
- ❑ Understand the indications and complications related to the use of various drugs.
- ❑ Understand the pediatrician's role in the prevention of neurological disorders.
- ❑ To gain an insight into various other overlapping neurological disorders
- ❑ Problems encountered in the management of epileptic and neurological disorders.

Program objectives:

The objectives to be fulfilled at the completion of the course are:

Knowledge:

- Describe, identify and monitor normal patterns of development, which occur in the neonate, infant, child and the adolescent.
- Describe etio-pathogenesis, principles of clinical diagnosis, investigations and treatment of diseases of Nervous System in childhood.
- Demonstrate an understanding of Basic (Pre and Para clinical) Sciences and its application to the normal and abnormal processes, with reference to the nervous system in children.
- Analyze clinical and investigation data approach and manage the epileptic manifestations of the nervous system in children.
- Identify and understand socio-economic, environmental and cultural factors in healthcare in diseases of the nervous system in children.

Skills: Clinical

- Elicit an appropriate clinical history.
- Demonstrate appropriate clinical and physical and neurological examination skills on children to identify motor and mental age as well as co-morbidities requiring intervention.
- Plan, decide upon and interpret appropriate cost effective investigations.
- To be able to do an EEG independently along with interpretation for management of epileptic disorders, including neonatal, video and bedside EEG.
- To be able to do EMG, NCV, VEP independently along with interpretation for management of neuromuscular and vision disorders.

Skills: Technical

- Electro-encephalography, Video-EEG, bedside EEG in NICU and PICU.
- Basic knowledge of EMG, Nerve Conduction Velocities, BAER and VER.
- Be able to do and interpret CSF examination, including advanced studies.
- Be able to interpret a Cranial USG, CT Scan, MRI Brain , etc
- A working knowledge of the various molecular and cytogenetic methods e.g., Genetics, PCR, Thrombo-philia profile, Metabolic workup etc. and its application to Epilepsy and Neurology.

Communication and Attitudes:

- Communicate appropriately with guardians and children, assisting in their health care and decision-making.
- Practice child health care at the highest ethical level, protecting the child at all costs.
- Apply the highest level of ethics in Research, publication Reference and Practice of Pediatrics.

LOGBOOK FOR

IAP FELLOWSHIP IN

PEDIATRIC NEUROLOGY



IAP (Indian Academy of Pediatrics) Fellowship in Pediatric Neurology

**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY**

PUNE (INDIA)

Grade 'A+' Accreditation by NAAC

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

.....

4. Name of the Guide

5. Name of the Head of the Department

.....

Signature of the Co-Guide

Dr. Kavita Srivastava

Date.....

.....

Signature of the Guide

Prof. Surekha Rajadhyaksha

Date.....

.....

Signature of the Head of the Department,

Prof. Sanjay Lalwani

Department of Pediatrics,

Bharati Vidyapeeth Deemed To Be University Medical College, Pune

General Rules and Regulations

Eligibility:

- i. Candidates should be MD/ DNB with work experience in Pediatric Neurology
- ii. Age not over 35 years

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination. The fellow is not permitted for any festival vacation.

Books and study materials: All assistance is available for library facilities e.g. preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows.

The books have been kept in the Neurology clinic itself for easy access and are available for reference on request and making the necessary entry in outward register. The fellows are expected to take due care of the reference textbooks or journals and return them in time. Few of the books are available in the Central library also.

Core Curriculum for IAP Fellowship in Pediatric Neurology

CURRICULUM STRUCTURE

1. **Basic Neurology:** Neuro-anatomy, Neuro-pathology, Neuro-pharmacology
2. **Neuro-Physiology:** EEG, EMG, NCV, Evoked Potentials.
3. **Clinical Neurology-** General aspects of neurological history. Neurological examination of neonate, infant, older child and adolescent, OPD, Inpatient, Critical Care,
4. **Co-Speciality** clinics like Child Guidance Clinic, Audiology, Speech Therapy, Ophthalmology, Rehabilitation.
5. **Neuro-Diagnostics: Lab Evaluation** Pediatric and Neonatal EEG and Evoked potentials, EMG, NCV, Spinal fluid examination, Neuro-USG, CT Scan, MRI, MRA, MRS, Genetic, Metabolic tests, Thrombotic Profile, Nerve and muscle biopsy etc.

Acquisition of practical competence is the keystone of fellow's medical education. The learning should essentially be self-directed and emanating from clinical and academic work.

A candidate has to cater to the hospitalized inpatient in the wards everyday besides looking after outpatients in the various OPDs like Epilepsy, Audiology, Physiotherapy and Child Guidance Clinic so that they develop a complete understanding of entire spectrum and natural course of the disorders .

The fellows will primarily be posted in Neurology OPD where the major part of learning will take place through clinical case discussions, didactic lectures, grand rounds, seminars, journal clubs etc. along with rotational postings in the other sub-specialties relevant to the field of Pediatric Epilepsy.

Continued emphasis on scholarship and learning is essential for development and maturation of the fellow into the field of child epilepsy. To optimize time, concurrent training agendas have been planned.

It is mandatory to use electronic data management systems, The trainee is expected to be conversant with the use of computer and network to enhance learning and storage and recovery of data. The early clinical assignments will be based on direct patient responsibility for a limited number of patients. Subsequent assignments will place the fellow in a position of taking increased responsibility for patients in a liaison relationship with the faculty staff. In case of extramural referral, the referring doctors should be communicated about the child's investigations and the tentative treatment plan.

Final Examination:

At the end of your tenure, Indian Academy of Pediatrics, Neurology chapter would conduct the final examination, usually in the month of April.

Log Book

During his / her training, the candidate should maintain the Log Book.

The purpose of the Log Book is to:

- a) Help to maintain a record of the work done during training.
- b) Enable the consultant to have first hand information about the work done and to intervene whenever necessary.
- c) Use it to assess the clinical experience gained periodically.

Records should include:

1. Recording of Pediatric, Bedside and neonatal EEG/ EMG/NCV/VEP done by him/her.
2. Supervised and independent interpretation of EEG/EMG/NCV/VEP done by him/her.
3. The diagnosis and classification of various epilepsies and epileptic syndromes and other neurological disorders with rational use of available therapies- the cases that are following up in the Pediatric epilepsy clinic on fixed days.
4. Case presentations , Grand rounds, Guest Lectures, Journal clubs and Seminars.
5. Duration and work done in postings in other specialties like Neuro-physiology (EMG-NCV), Audiology & Speech Pathology, Child Guidance Clinic, Neuro-Radiology, Neuro-anatomy etc.
6. Any CME/ workshop/ conference (related to the specialty) attended
7. Protocol writing, mid-term and final presentation on the assigned thesis or project work.

The entries in the Log Book should be made on a “daily basis” and should be signed by the faculty every month.

Tentative Timelines for IAP Fellowship in Pediatric Neurology

1st – 4th month : Orientation to the Neurology clinic, Electrophysiology Basics

Neuro-anatomy lectures

Allocation of thesis topic

Didactic lectures- EEG

Types of seizures in children

5th-8th month :

Neuro-Radiology

Types of epileptic syndromes in children

Case Discussions, Seminars

Classification of Epilepsy cases with

Supervised interpretation of EEGs, Performing independent EEG

Performing and interpreting EMG/NCV/VEP.

9th-12th month:

Child Guidance Clinic

Case discussions, Seminars, Journal and Drug reviews

Classification of Epilepsy cases with

Supervised interpretation of EEGs (100/ month)

Performing independent EEG (4 Pediatric, 2 neonatal)

Performing and interpreting EMG/NCV/VEP.

13th-16th month:

Audiology and Speech therapy

Neuro-ophthalmology, Neurosurgery

Mid-term Thesis presentation

Rest same as previous month

17th-20th month:

Neuro-rehabilitation (OT/PT/High risk Clinic)

20th-22nd month: Thesis submission

1. Daily activities include ward rounds of neurology patients, bedside EEG reading for PICU/NICU patients, discussion of neuroimaging with radiologists, informing updates of patients regularly.

2. The candidate is required to make e-folders (including history, investigations, photos/videos etc) for all interesting neurological patients.

3. He/she will have to contribute to data entry of the OPD, IPD patients on daily basis.

4. He/she will present cases of interest at Neuromeets, Pune on 3rd Saturday of every month.

Syllabus : covered through case discussions / seminars

1. Neurology Syllabus:

1. Mental retardation, Learning disabilities, ADHD, PDD
2. Gait and movement disorders
3. Cerebral palsy, Speech and language disorders
4. Headache, Migraine
5. Congenital malformations of brain and spine, Hydrocephalus
6. Genetic and chromosomal disorders
7. Encephalopathy/ Coma, Increased Intracranial tension
8. Inborn errors of Metabolism
9. Infections of the nervous system
10. Cerebro-vascular disorders
11. HIE in newborn
12. Traumatic brain injury
13. Determination of brain death in children
14. Grey and white matter degeneration
15. Neuro-cutaneous Disorders
16. Floppy infant

2. Epilepsy Syllabus:

1. Types of seizures, Acute symptomatic seizures
2. Neonatal seizures, Febrile seizures
3. Epilepsies and epileptic syndromes at various ages
4. Approach to management and counseling
5. Role of investigations – EEG, Neuro-imaging, others
6. Pharmacologic therapy, Other modalities of therapy in refractory epilepsy
7. Non-epileptic equivalents
8. Status epilepticus
9. Epidemiology and genetics of epilepsy

3. Neurophysiology Syllabus: (EEG/EMG/NCV/VEP)

1. Technical basics – Amplifiers, Voltage, Time, Space, References, Filters, Electrodes, Localization principles, Montages, Artifacts, Activation procedures.
2. Normal patterns as per age
3. Normal Variants, Abnormal patterns
4. How to read and report , Components of a report
5. Correlation of findings with the disease.

4. Exposure to the following co-specialties:

1. **Audiology** - including OAE, Audiometry, BERA and speech therapy
2. **Child Guidance Clinic**- DQ/IQ, identification and management of various behavioral disorders, learning disabilities, autism etc.
3. **Neuro-physiology** (EMG/NCV/ VEP/ SSEP) –procedure and application
4. Principles of **rehabilitation** (OT/PT)
5. **Neuro-anatomy** – Dissection of brain and spinal cord, vasculature etc.
6. **Neuro-radiology**- Basic principles and application of MRI,MRA, CT, DSA, MRS, PET etc.
7. **Genetics** –application to neurology

Grading and Evaluation of Performance- key indicators:

The grades will be entered by the guide every 03 months for the following –

1. Level of Neurophysiology performance and reporting
2. Level of understanding of neurological disorders in children
3. Level of case discussions, Seminars, Journal and Drug reviews
4. Progress of thesis work

These grades will be entered in the prescribed format as given in the following pages.

Grading of Neurophysiology :

Period	EEG	EMG/NCV/VEP	Supervised/ independent	Report & Interpretation	Grade with remarks
May 2023- September 2023					
October 2023- February 2024					
March 2024- July 2024					
August 2024- December 2024					
January 2025-May 2025					

Grading of EEG Training (Reporting) levels

Level 1:

If the trainee has achieved the following goals –

- # Understand the physiological basis of EEG potentials and waveforms
- # Understand the technology of EEG recording
- # Aware of the ontogeny of EEG between infancy and adolescence
- # Able to interpret an EEG in the clinical context
- # Aware of the role and limitations of EEG in Epilepsy
- # Aware of normal and abnormal EEG

Level 2:

In addition to level 1, the trainee has achieved the following goals –

- # Able to read and interpret EEG studies in infants and children
- # Able to independently identify the various EEG phenomena mentioned
- # Able to report and interpret EEG findings in clinical context
- # Correctly localize focal epileptiform discharges and slow activity
- # Able to supervise a technician for a private practice

Level 3:

In addition to Level 2, the trainee has achieved the following goals –

- # Able to interpret Video – EEG studies
- # Able to interpret Bedside EEG studies
- # Able to interpret Neonatal EEGs according to the gestational age

Grading of Progress of Thesis Work

(Monthly after allocation of thesis topic)

Grades: Satisfactory, Unsatisfactory.

Date	Progress	Level of work
May 2023	Allocation of thesis topic and submission to college Ethics Committee	
November 2023	Data collection	
May 2024	Data analysis, Discussion	
November 2024	Submission	

Co-specialties:

Neuro-anatomy

Neuro-Radiology

Audiology & Speech therapy

Child Development and Guidance

Child Psychiatry

EMG/ NCV /VEP Clinic

Rehabilitation/ High Risk Clinic

Neuro-ophthalmology

Neuro-surgery

Other Co-specialty/ Guest lectures

Date	Topic	Faculty
	Neuro-endocrine	
	Neuro-oncology	
	Nuclear medicine	

Details of Paper/ Poster presentations:

Date, Venue	Conference/ CME	Paper/ Poster presented- Title

Evaluation Form : Seminars

	1	2	3	4	5
Date					
Seminar Topic					
Understanding of subject					
Completeness of preparation					
Cogency of presentation					
Consulted all relevant literature					
Ability to answer questions:					
Overall performance.					
Faculty who assessed					
Mean Score:					

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Evaluation Form : Seminars

Date					
Seminar Topic					
Understanding of subject					
Completeness of preparation					
Cogency of presentation					
Consulted all relevant literature					
Ability to answer questions:					
Overall performance.					
Faculty who assessed					
Mean Score:					

Evaluation Form : Seminars

Date					
Seminar Topic					
Understanding of subject					
Completeness of preparation					
Cogency of presentation					
Consulted all relevant literature					
Ability to answer questions:					
Overall performance.					
Faculty who assessed					
Mean Score:					

Evaluation Form : Seminars

Date					
Seminar Topic					
Understanding of subject					
Completeness of preparation					
Cogency of presentation					
Consulted all relevant literature					
Ability to answer questions:					
Overall performance.					
Faculty who assessed					
Mean Score:					

Evaluation Form : Seminars

Date					
Seminar Topic					
Understanding of subject					
Completeness of preparation					
Cogency of presentation					
Consulted all relevant literature					
Ability to answer questions:					
Overall performance.					
Faculty who assessed					
Mean Score:					

Case Presentations

	1	2	3	4	5
Date					
Case presented					
Logical order in presentation					
Relevant history					
Accuracy of General Physical Examination					
Accuracy of Systemic Examination					
Diagnosis – Logical flow based on History & findings					
Order of differential diagnosis (logical)					
Investigations suggested: order, Interpretation					
Treatment: Principles & details					
Patient/Relatives communication					
Abilities to defend diagnosis					
Ability to justify differential diagnosis					
Acceptability of plan of management					
Mean Score					
Faculty sign:					
1					
2					
3					

Guidance for Scoring

0	1	2	3	4

Poor	Below average	Average	Above average	Very Good

Case Presentations

	6	7	8	9	10
Date					
Case presented					
Logical order in presentation					
Relevant history					
Accuracy of General Physical Examination					
Accuracy of Systemic Examination					
Diagnosis – Logical flow based on History & findings					
Order of differential diagnosis (logical)					
Investigations suggested: order, Interpretation					
Treatment: Principles & details					
Patient/Relatives communication					
Abilities to defend diagnosis					
Ability to justify differential diagnosis					
Acceptability of plan of management					
Mean Score					
Faculty sign: 1 2 3					

Guidance for Scoring

0 1 2 3 4

Poor Below average Average Above average Very Good

Case Presentations

11

12

13

14

15

Date					
Case presented					
Logical order in presentation					
Relevant history					
Accuracy of General Physical Examination					
Accuracy of Systemic Examination					
Diagnosis – Logical flow based on History & findings					
Order of differential diagnosis (logical)					
Investigations suggested: order, Interpretation					
Treatment: Principles & details					
Patient/Relatives communication					
Abilities to defend diagnosis					
Ability to justify differential diagnosis					
Acceptability of plan of management					
Mean Score					
Faculty sign:					
1					
2					
3					

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Case Presentations

16

17

18

19

20

Date					
Case presented					
Logical order in presentation					
Relevant history					
Accuracy of General Physical Examination					
Accuracy of Systemic Examination					
Diagnosis – Logical flow based on History & findings					
Order of differential diagnosis (logical)					
Investigations suggested: order, Interpretation					
Treatment: Principles & details					
Patient/Relatives communication					
Abilities to defend diagnosis					
Ability to justify differential diagnosis					
Acceptability of plan of management					
Mean Score					
Faculty sign:					
1					
2					
3					

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Case Presentations

	21	22	23	24	25
Date					
Case presented					
Logical order in presentation					
Relevant history					
Accuracy of General Physical Examination					
Accuracy of Systemic Examination					
Diagnosis – Logical flow based on History & findings					
Order of differential diagnosis (logical)					
Investigations suggested: order, Interpretation					
Treatment: Principles & details					
Patient/Relatives communication					
Abilities to defend diagnosis					
Ability to justify differential diagnosis					
Acceptability of plan of management					
Mean Score					
Faculty sign:					
1					
2					
3					

Guidance for Scoring

0 1 2 3 4

Poor Below average Average Above average Very Good

Journal Club- Attended/ Presented

1

2.

3.

Date			
Article Title			
Journal:			
Impact factor/ citation :			
Choice of article relevant			
Cogency of presentation			
Whether understood and conveyed the purpose of the article			
How did he / she defend article			
Whether cross references have seen consulted			
Understood explained basics of statistic in article			
Whether relevant information mentioned from other similar articles			
Use of audio visual aids			
Presentation			
Response to questioning			
Faculty sign: 1. 2 3.			
Mean Score:			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Journal Club- Attended/ Presented

4

5.

6.

Date			
Article presented			
Journal:			
Impact factor/ citation :			
Choice of article relevant			
Cogency of presentation			
Whether understood and conveyed the purpose of the article			
How did he / she defend article			
Whether cross references have seen consulted			
Understood explained basics of statistic in article			
Whether relevant information mentioned from other similar articles			
Use of audio visual aids			
Presentation			
Response to questioning			
Faculty sign: 1. 2 3.			
Mean Score:			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Journal Club- Attended/ Presented

7

8.

9.

Date			
Article presented			
Journal:			
Impact factor/ citation :			
Choice of article relevant			
Cogency of presentation			
Whether understood and conveyed the purpose of the article			
How did he / she defend article			
Whether cross references have seen consulted			
Understood explained basics of statistic in article			
Whether relevant information mentioned from other similar articles			
Use of audio visual aids			
Presentation			
Response to questioning			
Faculty sign: 1. 2 3.			
Mean Score:			

Guidance for Scoring

0

1

2

3

4

Poor Below average Average Above average Very Good

Half yearly review (April 2023 to September 2023)

Points to be considered:

1. Punctuality/ Attendance :
2. Professionalism/ Ethical behavior:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Bedside manners/ rapport with patients:
6. Team building with colleagues:
7. UG and PG teaching:
8. Counseling patient's relatives:
9. Management of emergencies:
10. Completion of research related activities:
11. Efforts for self directed learning
12. Quality of work- clinical, research

Guidance for Scoring	0	1	2	3	4

	Poor	Below average	Average	Above average	Very Good

.....

Signature of the Co-Guide

Dr. Kavita Srivastava

Date.....

.....

Signature of the Guide

Prof. Surekha Rajadhyaksha

Date.....

Half yearly review (October 2023 – April 2024)

Points to be considered:

1. Punctuality/ Attendance :
2. Professionalism/ Ethical behavior:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Bedside manners/ rapport with patients:
6. Team building with colleagues:
7. UG and PG teaching:
8. Counseling patient’s relatives:
9. Management of emergencies:
10. Completion of research related activities:
11. Efforts for self directed learning
12. Quality of work- clinical, research

Guidance for Scoring	0	1	2	3	4

	Poor	Below average	Average	Above average	Very Good

.....

Signature of the Co-Guide
Dr. Kavita Srivastava

Date.....

.....

Signature of the Guide
Prof. Surekha Rajadhyaksha

Date.....

Half yearly review (May 2024 – November 2024)

Points to be considered:

1. Punctuality/ Attendance :
2. Professionalism/ Ethical behavior:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Bedside manners/ rapport with patients:
6. Team building with colleagues:
7. UG and PG teaching:
8. Counseling patient's relatives:
9. Management of emergencies:
10. Completion of research related activities:
11. Efforts for self directed learning
12. Quality of work- clinical, research

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

.....

Signature of the Co-Guide

Dr. Kavita Srivastava

Date.....

.....

Signature of the Guide

Prof. Surekha Rajadhyaksha

Date.....

Half yearly review (December 2024 – April 2025)

Points to be considered:

1. Punctuality/ Attendance :
2. Professionalism/ Ethical behavior:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Bedside manners/ rapport with patients:
6. Team building with colleagues:
7. UG and PG teaching:
8. Counseling patient's relatives:
9. Management of emergencies:
10. Completion of research related activities:
11. Efforts for self directed learning
12. Quality of work- clinical, research

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

.....

Signature of the Co-Guide

Dr. Kavita Srivastava

Date.....

.....

Signature of the Guide

Prof. Surekha Rajadhyaksha

Date.....

Overall Grading at the end of the Term:

Date:

1. Level of Neurophysiology Performance-

.....

2. Level of Neurophysiology

Reporting.....

3. Understanding of childhood neurological disorders

4. Understanding of co-specialties

5. Academic presentations.....

6. Personal attributes (sincerity, commitment etc.).....

7. Research project

Signatures:

.....

Dr. Kavita Srivastava (CO- GUIDE),

MD, Fellowship in Pediatric Epilepsy

Associate Professor

Coordinator Incharge Fellowship Program

.....

Dr (Prof). Surekha Rajadhyaksha (GUIDE),

MD, DCH

Director, Pediatric Neurology Unit

.....

Dr. (Prof.) Sanjay K Lalwani

Vice Principal, Medical Director

Professor and Head

Department of Pediatrics

.....



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE,
PUNE**



**CHILD DEVELOPMENT & GUIDANCE CENTRE(CDGC)
DEPARTMENT OF PEDIATRICS**



**IAP FELLOWSHIP IN DEVELOPMENTAL & BEHAVIORAL PEDIATRICS
2023 - 2024**

CONTENTS

1. Overview of Bharati Vidyapeeth Deemed to be University, BVDU Medical College
2. Highlights of the Department of Pediatrics and Child Development and Guidance Clinic
3. Aims and Objectives of the course
4. General rules and regulations
5. Curriculum and Syllabus
6. Academic schedule
7. Overview of the Logbook
8. Grading and Evaluation

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of Deemed University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

**BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)
MEDICAL COLLEGE, PUNE**

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 950 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE, Pune

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 90 bedded ward including pediatric surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric super-specialty services viz. Nephrology, Neurology-Epilepsy, Hemato-oncology, Endocrinology, Neonatology, HIV, Developmental & Behavioral Pediatrics, Pediatric Infectious diseases, Pediatric Pulmonology, High risk newborn clinic gastroenterology, cardiology and genetics. The Department is running Fellowship Program in most of the above pediatric subspecialties.

CHILD DEVELOPMENT & GUIDANCE CENTRE (CDGC)

Commented [U1]: centre

The Child Development & Guidance Clinic was established in 2007. The aim was to provide diagnostic and treatment modalities to children with developmental and other behavioral problems. The clinic caters to children with developmental, behavioral, emotional, scholastic problems. Every referred patient is thoroughly evaluated by detailed history taking, evaluation by the Developmental Pediatrician. Detailed assessments as required in the form of IQ, Psychoeducational work up, psychometric assessments are done with detailed printed reports. Management in the form of individualized multidisciplinary therapy plans with goals are formulated and monitored by the Developmental Pediatrician. Along with visiting Psychiatrists there is a full time team of Psychologists, Physiotherapists, Occupational therapists. There is a college of Audiology and Speech-Language pathology in the campus working in close association with the CDGC with its satellite audiology and speech clinics in the pediatric OPD. Other specialties like Pediatric Orthopedics, Pediatric Ophthalmology, Pediatric Neurology-Epilepsy, Genetics are available in the Bharati hospital premises.

Since the clinic started, approximately 10000 new patients have been registered. Monthly around 1100-1200 sessions of patients are done in the CDGC unit.

Commented [U2]: 10000

There is limited available specialization at present in India in this field. There is also a lack of knowledge of these disorders in the undergraduate and postgraduate study syllabus taught in Pediatrics. There is an ever increasing burden of childhood disability with an urgent need for early diagnosis, early intervention and rehabilitation services in our country. This fellowship hopes to make a humble contribution by imparting training to pediatricians in this field thus increasing centers working in this field.

Commented [U3]: limited

FACULTY FOR THE COURSE

Dr. S K Lalwani, MD, DNB
Clinical director of fellowship
Vice Principal,
Professor
Department of Pediatrics

Dr. VIJAY. R. KALRAO, MD
Mentor
Professor and Head
Department of Pediatrics

DR LEENA SRIVASTAVA
PGD-DN, Fellowship in Pediatric Epilepsy & Neurology
IAP Hon Fellowship in Childhood Disability & Early intervention
Developmental and Behavioral Pediatrician
Guide
In charge Child Development & Guidance Centre

Commented [U4]: Add M.A. Psychology

Commented [U5]: Developmental and Behavioral Pediatrician

Commented [U6]: In-charge, Child Development and Guidance Centre,

Aims and Objectives of the Fellowship Program

The duration of course shall be for a period of one year.

Program Goals: To train a postgraduate fellow in Developmental & Behavioral Pediatrics.

- To practice as a Consultant in Developmental & Behavioral Pediatrics equipped with appropriate knowledge and skills necessary to care for the child with various types of Developmental disorders.
- To practice Developmental & Behavioral Pediatrics in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- Understand how to diagnose and manage developmental & behavioral disorders, which generally do not need referral.
- Understand how to diagnose and initiate management of developmental & behavioral disorders which generally need referral.
- Understand the presentation and prognosis of various types of developmental & behavioral disorders in children and adolescents.
- Understand the appropriate methods of diagnosis and management of a child with these disorders.
- Understand the indications and complications related to the use of various drugs.
- Understand the pediatrician's role in the prevention of developmental disorders.
- To gain an insight into various other overlapping neurological disorders
- Problems encountered in the management of developmental & behavioral disorders.

Program objectives

The objectives to be fulfilled at the completion of the course are:

Knowledge:

- Describe, identify and monitor normal patterns of development, which occur in the neonate, infant, child and the adolescent.
- Describe etio-pathogenesis, principles of clinical diagnosis, investigations and treatment of developmental disorders in childhood.
- Demonstrate an understanding of Basic (Pre and Para clinical) Sciences and its application to the normal and abnormal processes, with reference to the nervous system in children.
- Analyze clinical and investigation data approach and manage the behavioral manifestations of the developmental disorders in children.
- Identify and understand socio-economic, environmental and cultural factors in healthcare in developmental diseases in children.

Skills: Clinical

- Elicit an appropriate clinical history.
- Demonstrate appropriate clinical and physical and neurological examination skills on children to identify motor and mental age as well as co-morbidities requiring intervention.
- Plan, decide upon and interpret appropriate cost effective investigations.
- To be able to do a DQ independently along with interpretation for management of developmental disorders.
- To be able to interpret IQ & other basic psychometric tests for management of developmental & behavioral disorders.

Skills: Technical

- Be able to administer basic Development screening & assessment tools.
- Be able to interpret basic Psychoeducational & Psychometric tests, Audiology and Speech language reports.
- Be able to plan Individualized therapy and intervention plan for all developmental & behavioral disorders.
- Be able to give behavioral management to childhood behavioral disorders.
- Be able to counsel parents & caregivers about the diagnosis, intervention and prognosis in developmental disorders.
- Be able to interpret a Cranial USG, CT Scan, MRI Brain , etc
- A working knowledge of the various molecular and cytogenetic methods e.g., Genetics, PCR, Metabolic workup etc. and its application to Developmental Pediatrics.

Communication and Attitudes:

- Communicate appropriately with guardians and children, assisting in their health care and decision-making.
- Practice child health care at the highest ethical level, protecting the child at all costs.
- Apply the highest level of ethics in Research, publication Reference and Practice of Pediatrics.

LOGBOOK FOR
IAP FELLOWSHIP
IN
DEVELOPMENTAL
&
BEHAVIORAL PEDIATRICS



BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

PUNE (INDIA)
Grade 'A+' Re-Accreditation by NAAC

Competency Framework for Sub-Specialty
Fellowship Training in Developmental & Behavioral Pediatrics
[Document valid until September 2024]

Personal Details

- 1. Name (in full)
- 2. Date of Joining
- 3. Name of the Institute
-
- 4. Name of the Guide
- 5. Name of the Head of the Department

.....
Signature of the Candidate
Date.....

.....
Signature of the Guide
Date.....

General Rules and Regulations

Eligibility:

- i. Candidates should be MD/ DNB or DCH
- ii. Age preferably not over 35 years

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Monday to Saturday as per schedule. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination. The fellow is not permitted for any festival vacation.

Books and study materials: All assistance is available for library facilities e.g. preparation of study materials and references for the smooth conduction of the course and for preparation of the assignments by the clinical fellows.

The books have been kept in the department of pediatrics itself for easy access and are available for reference on request and making the necessary entry in outward register. The fellows are expected to take due care of the reference textbooks or journals and return them in time. Few of the books are available in the Central library also.

CORE ROTATION

• Psychology

The goal of the Clinical Child Psychology Rotation is to expand the Developmental Behavioral Fellow's skills in dealing with a wide range of clinical child problems. This involves assessment and treatment of problems such as Attention-Deficit/Hyperactivity Disorder; Oppositional Defiant Disorder; learning disabilities; Dyslexia and other academic problems; nonverbal learning disabilities; Autistic Spectrum Disorders; psychological aspects of medical disorders including neurological problems; anxiety disorders; Depression, Post Traumatic Stress Disorder; and other less frequent clinical child problems.

• Psychiatry

During this rotation, the fellow gains experience in the interviewing, assessment and treatment (including psychopharmacology) of children with psychiatric concerns encompassed by the internalizing and externalizing conditions. The fellow gains exposure to assessment of children with complex issues such as substance abuse and gender identity concerns and those requiring inpatient pediatric psychiatric facilities through consultation of inpatients who are medically unstable after suicide attempt.

Principles of Psychiatry for Developmental Behavioral Pediatrics Seminar

This weekly psychiatry skills seminar provides residents with technical supervision as they acquire clinical skills critical in developmental behavioral pediatrics, such as

1. diagnostic interviewing,
2. generating differential diagnoses and
3. parent/child guidance training.

The course trains residents to identify and treat psychiatric disorders including

1. mood disorders,
2. anxiety disorders,
3. eating disorders,
4. psychotic disorders,
5. disruptive behavior and
6. conduct disorders.

Fellows learn about therapeutic modalities including

1. play therapy,
2. cognitive-behavioral therapy and
3. psychopharmacology

- **Psychopharmacology in Developmental Disabilities**

During this rotation, the fellow gains experience in the ongoing psychopharmacologic treatment of individuals with developmental disabilities (young childhood through adolescence) who have comorbidities of internalizing, externalizing and attention concerns. The fellow gains exposure to treatment of children who require complex medication regimens.

- **Occupational Therapy/Physical Therapy/Speech & Language Therapy**

Professionals from OT, PT and Speech and Language work directly with the Developmental Behavioral Fellow in multi-disciplinary team experiences throughout the year. The fellow also has direct rotations in OT, PT and Speech and Language, which occur quite early in training.

These allied health professionals teach the fellows (during the rotations, team experiences and through specific didactics) assessment and treatment from their perspective, allowing the fellow to become more adept at recognizing typical and atypical development and to improve their skills in these areas. The fellow becomes acquainted with these individuals, which facilitates communication over the course of the fellowship regarding specific patients. Also, this allows the fellow an opportunity to understand the role that therapists have with our families.

- **Neonatal Follow-up**

During this rotation, the fellow has the opportunity to observe the effects of prematurity and other high-risk neonatal follow up.

- **Journal Club**

Bimonthly review of a recent publication in developmental-behavioral pediatrics.

OTHER ROTATIONS

- **Clinical child neurology**

This rotation is designed to provide the Developmental Behavioral Fellow with a background in pediatric neurology. This will allow the fellow to have a better understanding of the neurologic basis of developmental and behavioral issues and a working knowledge of appropriate referral to our neurology colleagues. Structured blocks include, but are not limited to outpatient child neurology and epilepsy services

- **Genetic clinic**

During this rotation, the fellow will work closely with the Genetics Faculty to gain expertise in dysmorphology, metabolic disorders and chromosomal disorders. The fellow will also gain experience in the biologic underpinnings of a wide range of neurological, developmental and behavioral issues.

- **Clinical and basic sciences**

Understanding the anatomical basis of development of brain and its function, neuroradiology and interpretation.

- **Biostatistics Course**

Bimonthly one-and-a-half hour didactic and discussion session for fellows in all fellowship programs

Research program

Fellows will work directly with a research mentor to develop and implement their research projects, and submit for publication or present their research in a conference either as a free paper/ Poster before appearing for their fellowship examination.

DAILY DUTIES

Acquisition of practical competence is the keystone of fellow's medical education. The learning should essentially be self-directed and emanating from clinical and academic work.

A candidate has to cater to the everyday outpatients in the various OPDs like CDGC, Psychology, Audiology, Speech, Physiotherapy so that they develop a complete understanding of entire spectrum and natural course of the disorders.

The fellows will primarily be posted in CDGC OPD where the major part of learning will take place through clinical case discussions, didactic lectures, seminars, journal clubs etc. along with rotational postings in the other sub-specialties relevant to the field of Developmental Pediatrics.

It is mandatory to use electronic data management systems, The trainee is expected to be conversant with the use of computer and network to enhance learning and storage and recovery of data. The early clinical assignments will be based on direct patient responsibility for a limited number of patients. Subsequent assignments will place the fellow in a position of taking increased responsibility for patients in a liaison relationship with the faculty staff. In case of extramural referral, the referring doctors should be communicated about the child's investigations and the tentative treatment plan

1. The candidate is required to make e-folders (including history, investigations, photos/videos etc) for all interesting developmental patients.
2. He/she will have to contribute to data entry of the OPD patients on daily basis.
3. He/she will present cases of interest

Continued emphasis on scholarship and learning is essential for development and maturation of the fellow into the field of developmental pediatrics. To optimize time, concurrent training agendas have been planned.

Recommended reading

1. AAP Textbook of Developmental and Behavioral Pediatrics
Authors Robert G. Voight, Michelle M. Macias, Scott M. Myers
2. Developmental-Behavioral Pediatrics
Authors William B. Carey MD (Author), Allen C. Crocker MD
3. Introduction to Psychology by Morgan & King
4. Developmental Psychology by Elizabeth Hurlock
5. The High Risk Newborn by MKC Nair and Naveen Jain.
6. IAP Handbook of Developmental-Behavioral Pediatrics

Commented [U7]: ADD

Log Book

During his / her training, the candidate should maintain the Log Book.

The purpose of the Log Book is to:

- a) Help to maintain a record of the work done during training.
- b) Enable the consultant to have first hand information about the work done and to intervene whenever necessary.
- c) Use it to assess the clinical experience gained periodically.

Records should include:

1. Recording of Pediatric history taking, developmental screening & assessment done by him/her.
2. Supervised and independent interpretation of DQ/IQ/basic psychometric tests done by him/her.
3. The diagnosis and classification of various developmental & behavioral disorders with rational use of available therapies- the cases that are following up in the CDGC clinic on fixed days.
4. Case presentations, Guest Lectures, Seminars and Journal clubs.
5. Duration and work done in postings in other specialties like Psychology, Psychiatry, Audiology & Speech Pathology, Pediatric Neurology, High risk follow up clinic, Neuro-Radiology, Neuro-anatomy etc.
7. Any CME/ workshop/ conference (related to the specialty) attended

The entries in the Log Book should be made on a “daily basis” and should be signed by the faculty every month. Prior to the final examination the logbook should also have to be certified by the Head of the Department of Pediatrics.

LOG BOOK

12 pages

YEAR: _____ MONTH: _____

- 1. Total cases (New and f/u) : _____
 - 2. Interesting cases : _____
- _____
- _____
- _____
- _____

- 1. Assessments seen/done
- 2. Counseling sessions seen/done

Teaching:

- 1. Seminars : _____
- 2. Case Studies : _____
- 3. Lectures : _____
- 4. Journal Club : _____

Signature of Faculty

2 pages

Grading of DQ assessment:

Case no.	Date	Rapport Building	Administering test	Report
1				
2				
3				
4				
5				
6				
7				

Postings in Co-specialties:

Audiology & Speech language pathology

Rehabilitation

High Risk Clinic

Child Psychology

Child Psychiatry

Neurology

Adolescent Pediatrics

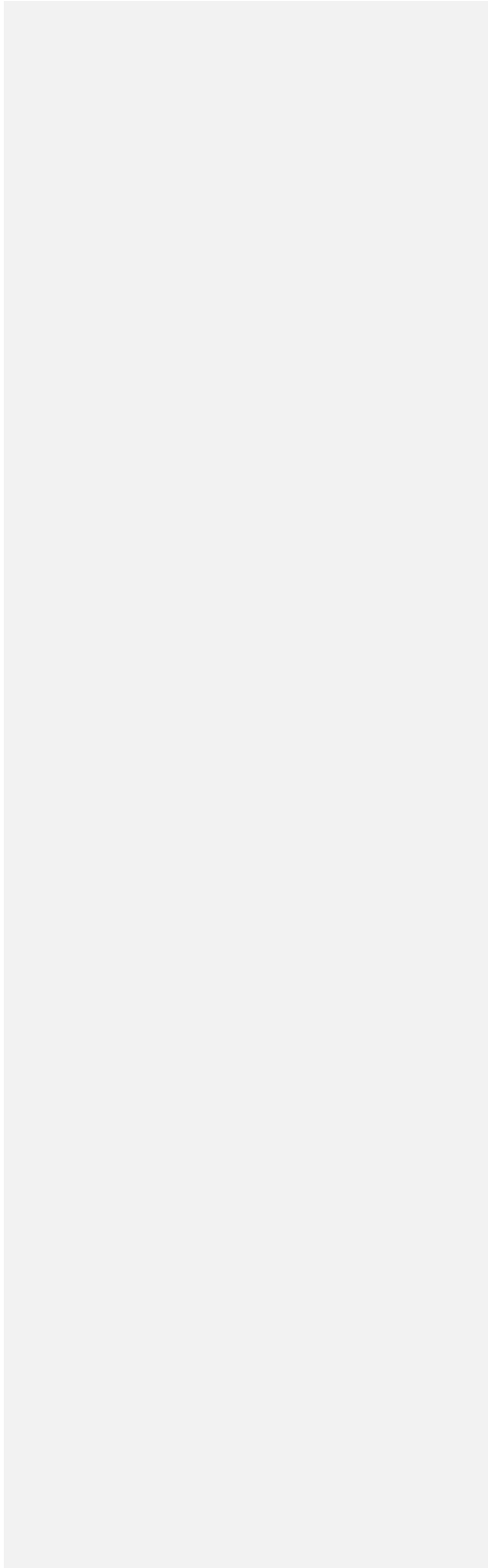
Genetics

Commented [U8]: Make following one page index pages for each of these headings

Specialty Posting: 7. High Risk clinic

From:.....to

Date	Activity	Faculty



15 pages

Evaluation Forms

Seminars

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Cogency of presentation:
4. Use of audiovisual aids.
5. Understanding of subjects:
6. Ability to answer questions:
7. Time scheduling:
8. Consulted all relevant literature:
9. Overall performance.

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

Mean Score:

5 cases

Case Presentation

Date:

Case Title:

1. Logical order in presentation:
2. Cogency of presentation:
3. Complete /Relevant history:
4. Accuracy of General Physical Examination:
5. Accuracy of Systemic Examination:
6. Diagnosis – Logical flow based on History & findings:
7. Order of differential diagnosis (logical):
8. Investigations ordered:
(Complete list, Relevant order, Interpretation of investigations)
9. Treatment: Principles & details
10. Patient/Relatives communication
(Diagnosis & Management Health education)

Overall:

1. Abilities to react to questioning:
2. Abilities to defend diagnosis:
3. Ability to justify differential diagnosis:
4. Acceptability of plan of management
5. Confidence

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

5 pages

Journal Club

Article presented:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he / she defend article:
5. Whether cross references have been consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

(04 pages)

Clinical Work

Commented [U13]: 4 pages

Quarterly review : (/ / to / /)

Points to be considered:

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:

Guidance for Scoring	0	1	2	3	4
	Poor	Below average	Average	Above average	Very Good

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Overall Grading at the end of the Term:

0	1	2	3	4
Poor	Below average	Average	Above average	Very Good

1. Level of Neurodevelopment assessment Performance-
.....
2. Level of psychological reporting & interpreting
.....
3. Understanding of Developmental disorders in children
.....
4. Understanding of childhood behavioral & emotional disorders
.....
5. Understanding of co-specialties
6. Academic presentations.....
7. Personal attributes (sincerity, commitment etc.).....
8. Research work

Signature:

Guide – Dr. Leena Srivastava
Developmental and Behavioral Pediatrician
In charge, Child Development & Guidance Centre



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY MEDICAL
COLLEGE, PUNE**



DEPARTMENT OF PEDIATRICS



FELLOWSHIP IN PEDIATRIC HEMATOLOGY - ONCOLOGY

2023 - 2024

Personal Details

- 1. Name (in full)
- 2. Date of Joining
- 3. Name of the Institute
.....
- 4. Name of the Guide
- 5. Name of the Head of the Department

.....

Signature of the Candidate

Date.....

.....

Signature of the Guide

Date.....

.....

**Signature of the Head of the Department,
Department of Pediatrics,**

Bharati Vidyapeeth Deemed To be University Medical College, Pune

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including Dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology and Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of an University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathy, Dentistry, Ayurveda, Homeopathy and Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY MEDICAL COLLEGE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neonatology, Nephrology, Cardiology, Neurology, Rheumatology, Gastroenterology, Neuro-Surgery, Plastic Surgery, GI Surgery, Urology, Spine Surgery, etc. The faculty consists of experienced, dedicated and academic oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 840 bedded Bharati Hospital and Research Centre for clinical teaching and experience for undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric sub-specialty services viz. Nephrology, Epilepsy & Neurology, Hemato-oncology, Endocrinology, Neonatology, Pediatric Rheumatology, Pediatric Infectious Diseases, Pediatric Genetics, High risk newborn clinic etc. The Department runs post-doctoral certificate courses in Neonatology, Pediatric Critical Care, Dual Fellowship in Pediatric Critical Care and Neonatology, Epilepsy & Neurology, Endocrinology, Pediatric Infectious Diseases and Child Developmental and Behavioral Pediatrics.

FACULTY – UNIT HEADS

Dr. S K Lalwani, MD, DNB
Vice Principal,
Professor and Head
Department of Pediatrics

Dr. V. R. Kalrao, MD
Professor
Department of Pediatrics

Dr. Rahul Jahagirdar
Professor
Department of Pediatrics

Dr. Vibha Bafna
Assistant Professor
Incharge – Pediatric Hematology - Oncology Clinic

Dr. Sandip Bartakke
Pediatric Hemato-Oncologist
Department of Pediatrics

Dr. Parag Mahankar
Associate Professor
Pediatric Hemato-Oncologist

Competency Framework for Sub-Specialty
(Logbook)
Training in Pediatric Hematology - Oncology
[Document valid until September 2024]

The use of the Syllabus, the Competency Assessment and completion of the Portfolio

- The Syllabus defines in detail the knowledge, skills and attributes which define Sub-Specialty Training in Pediatric Hematology - Oncology.
- The candidate should use the Syllabus in consultation with the educational supervisor to plan an individualized training programme.
- There are 14 key competencies in Hematology and Oncology, derived from the Syllabus, which all sub-specialty trainees will achieve. Each is divided into three levels. All trainees must achieve Level 3 for each key competency.
- The trainee's progression will be assessed by the level of achievement attained every 3 months for one year.
- In addition the candidate's portfolio should provide:
 - _ A record of continuing professional and educational activities undertaken (symposia, journal club etc.) other than the above, including locally organised educational opportunities.
 - _ Copies of abstracts submitted and publications achievement during the trainee's career.
 - _ Reports of statistics & audits performed by the trainee (alone or as part of a team)
 - _ Evidence of certification for courses claimed in the Competency Assessment.

Fellowship in Pediatric Hematology - Oncology

Preamble:

The field of pediatrics is rapidly expanding. With increase in knowledge and concomitant increase in investigative modalities and therapeutic avenues, specialization has become necessary to maintain excellence in health care. To meet the demands of our vast population we have an urgent need for subspecialty training.

Our country is now on the threshold of better basic pediatric care and improving child health, so now gradually the focus is shifting on chronic and rare diseases. Pediatric hematology – oncology is an upcoming field. There has been great development in this field in the western countries with better modes of investigations, risk stratification, supportive care and definitive therapies; so that children with cancer have survival rates approximately 70-80%. We are lagging far behind the developed countries. We need to develop in all fields of hematology and oncology and developing the manpower in this subspecialty is the keystone of this project.

Pediatric Hematology –Oncology has developed in selected pockets of larger cities. Some large centre also offers training opportunities, but these need to increase in number tremendously and in widespread centers so that access to such programs is better.

Aims and objectives of the program:

Our program seeks to develop skilled Pediatric Hematology - Oncology clinicians through:

- Training in the basic scientific study of pediatric hematology - oncology
- Developing outstanding clinical skills through a wide variety of clinical experiences
- Providing mentorship for both scientific and clinical training

Proposed eligibility and selection of trainee:

Eligibility: Pediatrician holding MD or DNB degree in Pediatrics.

Number of candidates: One per year. One extra candidate can be added if he/she is a faculty member of Bharati Vidyapeeth Medical College as an exception.

Entrance examination and selection: Written test and viva voce.

Training period: 1 year

Program Director: Dr. Sanjay Lalwani, Professor and HOD, Department of Pediatrics, Bharati Vidyapeeth Deemed to be University Medical College, Pune.

Program Coordinator: Dr. Vibha Bafna, Assistant Professor in Pediatrics, Pediatric Hemato-Oncologist, Bharati Vidyapeeth Deemed to be University Medical College, Pune

Terms and conditions:

1. The faculty shall include individuals with sufficient post MD or DNB experience in Pediatric Hematology - Oncology as a teacher.
2. The course duration is of 12 months where the candidate would be posted in Department of Pediatrics at Bharati Hospital. He/She would rotate with the faculty in the Pathology Department, Transfusion Medicine Department and in Bone Marrow Transplant unit.
3. He/she will be expected to complete one research paper in Pediatric Hematology –Oncology during the training program at least 2 months prior to his / her completion of the course.
4. At the end of 12 months of training there would be an examination conducted by Bharati Vidyapeeth University in the month **October (1st week) / April (1st week)** It is mandatory to pass this examination to acquire fellowship certificate.
5. He/she will participate in the teaching programs in the department (case presentations, seminar, journal club, radiology / nuclear medicine meetings and pathology / tumor board meetings / mortality / research project presentation/combined hematology –oncology - surgery meeting) / Nursing training program in Oncology.
6. He/she will be responsible for caring for all inpatient pediatric hematology/ pediatric oncology admissions, interdepartmental consultations and emergencies. Log book of all cases seen will be maintained. Education of patients as well as nurses regarding the illness will also be his/her responsibility.
7. The candidate is expected to take morning and evening rounds followed by informing the respective faculty every day including holidays.
8. Shared accommodation in the hostel shall be provided to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.
9. Each candidate selected shall pay a fee of Rupees 1,20,000/- per year, at the start of each term payable to Bharati Vidyapeeth Deemed to be University Medical College, Pune.
10. The selected candidate will receive a stipend of Rupees 40,000/- per month for the stipulated period of one year of training.
11. Examination & evaluation: As actual
12. **Vicarious responsibilities of the institution:** The candidate shall abide by the regulations and shall give written undertaking regarding medical indemnity, medical negligence etc.
13. **Permitted leave:** The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination.

Course design:

It is an interdisciplinary program involving mentors in the Department of Pediatrics, as well as in the Departments of Pathology, (Hematology and histopathology) intensive care, neurology and endocrinology.

Twelve months of training is devoted to intensive clinical training in the outpatient department, inpatient ward, PICU, and NICU at the Bharati Vidyapeeth Medical College and Hospital, Pune.

The busy inpatient ward forms a referral base for children with hematological disorders like hemoglobinopathy, bleeding disorders, etc. We also get an opportunity to look into and manage hematological issues in the inpatient like nutritional deficiencies, bleeding and clotting.

Children with malignancies like acute leukemia, solid tumor like neuroblastoma, Wilm's tumor, germ cell tumors are admitted in a separate section of the ward. These children are managed according to the established international protocols. The fellows will be required to participate in rounds, discussions, treatment planning and counseling sessions. They will be rotated in the hematology and histopathology laboratory for a better insight into the laboratory work.

This will equip them with better understanding of laboratory procedures and interpretation of reports. The log book of all the cases seen will be maintained. The program will include, but is not limited to training in basic concepts of hematology, oncology infectious diseases, pharmacology of chemotherapeutic drugs and intensive care management of patients.

The fellows will participate in the teaching programs (case presentations, seminar, and journal club) radiology/nuclear medicine meetings and pathology/mortality/research project presentation

During clinical training, the fellow is expected to develop an understanding of the etiologies, pathogenesis, management, treatment and prevention of the following:

- Basic biology and pathology of pediatric hematology and oncology diseases
- Diagnosis and interpretations of clinical symptomatology
- Laboratory procedures and interpretations of reports.
- Learn all relevant procedures like bone marrow aspiration and biopsy, lumbar puncture and intrathecal, PICC line insertion etc.
- Various newer modalities of diagnosis, staging and managing these children.
- Chronic ongoing care of children with chronic disorders like hemoglobinopathies.
- Get familiar with protocols of managing pediatric cancer like acute leukemia, Wilm's, neuroblastoma, etc.
- Hands on management of hematology and oncological emergencies like acute bleeding thrombosis, febrile neutropenia, tumour lysis, etc.
- Holistic quality of life issues in pediatric hematology and oncology, providing palliative care in children with end stage diseases.

The trainee is expected to acquire this knowledge by:

1. Serving as the fellow on inpatients and outpatients referred for evaluation to the hematology - oncology service
2. Reading the appropriate medical literature
3. Individual discussion with faculty members
4. Presenting Case Presentations, Seminars, & journal clubs
5. Attending group meetings in the Ped Hematology-Oncology fields like Monthly Pune Hematology meets etc.

Candidate Evaluation

Internal Assessment: Twenty percent of the total marks shall be for internal assessment, which will include personal attributes (availability, sincerity and motivation, diligence, performance and interpersonal communication skills), clinical skills and performance and academic activity (journal club, seminars, case discussion).

Scheme for examination: The trainee shall have to appear for a theory examination followed by a practical and viva voce session to a constituted board to be conducted at Bharati Vidyapeeth University Medical College. The constituted board would include one internal assessor and one external assessor. The certificate would be granted after the SATISFACTORY completion of ONE year's training and examination.

THEORY (total 200 marks)

2 papers – 100 marks each

Paper I – Hematology (100 marks)

- 2 long questions – 20 marks each
- 6 short questions – 10 marks each

Paper II – Oncology (100 marks)

- 2 long questions – 20 marks each
- 6 short questions – 10 marks each

Practical Examination(Total 200 marks)

- One long case – 50 marks
 - Two short case – 25 marks each
- 1) Hematology/Oncology general viva voce 50 marks
 - 2) Laboratory procedures and interpretations (OSCE) 50 marks

Books and study materials: Any revision

1. Nelson, Textbook of Pediatrics – recent edition Kleignman, Stanton
2. Hematology of Infancy and Childhood 8th edition Nathan and Oski
3. Principles and Practice of Pediatric Oncology 8th edition Philip Pizzo, David Poplack
4. Practical Hematology Dacie and Lewis 10th edition, Editors – SM Lewis, B.J. Bain, I. Bates
5. Manual of Pediatric Hematology and Oncology 07th edition, Philip Lanzkowsky
6. Handbook of Blood Banking and Transfusion Medicine. Editor Gundu Rao, Ted Easthend, Latha Jaganathan
7. Practical Pediatric Hematology 02nd Edition. Editor Anupam Sachedev.
8. Practical Pediatric Oncology Third Edition Editor Gauri Kapoor.
9. Atlas and Text of Hematology Dr. Tejinder Singh

Curriculum:

Hematology

- a. **Neonatal Hematology:** this will deal with neonatal red blood cell disorders, immune hemolytic disorders and developmental hemostasis and its relevance to new born bleeding and clotting disorders.
- b. **Bone marrow failure:** this will include the anatomy and physiology of hematopoiesis, acquired aplastic anemia's pure red cells aplasia, inherited bone marrow failure syndromes.
- c. **Disorders of RBC production:** Diagnosis and approach to patient with anemia, megaloblastic anemia and iron deficiency anemia and sideroblastic anemia.
- d. **Hemolytic anemia's:** This includes hemoglobinopathies like the thalasseмии and sickle cell diseases, autoimmune hemolytic anemia, RBC membrane disorders and enzymopathies like G6PD and pyruvate kinase deficiencies.
- e. **Primary immunodeficiency Diseases (PID):** T cells, B cells deficiencies, severe combined immune deficiency and disorders of phagocytic system.
- f. **Hemostasis:** This will include physiology of hemostasis, clinical and laboratory approach to the patient with bleeding, bleeding related to acquired and inherited platelet disorder, bleeding due to inherited coagulation factor deficiencies e.g. hemophilia. This will also includes acquired and congenital disorders of thrombosis.
- g. **Supportive therapy:** This includes transfusion medicine and principles of blood component therapy. It will also deal with treatment of infectious disorders.
- h. **Bone marrow transplantation (BMT):** Introduction and principles of BMT in hematology, oncology and PID.

Oncology

- a. **Biological basis of childhood cancer:** This includes epidemiology, heredity, molecular, genetic and immunological basis of cancer in children.
- b. **Diagnosis and evaluation of childhood cancers:** This includes clinical assessment and approach to pediatric cancer. This will also includes the use of pathology and imaging studies in evaluation of pediatric cancers.
- c. **Principles of multimodal therapy:** This will includes use of chemotherapy, surgery and radiation therapy in treatment of pediatric cancer. This will also includes newer concepts like molecularly targeted therapies, use of BMT and finally palliative treatment.
- d. **Management of common cancers of childhood :**
 1. Acute leukemias – Lymphoblastic and myeloid leukemias
 2. Chronic leukemias
 3. Myeloproliferative and myelodysplastic disorders
 4. Lymphomas, Hodgkin's and Non-Hodgkin's lymphomas
 5. The histiocytoses
 6. Tumors of the central nervous systems
 7. Retinoblastoma
 8. Tumors of the liver
 9. Renal tumors

10. Neuroblastoma
11. Rhabdomyosarcoma and the undifferentiated sarcoma
12. Ewing sarcoma family of tumors
13. Osteosarcoma
14. Germ cell tumors
15. Infrequent cancers

e. Supportive care of children with cancers

1. Oncologic emergencies
2. Hematologic supportive care
3. Infectious complications
4. Nutritional supportive care
5. Nursing support of the child with cancer
6. Rehabilitation of the child with cancer
7. Psychological support of the child and his family with cancer.
8. Ethical issues in pediatric cancers

f. Late effects of childhood cancer and treatment

Key Competencies

Hematology

(Sequence of following remains flexible and can be inter changed)

1. Neonatal Hematology

Level 1 _

- a. Understanding the physiology of Neonatal hematology

Level 2 _

- a. Interpretation of clinical and routine hematology investigation

Level 3 _

- a. To plan an appropriate management strategy accordingly

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

2. Bone marrow failure syndromes

Level 1 _

- a. Anatomy and physiology of normal hematopoiesis

Level 2 _

- a. Appropriate interpretation of clinical and lab investigations

Level 3 _

- a. Planning proper strategy of further investigations and management of the disorders
- b. Getting well versed with acquired and inherited bone marrow failure syndromes

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

3. Approach to a child with anemia

Level 1 _

- a. Basics of erythrocyte production
- b. Understanding Iron, B₁₂, Folic acid, metabolism

Level 2 _

- a. Diagnostic approach to a child with deficiency anemia
 - i. Evaluation
 - ii. Investigations

Level 3 _

- a. Planning an appropriate strategy to diagnose the cause of anemia
- b. Adequate management of iron deficiency, B₁₂ and folic acid deficiency anemia

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

4. Hemolytic anaemia's

Level 1 _

- a. Basic physiology and pathology of abnormal RBC destruction

Level 2_

- a. Interpretation of clinical and routine hematological laboratory parameters
- b. Getting well versed with diagnosis of
 1. Auto immune hemolytic anemia
 2. Red cell membrane disorders
 3. Enzymopathies like G6PD deficiency, Pyruvate kinase deficiency ect.
- c. Learning to see peripheral smears and bone marrow aspiration slides

Level 3 _

- a. Planning appropriate short term and long term management strategy of hemolytic anemia's
- b. Learning to counsel parents of children's with chronic hemolytic anemia's

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

5. Hemoglobinopathies

Level 1_

- a. Physiology & development of the hemoglobin molecule
- b. Pathology of thalassemia of syndromes
- c. Pathology of sickle cell diseases

Level 2_

- a. Clinical presentation of the hemoglobinopathies
- b. Interpretation of common lab parameters of hemoglobinopathies

Level 3_

- a. Comprehensive multidisciplinary long term management of children with thalassemia syndromes and sickle cell diseases.

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

6. Hemostasis

Level 1 _

- a. Basic physiology of bleeding, clotting, , fibrinolysis and platelet function,
- b. Understanding the laboratory investigations for bleeding and clotting disorders
- c. Pathophysiology of thrombotic disorders

Level 2 _

- a. Clinical presentation of children with bleeding and clotting disorder
- b. Adequate interpretation and identification of the laboratory parameters of children with bleeding and clotting disorder.

Level 3 _

- a. Comprehensive multi disciplinary management of children with Hemophilia, Thrombosis, acquired and congenital platelet defects, fibrinolytic disorders

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

7. Immune systems

Level 1 _

- a. Basics anatomy and physiology of immune systems

Level 2 _

- a. Understanding clinical presentation and simple laboratory investigation of children with primary immune deficiency.

Level 3 _

- a. Comprehensive management of common primary immune deficiency.

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

8. Transfusion medicine:

Level 1 _

- a. Understanding the basic physiology of the various blood components like. Packed RBC's Platelets, Fresh frozen plasma, etc.

Level 2 _

- a. Visit to the transfusion medicine department in the hospital and understanding the practical aspects of collection, making and storing of the various blood components

Level 3 _

- a. Managing day to day issues and complications of blood component administration in the pediatric ward.

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

Key Competencies

Oncology

1. Biological basis of childhood cancer

Level 1 _

- a. Understand the epidemiology and biology of childhood cancer

Level 2 _

- a. Molecular and genetic basis of childhood cancers

Level 3 _

- a. Molecular and genetic basis of the individual cancers in detail and understanding its clinical implications

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

2. Diagnosis and evaluation of the child with cancer

Level 1 _

- a. Varied clinical presentations of individual cancers in children including leukemia, lymphoma and other solid tumors.

Level 2 _

- a. Understanding the relevant lab workup like light microscopy, histopathology, flow cytometry, immunohistochemistry etc.
- b. Radiological diagnosis using various modalities like x rays, USG, CT scan, MRI and PET CT.

Level 3 _

- a. Comprehensive understanding of the diagnostics of each individual childhood cancer using varied modalities.
- b. Understanding the work up and for diagnostic, staging and routine workup for the eligibility for giving chemotherapy

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

3. Principles of multimodal therapy

Level 1 _

- a. General principles of chemotherapy
- b. Pharmacology of the chemotherapeutic drugs
- c. Principles of surgery
- d. Principles of radiation oncology

Level 2 _

- a. Understanding newer modalities in cancer therapy like, molecularly targeted therapy, principles of pharmacogenomics, biotherapeutics, cell and gene therapies and hematopoietic transplantation.

Level 3 _

- a. Understanding integrated therapies for individual cancers
- b. Cancer clinical trial design and analysis and understanding individual protocols

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

4. Common cancers of the childhood

- Acute leukemia
- Myeloproliferative disorder
- Hodgkin and Non Hodgkin lymphoma
- Histiocytosis
- Tumours of the CNS
- Neuroblastoma
- Renal tumours
- Rhabdomyosarcoma and other soft tissue sarcoma
- Ewings sarcoma family of tumours
- Osteosarcoma
- Germ cell tumour
- Other rare and miscellaneous tumours

Level 1 _

- a. Common clinical presentation of each of the cancers
- b. Epidemiology of each of the cancers
- c. Molecular and genetic basis of each of the cancers

Level 2 _

- a. Diagnostics like pathology, immunohistochemistry, molecular diagnosis, radiology to be used for each individual tumour.
- b. Using the above modalities for diagnosis, staging and risk stratification.

Level 3 _

- a. Comprehensive management using multimodal treatment strategies like chemotherapy, surgery and radiation for individual cancer.
- b. Counseling of parents at various stages of cancer and supportive care of children with cancer

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

5. Supportive care of children with cancer

Level 1 _

- a. Understanding basic pathophysiology of oncologic emergencies, infection, transfusion, support and principles of nutrition

Level 2 _

- a. Identifying the need for supportive care at various stages in each of individual cancer at appropriate time point.

Level 3 _

- a. Principle of management of supportive care like
- 1) Oncologic emergencies
 - 2) Transfusion and growth factor support
 - 3) Infectious complications
 - 4) Nutritional support
 - 5) Nursing care
 - 6) Long term IV access
 - 7) Psychosocial and ethical issues
 - 8) End of life support of the child and family

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

6. Management of other issues arising at diagnosis and at cessation of therapy

Level 1 _

- a. Late effects of cancer
- b. Rehabilitation of cancer

Level 2 _

- a. Palliative care of child with advanced cancer

Level 3 _

- a. Financial issues in pediatric cancer
- b. Advocacy and organizing awareness for pediatric oncology

	01 Sept 23 – 30 Nov 23	01 Dec 23 – 29 Feb 24	01 Mar 24 – 31 May 24	01 June 24 – 07 Sept 24
Assessor				
Trainee				
Skills acquired:				
Comments:				

11. Procedures & Skills –

1. Bone marrow aspiration and biopsy
2. Lumber puncture and intrathecal chemotherapy administration
3. Various modalities of IV access
4. Writing correct chemotherapy orders

Evaluation Forms

Seminar

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Use of audiovisual aids.
4. Understanding of subjects:
5. Ability to answer questions:
6. Time scheduling:
7. Consulted all relevant literature:
8. Overall performance.

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

1.

2.

3.

Mean Score:

Seminar

Date:

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Use of audiovisual aids.
4. Understanding of subjects:
5. Ability to answer questions:
6. Time scheduling:
7. Consulted all relevant literature:
8. Overall performance.

Guidance for Scoring

1

2

3

4

Below average

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Faculty members:

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Mean Score:

Seminar

Date:

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4. Understanding of subjects:
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7. Consulted all relevant literature:
8. Overall performance.

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
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Mean Score:

Seminar

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Use of audiovisual aids.
4. Understanding of subjects:
5. Ability to answer questions:
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Guidance for Scoring

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Guidance for Scoring

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Guidance for Scoring

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Below average

Average

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Excellent

Faculty members:

- 1.
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- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

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Below average

Average

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- 1.
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Mean Score:

Journal Club

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Journal Club

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Guidance for Scoring

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Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Clinical Work

Half yearly review

Points to be considered: (/ / to / /)

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:

Guidance for Scoring	1	2	3	4
	Below average Average Above average Excellent			

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Guidance for Scoring	1	2	3	4

	Below average	Average	Above average	Excellent

Faculty members:

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Mean Score

Overall Grading at the end of the Term:

Signature:

Guide – Dr. Vibha Bafna

Signature:

**Dr. S K Lalwani
Vice Principal
Medical Director
Professor
Department of Pediatrics
Bharati Vidyapeeth Deemed to be University Medical College, Pune**

Post Doctoral Certificate
Course in
Pediatric Infectious Diseases

Department of Pediatrics

Bharati Vidyapeeth Deemed University Medical College

Pune (India)

2014

Preamble:

Knowledge in the field of pediatrics is now very vast. With the increase in knowledge and concomitant increase in investigative modalities and therapeutic avenues, specialization has become necessary to maintain excellence in health care. Specialist in specific areas of need have now become necessary to fulfill, the need of increased demand of subspecialty training.

India as a developing country has high burden of infectious diseases. Though we have been on the verge of eradicating Poliomyelitis, there are many more diseases we are not able to control or prevent. The Infant mortality rate and Under-five mortality rate is 30 and 66 deaths/1000 live births respectively in 2011. The overall vaccine coverage in India is not more than 50%. The Millennium Development Goals (2015) aims at reducing Under-five mortality rate up to 38 deaths/1000 live births. We can achieve this by better vaccine coverage and producing Pediatric infectious disease specialists.

Even though India has tremendous amount of pediatric infectious disease cases, there is no formal accredited training program in Pediatric Infectious Disease for Indian doctors. The overseas training in this specialty is of 3-years which are out of reach of most of us. It is a need of the hour for India to have certified Pediatric infectious disease specialists.

Aims and objectives of the program:

Our program seeks to develop skilled Pediatric Infectious Disease clinicians through:

- Training in the basic scientific study of pediatric infectious disease
- Developing outstanding clinical skills through a wide variety of clinical experiences
- Providing mentorship for both scientific and clinical training

Proposed eligibility and selection of trainee:

Eligibility: Pediatrician holding MD or DNB degree in Pediatrics.

Number of candidates: Three per year. One extra candidate can be added if he/she is a faculty member of Bharati Vidyapeeth Medical College as an exception.

Entrance examination and selection: Written test and interview.

Training period: 1 year

Programme coordinator: - Dr. Sanjay Lalwani, Professor & HOD, Department of Pediatrics, Bharati Vidyapeeth University Medical College, Pune.

Faculty: - Pediatrics-

Microbiology-

Terms and conditions:

1. The faculty shall include individuals with sufficient post MD or DNB experience in Pediatric Infectious Disease as a teacher.
2. The course duration is of 12 months where the candidate would be posted in Department of Pediatrics at Bharati. He would rotate with the faculty in the Microbiology department.
3. He/she will be expected to complete one research paper in Pediatric Infectious Disease during the training programme at least 2 months prior to his / her completion of the course.
4. At the end of 12 months of training there would be an examination conducted by Bharati Vidyapeeth University in the month of April (1st week). It is mandatory to pass this examination to acquire fellowship certificate.
5. He/she will participate in the teaching programs in the department (case presentations, seminar, journal club, radiology / nuclear medicine meetings and pathology / mortality / research project presentation/combined nephrology-surgery meeting).
6. He/she will be responsible for caring for all inpatient pediatric nephrology / paediatric urology admissions, interdepartmental consultations and emergencies. Log book of all cases seen will be maintained. Education of patients as well as nurses regarding the illness will also be his/her responsibility.
7. Shared accommodation in the hostel shall be provided to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.
8. Each candidate selected shall pay a fee of Rupees 24,000/- per six months, at the start of each term payable to Bharati Vidyapeeth University Medical College, Pune.
9. The selected candidate will receive a stipend of Rupees 10,000/- per month for the stipulated period of one year of training.
10. Examination & evaluation: Fees Rupees 5,000/-.
11. **Professional insurance:** The candidate must possess a Professional insurance cover.
12. **Vicarious responsibilities of the institution:** The candidate shall abide by the regulations and shall give written undertaking regarding medical indemnity, medical negligence etc.
13. **Permitted leave:** The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination.

Course design:

It is an interdisciplinary program involving mentors in the Department of Pediatrics, as well as in the Departments of Microbiology, Pharmacology and Preventive & Social Medicine.

Twelve months of training is devoted to intensive clinical training in the outpatient department, inpatient ward, PICU, and NICU at the Bharati Vidyapeeth Medical College and Hospital, Pune. The busy inpatient consult service provides exposure to a wide range of both general community acquired pediatric infectious disease problems such as meningitis, gastrointestinal and respiratory infections as well as experience in the management of infections in patients with complicated surgical, neurosurgical and intensive care related infections. In the outpatient department, fellows evaluate new consults and provide continuity of care for patients seen on the inpatient service. The fellow will participate in formal laboratory training sessions in the microbiology labs. This intensive experience will be complemented by ongoing rounds with the microbiology labs. The program will include, but is not limited to, training in basic concepts on immunology, epidemiology, clinical pharmacology, and infection control as they relate to patient care and training in the prevention of infectious diseases. The log book of all the cases seen will be maintained. During the laboratory posting he/she is expected to become familiar with the performance and interpretation of laboratory investigations. The fellows will participate in the teaching programs (case presentations, seminar, and journal club) radiology/nuclear medicine meetings, pathology/mortality/research project presentation and hospital infection control meeting.

During clinical training, the fellow is expected to develop an understanding of the etiologies, pathogenesis, management, treatment and prevention of the following:

- Organ system infections
- Pathogens of infectious diseases
- Prevention of infectious diseases
- Immunity and host defense
- Mechanisms of infectious diseases
- Infections in special circumstances
- Infections in high-risk hosts
- Epidemiology
- Principles of epidemiologic research and biostatistics

The trainee is expected to acquire this knowledge by:

1. Serving as the consulting fellow on inpatients and outpatients referred for evaluation to the infectious diseases service
2. Reading the appropriate medical literature
3. Individual discussion with faculty members
4. Presenting Seminars

Candidate Evaluation

- 1) Internal Assessment: Twenty percent of the total marks shall be for internal assessment which will include personal attributes (availability, sincerity and motivation, diligence, performance and inter-personal communication skills), clinical skills and performance and academic activity (journal club, seminars, case discussion).

Scheme for examination The trainee shall have to present him for a theory examination followed by a practical and viva voce session to a constituted board to be conducted at Bharati Vidyapeeth University Medical College. The constituted board would include one internal assessor and one external assessor. The certificate would be granted after the SATISFACTORY completion of ONE year's training and examination.

THEORY

2 papers – 3 hours each, 100 marks each

- 2 long questions – 20 marks each
- 6 short questions – 10 marks each

Paper I – Pathogenesis of infectious diseases, infections with specific microorganisms, microbiological diagnosis of infections

Paper II – infections of specific organ systems, infection control, therapeutics, prevention of infectious diseases, epidemiology and biostatistics

Practical Examination

- One long case – 50 marks
- One short case – 25 marks
- Ward rounds – 25 marks
- X rays – 20 marks
- Microbiology – 20 marks
- Drugs – 20 marks
- Pedagogy – 20 marks
- Viva – 20 marks

Books and study materials:

1. Textbook of Pediatric Infectious Diseases. Ralph D. Feigin, Gail D Demmler, James D. Cherry, Sheldon L. Kaplan. 6th Edition; 2009
2. Current Therapy in Pediatric Infectious Disease. Nelson, J. D. 1992.
3. Infectious Diseases of the Fetus and Newborn Infant. 7th edn. Jack S. Remington, Jerome O. Klein, Christopher B. Wilson, Victor Nizet, Yvonne Maldonado; 2010
4. Principles and Practice of Pediatric Infectious Diseases. Sarah S. Long, Larry K. Pickering, Charles G. Prober 2009
5. Infectious Diseases in Children And Newer Vaccines Jaypee Brothers, Medical Publishers, Tapan Kr Ghosh – 2007
6. Microbiology textbooks

Personal Details

1. Name (in full)

2. Date of Joining

3. Name of the Institute

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4. Name of the Guide

5. Name of the Head of the Department

.....

Signature of the Candidate

Date.....

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Signature of the Guide

Date.....

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**Signature of the Head of the Department,
Department of Pediatrics,**

Bharati Vidyapeeth Deemed to be University Medical College, Pune

BHARATI VIDYAPEETH

Bharati Vidyapeeth was established in May 1964 by Dr. Patangrao Kadam with the objective of bringing about intellectual awakening along with all round development of the people of our country through education.

It is now a leading educational institution of our country, which has created a history by establishing 154 educational institutions in the country imparting education from pre-primary stage to super-specialty level, within a span of 45 years. These echelons of higher learning impart education in various disciplines including dentistry, Medicine, Ayurveda, Homeopathy, Nursing, Arts, Science, Commerce, Engineering, Pharmacy, Management, Social Science, Law, Environmental Science, Architecture, Hotel Management, Catering Technology, Physical education, Computer Science, Library Science, Information Technology, Biotechnology, Agriculture etc.

In view of the high quality education and training imparted to the students, our institutions have become nationally known for their academic excellence. In recognition of the academic merit achieved by these institutions and potential for development which they have, The Department of Human Resources, Government of India and the University Grants Commission (UGC) have accorded the status of an University to Bharati Vidyapeeth.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY

The UGC, which is an apex body concerned with higher education in India, assessed the academic excellence achieved by the institutes of Bharati Vidyapeeth through a committee of experts and recommended to the Government of India to confer the status of 'University'. The University has been awarded grade 'A+' by the National Assessment and Accreditation Council (NAAC).

This is probably the only university in India having under its umbrella institutions of such diversified professional and non-professional disciplines like Medicine, Dentistry, Pharmacy, Engineering, Arts, Science, Social work, Law etc. As the university has academic and functional autonomy, it is empowered to be more dynamic and innovative. The syllabi of most of the existing courses is periodically updated and a number of new innovative degree, diploma and certificate programs have been introduced with a view to tune them to the changing needs of the society and its economy.

It is one of the few universities in India that have five different colleges of the Medical Science specialties, viz. Allopathic, Dentistry, Ayurveda, Homeopathy, Nursing- all in one campus. The University offers a wide variety of academic programs to choose from. The University has two campuses in Pune, one on Pune-Satara Road (Katraj- Dhankavadi campus) and the other in Erandwane, in the heart of the city.

BHARATI VIDYAPEETH DEEMED TO BE UNIVERSITY MEDICAL COLLEGE, PUNE

Established in 1989, the College was recognized by the Medical Council of India in 1994. The College is recognized by General Medical Council, UK. The College is listed in the WHO Directory and the students of this college are eligible to appear in the PLAB and USMLE exams.

The College provides excellent educational facilities like well equipped laboratories, demonstration rooms and audio-visual equipments in lecture halls. The College library is a fine specimen of architectural beauty and provides excellent collection of books and journals with a separate computer and internet facility.

The college runs several post-graduate and specialty courses. The college also has well equipped super-specialty services like Neuro-Surgery, Plastic Surgery, Nephrology etc. The faculty consists of experienced, dedicated and student oriented teachers. The faculty is renowned for its experience and national and international publications.

The college is attached to 839 bedded Bharati Hospital and Research Centre for clinical teaching and experience of undergraduate and postgraduate students. It is a multi-storied building equipped with state of the art diagnostic facilities in laboratory and radiology. The NICU, PICU and ICU get referrals from all over Maharashtra.

THE DEPARTMENT OF PEDIATRICS, BVDU MEDICAL COLLEGE, PUNE

The Department of Pediatrics at BVDUMC is one of the most well equipped tertiary care setups in Pune. It is strategically located, easily approachable and receives referrals from all over Maharashtra. It provides treatment for various pediatric diseases under one roof, at an affordable cost and even free for deserving cases.

It consists of a 60 bedded ward including surgical beds, 5 isolation beds, an 18 bedded PICU and 60 bedded NICU. The general ward has over 80% occupancy at any given time. We offer pediatric sub-specialty services viz. Epilepsy & Neurology, Hemato-oncology, Endocrinology, Neonatology, Pediatric Rheumatology, Pediatric Infectious Diseases, Pediatric Orthopedic, High risk newborn clinic etc. The Department runs post-doctoral certificate courses in Neonatology, Pediatric Critical Care, Epilepsy & Neurology, Endocrinology, Pediatric Hematology-Oncology, Pediatric Infectious Diseases, Development and Behavioral Pediatrics, Pediatric Genetics and Metabolic Disorders etc.

FACULTY – UNIT HEADS

Dr. S K Lalwani, MD, DNB
Vice Principal,
Professor
Department of Pediatrics

Dr. V. R. Kalrao, MD
Professor and Head
Department of Pediatrics

Dr. Jitendra Oswal, DNB, Fellowship in Pediatric Rheumatology
Professor in Pediatrics
Pediatric Rheumatologist

Competency Framework for Sub-Specialty
(Logbook)
Training in Pediatric Rheumatology
[Document valid until October 2024]

The use of the Syllabus, the Competency Assessment and completion of the Portfolio

- The Syllabus defines in detail the knowledge, skills and attributes which define Sub-Specialty Training in Pediatric Rheumatology.
- The candidate should use the Syllabus in consultation with the educational supervisor to plan an individualized training programme.
- There are defined 10 key competencies, derived from the Syllabus, which all sub-specialty trainees will achieve. Each is divided into three levels. All trainees must achieve Level 3 for each key competency.
- The trainee's progression will be assessed by the level of achievement attained every 3 months for one year.
- In addition the candidate's portfolio should provide:
 - _ A record of continuing professional educational activities undertaken (symposia, Journal club etc.) other than the above, including locally organised educational opportunities.
 - _ Copies of abstracts submitted and publications achievement during the trainee's career.
 - _ Reports of statistics & audits performed by the trainee (alone or as part of a team)
 - _ Evidence of certification for courses claimed in the Competency Assessment.

Fellowship in Pediatric Rheumatology

Preamble:

The need for a training program in Pediatric Rheumatology:

Knowledge in the field of pediatrics is now very vast. With the increase in knowledge and concomitant increase in investigative modalities and therapeutic avenues, specialization has become necessary to maintain excellence in health care. Specialist in specific areas of need have now become necessary to fulfill, the need of increased demand of subspecialty training.

Pediatrics has lagged behind in the development of specialties. Pediatric specialists so far have either been trained abroad or have been trained by mentors in the corresponding adult specialty. As a result the country now has in place only a handful of pediatric specialists in teaching institutions, who can now function as the mentors. Among the pediatric specialties, pediatric Rheumatology is one of the youngest in India. There are scarcely 12 to 14 pediatricians in the whole country who are trained in pediatric rheumatology.

Pediatric Rheumatology encompasses areas such as juvenile arthritis, connective tissue disorders and autoinflammatory diseases. Even the appreciation of the normal in these aspects of pediatrics is inadequately taught in general pediatric training. Proper management of such disorders requires specialized training and exposure than is available in a typical pediatrics training program. To ensure good care of children with these and other disorders in India, there is an urgent need to augment the numbers of trained manpower in the field.

Aims and objectives of the program:

The key goals of the fellowship program are to:

Develop collaborative clinical care expertise

- To lead the comprehensive care of children with rheumatic diseases.
- To incorporate the role of medical and allied healthcare professionals in patient care.
- To understand the role of community resources in the care of children with rheumatic diseases.
- To work within interdisciplinary teams

Foster independent translational and clinical investigation

- To provide mentoring to develop and complete innovative and feasible research projects.
- To ensure academic achievement by rigorously supervising academic progress.

Invest in the future of pediatric rheumatology

- To promote management skills for independent direction of a rheumatology team, including formal participation in divisional quality and patient safety initiatives.
- To foster mentoring skills to educate subsequent trainees.
- To cultivate leadership skills to advance the field of pediatric rheumatology.

Proposed eligibility and selection of trainee:

Eligibility: Pediatrician holding MD or DNB degree in pediatrics

Number of candidates: One per year. As an exception 2 per year when the extra candidate is a faculty of Bharati Vidyapeeth University Medical College.

Entrance examination and selection: Written test and interview

Training period: 1 year

Terms and conditions:

1. The faculty shall include individuals with sufficient post MD or DNB experience in pediatric Rheumatology/overseas training/long standing experience in pediatric Rheumatology as a teacher
2. The course duration is of 12 months where the candidate would be posted for 06 months in dept of pediatrics at Bharati Hospital, Pune and for next 06 months the candidate would be posted at Rainbow hospital, Bengaluru.
3. He/she will be expected to complete one research paper in pediatric Rheumatology during the training programme at least 2 months prior to his / her completion of the course.
4. The fellowship would start on 01st October of each academic year
5. There would be an examination in the month of Oct (1st / 02nd week). It is mandatory to pass this examination (Theory and practical; both) to acquire fellowship certificate.
6. Shared accommodation in the hostel shall be provided to the candidates as per availability at Bharati Hospital, Pune. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.
7. Each candidate selected shall pay a fee of Rupees 1,20,000/- per year, at the start of the term payable to Bharati Vidyapeeth Deemed to be University Medical College, Pune A/C MD-MS
8. The selected candidate will receive a stipend of rupees 40,000/- per month for the stipulated period of training from respective institute.
9. Examination & evaluation fees: as applicable

Course design:***Postings:***

The trainee will spend at least 12 months in clinical pediatric and adolescent Rheumatology rotation and at **least 1 month in the laboratory training**. He/she will complete at least one paper acceptable for publication in a peer reviewed journal, and participate in the teaching programs in the department (case presentations, seminar, journal club, radiology/orthopediatrics medicine meetings).

He/she will be responsible for caring for all inpatient pediatric Rheumatology admissions, as well as pediatric Rheumatology interdepartmental consultations and emergencies. Log book of all cases seen will be maintained. Rheumatology education of patients as well as nurses will also be his/her responsibility.

During the laboratory posting he/she is expected to become familiar with the performance and interpretation of laboratory assays.

Examination Pattern

The theory examination will consist of two papers of 100 marks each on day one followed by a practical and viva voce session conducted at Bharati Vidyapeeth Deemed to be University Medical College. The constituted board would include one internal assessor and one external assessor. The certificate would be granted after SATISFACTORY completion of ONE year's training, research project and examination.

Practical exam: OSCE pattern. And Viva Voce

Candidate would have to pass independently in both theory and practical to be eligible for certification.

The theory paper shall for 3 hours each comprise of descriptive questions and multiple choice questions.

Professional insurance: The candidate must possess a Professional insurance cover.

Vicarious responsibilities of the institution: The candidate shall abide by the regulations and shall give written undertaking of the individual training centers regarding medical indemnity, medical negligence etc.

Permitted leave: The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave every term and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination.

Books and study materials:

BOOKS

1. Textbook of Pediatric Rheumatology (Authors: Cassidy, Petty)
2. Rheumatology by Hochberg (Mosby)
3. Oxford Textbook of Rheumatology
4. Primer on the Rheumatic Diseases
5. Kelley's Textbook of Rheumatology

JOURNALS

1. Annals of the Rheumatic Diseases (ARD) Official Journal of EULAR
2. Arthritis and Rheumatism – official journal of the American College of
3. Rheumatology (ACR)
4. Arthritis Research and Therapy
5. Current Opinion in Rheumatology
6. Journal of Rheumatology
7. Nature Reviews Rheumatology
8. Rheumatology – Oxford journals – Official Publication of British Society of
9. Rheumatology
10. International Journal of Rheumatic Diseases. Official Publication of APLAR
11. Indian Journal of Rheumatology

Curriculum:

Theoretical training

A. Understanding of Basic Immunology

I. Structure and function of the immune system

- a. The human immune response
- b. Cells and tissues of the immune system, T and B cell development, lymphocyte trafficking
- c. Immunoglobulin genes and proteins
- d. TCR genes, gene products and co-receptors
- e. The HLA major histocompatibility complex
- f. Antigens and antigen presentation, superantigens
- g. Cytokines, cellular adhesion and interactions

- h. Immune regulation
- i. Tolerance
- II. Host defense mechanisms and inflammation
 - a. Immunoglobulin function
 - b. Regulatory and effector functions of CD4+ T lymphocytes
 - c. Cytotoxic T cell function, cytotoxic function of macrophages, NK cell function
 - d. Mucosal defense mechanisms
 - e. Tumor immunity
 - f. Pro-inflammatory and inhibitory cytokines
 - g. Complement
 - h. Function of phagocytes, mast cells, basophils and eosinophils
 - i. Immunopathology of inflammation
- III. Infection and immunity
 - a. Immune response to microbes
 - b. Infections in the immuno-compromised host
 - c. Vaccines
- IV. Immunodeficiency
 - a. Approach to evaluation of the immunodeficient host
 - b. Primary immunodeficiency disorders
 - c. Secondary immunodeficiency (excluding AIDS)
- B. Systemic immune diseases
 - a. Mechanisms of autoimmunity
 - b. Serum sickness and pathology of immune complex mediated diseases
 - c. Systemic Lupus erythematosus
 - d. Rheumatoid arthritis
 - e. Juvenile rheumatoid arthritis (JRA/JIA)
 - f. Rheumatic fever
 - g. Spondyloarthropathies
 - h. Systemic sclerosis
 - i. Polymyositis/dermatomyositis
 - j. Systemic necrotizing vasculitis
 - k. Sjogren's syndrome
 - l. Overlap syndromes
 - m. Others (PMR, panniculitis, relapsing polychondritis, erythema nodosum)
 - n. Behcet's disease
 - o. Sarcoidosis
 - p. Amyloidosis
 - q. Goodpasture syndrome
- C. Treatment of immunological diseases
 - a. IVIG therapy
 - c. Cytokine-modulatory therapies
 - e. Therapeutic antibodies
 - f. Gene therapy
 - g. Anti-inflammatory medications: steroids, NSAIDs and antihistamines
 - h. Immunosuppressive therapy
 - i. Plasmapheresis and experimental immunotherapies for immune diseases

- D. Immunodiagnosics
- a. Evaluating immunological functions
 - b. Detection of specific antibodies
 - c. Flowcytometry
 - d. HLA typing and matching
 - e. Lymphoproliferation assays
 - f. Molecular methods

Practical Knowledge

I. Laboratory techniques

- a. Indirect immunofluorescence method for detection of
 - (i) anti-nuclear, anti-smooth muscle, anti-parietal cell and anti-mitochondrial antibodies by using rat liver, stomach and kidney sections as substrates
 - (ii) ANA and anticentromere antibodies on Hep-2 cell line and
 - (iii) ANCA
- b. Nephelometry for the estimation of serum complements (C3, C4) and immunoglobulins (IgG, IgM, IgA, IgE)
- c. ELISA technique for the estimation of ANA, anti-ds-DNA, ACLA and ANCA
- d. Immunoblot for ANA profile
- e. Serum electrophoresis for myeloma screening
- f. Synovial fluid analysis
- g. Lupus anticoagulant assay
- h. HLA typing (serological and molecular)
 - i. NBT test for evaluation of phagocytic function
- j. Enumeration of lymphocyte subsets in peripheral blood using flow cytometry
- k. Lymphoproliferation assay
- l. PCR standardization and optimization

II. Management of patients with autoimmune rheumatic disorders and immunodeficiency

III. Practical skills in Rheumatology/Immunology

- a. Clinical examination with special reference to immunological diseases
- b. Rational use and interpretation of immunological tests
- c. Diagnostic and therapeutic synovial fluid aspiration
- d. Joint and soft-tissue injections with steroids
- e. Proficiency in the use of immunomodulators and immunosuppressive agents
- f. Basic physiotherapy and rehabilitation skills
- g. Clinical evaluation of primary and secondary Immunodeficiency

Key Competencies

(Sequence of following remains flexible and can be inter changed)

Academic activities: 1 October 2023 –31 December 2023

- Seminars
- Case presentation
- Journal review
- Admission and Monthly audit

Date	Topic	Content	Quality	Understanding	Research	Grade

Academic activities: 1 January 2024 – 31 March 2024

- Seminars
- Case presentation
- Journal review
- Admission and Monthly audit

Date	Topic	Content	Quality	Understanding	Research	Grade

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Evaluation Forms

Seminar

Date:

Seminar Topic:

Evaluation Points:

1. Presentation:
2. Completeness of Preparation:
3. Cogency of presentation:
4. Use of audiovisual aids.
5. Understanding of subjects:
6. Ability to answer questions:
7. Time scheduling:
8. Consulted all relevant literature:
9. Overall performance.

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
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(Complete list, Relevant order, Interpretation of investigations, Unnecessarily investigations asked)
9. Treatment: Principles & details
10. Patient/Relatives communication
(Diagnosis & Management Health education)

Overall:

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- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
2. Cogency of presentation:
3. Whether understood and conveyed the purpose of the article:
4. How did he defend article:
5. Whether cross references have been seen consulted:
6. Understood explained basics of statistic in article:
7. Whether relevant information mentioned from other similar articles.
8. Use of audio visual aids:
9. Presentation:
10. Response to questioning:

Guidance for Scoring

1

2

3

4

Below average

Average

Above average

Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score:

Journal Club

Title:

Date:

Points for consideration: Score

1. Choice of article relevant:
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Average

Above average

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- 2.
- 3.

Mean Score:

Clinical Work

Quarterly review

Points to be considered: (/ / to / /)

1. Punctuality:
2. Regularity of attendance:
3. Maintenance of case records:
4. Presentation of cases during rounds (approach):
5. Investigation work up:
6. Bedside manners:
7. Rapport with patients:
8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:

Guidance for Scoring	1	2	3	4
	-----	-----	-----	-----
	Below average	Average	Above average	Excellent

Faculty members:

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Mean Score

Clinical Work

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Guidance for Scoring	1	2	3	4

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Clinical Work

Quarterly review

Points to be considered: (/ / to / /)

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8. Rapport with colleagues:
9. UG teaching (if applicable):
10. Counseling patient's relatives:
11. Management of emergencies:

Guidance for Scoring	1	2	3	4

	Below average	Average	Above average	Excellent

Faculty members:

- 1.
- 2.
- 3.

Mean Score

Overall Grading at the end of the Term:

Signature:

Guide – Dr. Jitendra Oswal

Signature:

**Dr. S K Lalwani
Vice Principal
Medical Director
Professor and Head
Department of Pediatrics
Bharati Vidyapeeth Deemed to be University Medical College, Pune**

Bharati Vidyapeeth (DTU) Medical College & Hospital

Dhankawadi, Pune-43.

PROPOSAL FOR STARTING NEW FELLOWSHIP PROGRAMME

1.Name of the Sponsoring Department- Pediatrics

2.Discipline for proposed Fellowship – Pediatric Pulmonology

3.Brief Justification for starting the course—

Respiratory illnesses are of variable etiology and may be acute, sub-acute or chronic. Most general pediatricians have seen a lot of children with lung disease, but they rarely understand it. Therefore, there is ample opportunity for improvement in quality of care and knowledge enhancement of fellow colleagues. Development of Pediatric Pulmonology as a sub-specialty in India is steadily gaining momentum over the last decade. In a recent estimate about 1.6 million children under the age of 5 years died in India every year, of which 0.397 million (24%) died due to pneumonia alone. It has been reported that outpatient attendance of acute respiratory infections is as high as 20-40% of all outpatients and 12-35% of all inpatients. Burden of asthma in school going children varies from 4-20% in different parts of India. Apart from these illnesses drug sensitive and drug resistant pulmonary tuberculosis and human immunodeficiency virus (HIV) associated pulmonary diseases also add to burden of respiratory illnesses. Other emerging diseases like cystic fibrosis (CF), bronchopulmonary dysplasia, interstitial lung diseases and opportunistic infections in group of immunocompromised hosts, though do not form a significant burden now, but are emerging as a challenge in future.

The Department of Pediatrics at BVUDMC&H is a well established unit well renowned for its academic excellence and training of students in Pediatrics as well as various Pediatric subspecialties. As on today, the department is running fellowship programs in 9 different Pediatric sub-specialties successfully. We as unit are a Centre of excellence in medical education, training, health care and research engrained with a scientific culture, compassion for the sick and commitment to serve the community at large. Pediatric Pulmonology care is available only at select centers across India.

Starting Pediatric Pulmonology fellowship at BVDUMC&H will provide training, experience and a conceptual tool that will enable fellow not only expertise as a practitioner, but will give him / her the foundation to ultimately utilize it for provision of better quality care to children across the country and also dissipate knowledge to fellow Pediatricians. As a trained fellow in Pediatric Pulnomology, he/ she will also be able to develop a network to collect data and answer relevant research questions and contribute effectively to the rapidly growing field of Pediatric Pulmonology.

To include undermentioned-

a. Infrastructure in the department to support the fellowship

Following infrastructure in the institute / departments available to support the training program:

- i) Endoscopy suite
 - ii) Pediatric fiberoptic bronchoscope with attachable light source, processor and monitor
 - iii) Pediatric videobronchoscope with tower
 - iv) Video laryngoscope
 - v) Non-invasive and invasive ventilation facilities
 - vi) Pulmonary Function Test
 - vii) Portable spirometry
 - viii) FENO machine
 - ix) Sweat chloride machine
 - x) Sleep lab set-up (in process)
 - xi) Radiology backup (including x-ray, ultrasound, CT)
 - xii) ENT surgeon back-up for airway problems and tracheostomies
 - xiii) Pediatric Surgery back-up
 - xiv) Infectious disease back-up
 - xv) Pediatric Anesthetist back-up
 - xvi) Pediatric Intensive Care facilities
 - xvii) Neonatal Intensive Care facilities
 - xviii) Adult Pulmonology back-up
 - xix) Respiratory therapist
 - xx) Pediatric Physiotherapist
- b. OPD volume during last one year in the proposed discipline – As this is a newly proposed sub-specialty program, the exact numbers with regards to Pediatric Pulmonology cannot be determined.
- c. IPD volume during last one year in the proposed discipline - As this is a newly proposed sub-specialty program, the exact numbers with regards to Pediatric Pulmonology cannot be determined.
- d. Volume of procedures during last one year (if applicable)
- i) Bronchoscopies - 18
 - ii) Tracheostomies – 5
- e. Availability of suitable mentor(s) - Yes
- i) Dr Sanjay Bafna – Pediatric Pulmonologist, BH, Pune, India
 - ii) Dr Jagdish Chinappa – Pediatric Pulmonologist, Manipal Hospital, Bengaluru, India
 - iii) Dr Bhakti Sarangi – Associate Professor and Pediatric Intensivist, BH, Pune
 - iv) Dr Prasun Mishra – Professor and ENT surgeon, BH, Pune, India
 - v) Dr Priscilla Joshi – Professor and Head, Radiodiagnosis, BH, Pune, India
 - vi) Dr Parmarth – Pediatric Pulmonologist, Wadia children’s hospital, Mumbai, India

4. Aims and Objectives-

Aim of the training:

To enable the candidate to intellectual environment conducive to learning the exemplary practice of Pediatric Pulmonology.

Objectives of the training:

The trainee requires a sound understanding of Pediatric Pulmonology including:

- Proficiency in the clinical diagnosis and medical treatment of acute and chronic respiratory diseases including those that are life threatening in infants, children, adolescents and young adults
- Proficiency in the selection, performance, and evaluation of procedures necessary for the morphologic and physiologic assessment of pulmonary diseases
- Developing a comprehensive knowledge of the pathophysiology of pediatric respiratory disorders through self-study and formal course work, lectures and seminars offered as part of the training program
- Acquiring effective teaching and communication skills

Acquiring the following specific skill-set

- Doing and Interpreting pulmonary function tests (conventional and impulse oscillometry spirometer)
- Doing and interpreting FeNO and nasal NO
- Performing sweat chloride test
- Interpretation of chest X-ray and CT scan
- Performing flexible bronchoscopy
- Performing and interpreting sleep studies

Assessing requirement of NIV, starting it monitoring

5. Fellowships already running in the department and present actual intake –

Sr	Name of Fellowship programme	Present intake
1	Neonatology	01
2	Pediatric Critical Care	03
3	Dual Fellowship in Neonatology and Pediatric Critical Care	01

4	Pediatric Endocrinology	01
5	Pediatric Epilepsy and Neurology	01
6	Pediatric Infectious Diseases	01
7	Pediatric Rheumatology	01
8	Developmental and Behavioral Pediatrics	01
9	Pediatric Genetics and Metabolic Disorders	01

6. Intake for proposed Discipline per year / term – 2

7. Eligibility criteria of candidates-

- 1) Age less than 35 years
- 2) MD / DNB in Pediatrics
- 3) Additional qualification registered with MCI / State medical council

8. Method of selection – (e.g. MCQ & Interview)

Annexure attached (application screening followed by structured objective questionnaire and the personal interview)

9. Training Period -

12 months at BVDUMC&H, Pune, India

10. Outline of Fellowship Programme-

a. Academic / Teaching activities to be engaged in

- i) Outpatient based teaching in sub-specialty OPD
- ii) Inpatient rounds and bedside teaching
 - iii) Case presentations and seminars
 - iv) Journal Clubs
 - v) Pediatric-Radiology Meet
 - vi) Joint sessions with BCH, UK
 - vii) Guest Lectures

b .Rotatory postings

- i) ENT
- ii) Pediatric surgery

iii) Pediatric anesthesia

c. Outline syllabus (attach as appendix)

d. Exposure to practical procedures

i) Training in Bronchoscopy

ii) Training in PFT

iii) Training in spirometry

iv) Training in sleep studies

f. Research activities by the candidate

- One research project will be taken up by the candidate for each term

f. Presentations at State/ National forum

- The candidate will be encouraged to present papers and posters and state and national level conferences

g.. Log book

- Log book as designed will be provided to the candidate where details of teaching sessions, cases seen, procedures done and research activities will be recorded

11. Clinical Job Description of the candidate- (what all clinical responsibilities of the candidate)

a. OPD –

- The candidate will be an integral part of managing the outpatient facilities with sub-specialty running 3 OPDS per week – Asthma clinic / Chronic Respiratory diseases clinic / General Respiratory clinic. The profile will include:

i) Coordinating with OPD administrator to arrange appointments

ii) Getting detailed history and doing a physical examination of each patient

iii) Conducting academic discussions with concerned Faculty

iv) Making treatment plans for patients in consultation with respective faculty

v) Ensuring coordination of any evaluation / procedure that the patient may require

vi) Recording details of the patients in the clinic proforma and ensuring complete record of follow-up visits

b. IPD

- i) Taking rounds of all IPD patients with respiratory problems in ward, NICU and PICU and discussing with respective faculty**
- ii) Ensuring all the references are seen in time**
- iii) Presenting cases bedside to the Pediatric Pulmonology Faculty**
- iv) Execution of plan of management for each referred patient**
- v) Coordinating procedures including bronchoscopy and evaluations including PFT, etc**
- v) Counseling and training of parents with regards to diagnosis, management plan, any devices to be used (eg. MDI, peak flow meter)**

c. Emergency duties

- There will be no emergency duties for the candidate. However, he / she will remain on call for acute respiratory emergencies and bronchoscopy calls

d. Teaching duties

- The candidate will be involved in teaching of residents and undergraduates with respect to Pediatric Pulmonology.

12. Leave rules-

- The candidate will be eligible for 7 days leave per 6 months term

13. Mandatory attendance-

- Barring 14 days of leave granted in one year period (7 days per 6 months term) and weekly off, the rest of the days will remain as compulsory attendance.

14. Assessments-

a. Internal assessments (Frequency / Method)

- i) Quarterly assessment – Using OSCEs, viva voce**
- ii) Six monthly theory assessment using short answer questions**

b. Exit exam pattern-

Theory papers	2 papers	Short answer questions	100 marks per paper
Practicals	1 practical exam	Pattern- Long case(s)- 1	200 marks

		Short case(s)- 2 Viva Voce - 2 OSCE	
Examiners		Internal(s)	01
		External(s)	01
Qualifying marks (Each Head/Overall)	Candidate must score 50% marks in each of the theory papers as well as the practical to qualify		

15. The approved junior medical staff position under which this fellowship position will be absorbed-

Assistant Professor

16. Requirement of Professional Indemnity if any / Registration with MMC

-Registration with MMC or state Medical council will suffice

17. Credentials of the Mentor to the Fellow –

- a. Name – Dr Sanjay Bafna
- b. Qualification – MBBS, MD (Ped), European Diploma in Paediatric Respiratory Medicine
- c. Training in specific discipline – 2 years
- d. Experience in relevant discipline – 5 years (2 years training + 3 years practice)
- e. Present Faculty position – Honorary Pediatric Pulmonologist

18. Details of the Course director/HOD

- a. Name- Dr Sanjay Lalwani
- b. Qualification- MBBS, MD (Ped), DNB (Ped), FIAP
- c. Faculty position- Professor and Head, Department of Pediatrics

19. Estimated Financial Implications per annum-

- **Stipend/ Monthly pay –**
 - Rs 50000/- per month at BVDUMC&H, Pune, India

- **Proposed fee for Fellowship**
 - Rs 60000/- per term

- **Examination Fees**
 - Decided as per University rules

Sign of Mentor -

Date

Sign of HOD

Date

Countersignature of MD/ Principal

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8	Developmental and Behavioral Pediatrics	01
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6. Intake for proposed Discipline per year / term – 3 (One in service candidate per year extra)

7. Eligibility criteria of candidates-

- 1) Age less than 35 years
- 2) MD / DNB in Pediatrics
- 3) Additional qualification registered with MCI / State medical council

8. Method of selection – (e.g. MCQ & Interview)

Annexure attached (application screening followed by structured objective questionnaire and the personal interview)

9. Training Period -

24 months divided in two parts as follows:

Part I (12 months) at BVDUMC&H, Pune, India

Part II (12 months) at Birmingham children's hospital (BCH), Birmingham, West Midlands, United Kingdom

10. Outline of Fellowship Programme-

a. Academic / Teaching activities to be engaged in

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Practicals	1 practical exam	Pattern- Long case(s)- 1 Short case(s)- 2 Viva Voce - 2 OSCE	200 marks
Examiners		Internal(s)	01

		External(s)	01
Qualifying marks (Each Head/Overall)	Candidate must score 50% marks in each of the theory papers as well as the practical to qualify		

15. The approved junior medical staff position under which this fellowship position will be absorbed-

Assistant Professor

16. Requirement of Professional Indemnity if any / Registration with MMC

-Registration with MMC or state Medical council will suffice

17. Credentials of the Mentor to the Fellow –

- a. Name – Dr Sanjay Bafna
- b. Qualification – MBBS, MD (Ped), European Diploma in Paediatric Respiratory Medicine
- c. Training in specific discipline – 2 years
- d. Experience in relevant discipline – 5 years (2 years training + 3 years practice)
- e. Present Faculty position – Honorary Pediatric Pulmonologist

18. Details of the Course director/HOD

- a. Name- Dr Sanjay Lalwani
- b. Qualification- MBBS, MD (Ped), DNB (Ped), FIAP
- c. Faculty position- Professor and Head, Department of Pediatrics

19. Estimated Financial Implications per annum-

- Stipend/ Monthly pay –
 - Rs 50000/- per month at BVDUMC&H, Pune, India
 - £1800/- per month at BCH, Birmingham, UK
- Proposed fee for Fellowship
 - Rs 60000/- per term
- Examination Fees
 - Decided as per University rules

Sign of Mentor -

Date

Sign of HOD

Date

Countersignature of MD/ Principal



**BHARATI VIDYAPEETH
DEEMED TO BE UNIVERSITY
MEDICAL COLLEGE,
PUNE**



**DEPARTMENT OF PEDIATRICS
PEDIATRIC PULMONOLOGY UNIT**



IAP FELLOWSHIP IN PEDIATRIC PULMONOLOGY

2023 - 2025

Rules, Regulations, Guidelines and Curriculum

(Under the aegis of Indian Academy of Pediatrics, National Respiratory Chapter & Indian College of Pediatrics)

Section I : Statement of Goals, Objectives, Eligibility and Organization

Section II : Course Content

Section III : Recommended teaching / learning methods and activities

Section IV : Evaluation scheme

Section V : Recommended books and other learning resource materials

- Appendix I: Detailed list of topics for training in fellowship
- Appendix II: Evaluation form for trainees after completion of training
- Appendix III: Technical information related to IAP National Respiratory Chapter fellowship training program
- Appendix IV: Pattern of Examination
- Appendix V: Sample of request letter for enrolment of Institutes for IAP National Respiratory Chapter fellowship Program
- Appendix VI: Eligibility criteria for enrolment as Institute for conduct of IAP National Respiratory Chapter fellowship program
- Appendix VII: Eligibility form and the application form for enrolment of Institute to conduct IAP National Respiratory Chapter Fellowship program
- Appendix VIII: Submission of information of selected fellow candidate for the IAP National Respiratory Chapter Fellowship program
- Appendix IX: Application to take the IAP National Respiratory Chapter Fellowship Examination
- Appendix X: Application for re-evaluation of Theory paper (s)
- Appendix XI: Application for Life Membership of Central IAP
- Appendix XII: Application for Life Membership of IAP National Respiratory Chapter

Section I

Statement of Goals, Objectives, Eligibility and Organization

The goal of paediatric pulmonology fellowship program is to provide specialized training in paediatric pulmonology to produce competency in all the various fields of medical management of children with respiratory diseases, by obtaining specialized training in Institutions that have specialized paediatric pulmonology department/paediatric department over a stipulated period. These specialists will be capable of providing subsequent such care in the community. They shall recognize the health needs of the community and carry out professional obligations ethically and in keeping with the objectives of the national health policy.

Objectives

After completing the Paediatric Pulmonology Fellowship course the trainee will be able to -

- Management of acute and chronic respiratory problems with special emphasis on bronchial asthma and tuberculosis
- Doing and interpreting pulmonary function tests (conventional and impulse oscillometry spirometer)
- Doing and interpreting FeNO and nasal NO
- Performing sweat chloride test
- Interpretation of chest X-ray and CT scan
- Performing flexible bronchoscopy

Eligibility and Organization Trainee

Any student of Indian nationality who has completed the M.D / D.N.B. course in Paediatrics from a Medical Council of India or State Medical Council recognized University in India is eligible for this fellowship program. In case of DCH candidates he will require one-year additional residency from an Institute recognized by Medical Council of India. The course tenure would be two years for IAPNRC Fellowship as recommended by Indian College of Pediatrics. Any foreign student or a non-resident Indian student who wishes to apply should be a degree holder in Paediatrics post-graduate training and would have to produce a bonafide certificate from the Head of Department of Paediatrics of his / her institution where he / she has completed the post graduate training in Paediatrics, along with photocopies of the certificate of post graduate degree from the university concerned. The undergraduate and postgraduate degrees should be recognized by the Medical council of India.

All fellowship candidates must be life members of Central IAP and should become life member of IAP National Respiratory Chapter within a month of his joining the fellowship. Failing which his/her admission will be cancelled and will not be refunded the fees.

At the time of application, the trainee would have to produce:

1. A bonafide certificate from the Head of Department of Paediatrics of his / her institution where he/ she has completed the post graduate training in Paediatric
2. Photocopies of the certificate of the post graduate degree from the University concerned
3. Certificate of registration with the appropriate State Medical Council or Medical council of India
4. Curriculum vitae
5. Letter of reference from two referees Institution:

Section II

Course Content

Since the fellow is trained with the aim of practicing as independent specialists, this course content will be mainly a guideline. They have to manage all types of cases and situations and seek and provide consultation. The emphasis shall therefore be on the practical management of the problem of the individual cases and the community within the available resources.

A. Academic topics Mandatory

- Evaluation of respiratory symptoms and signs
- Pulmonary function testing
- Airway endoscopy
- Imaging
- Acute and chronic lung infection
- Tuberculosis
- Bronchial asthma and other wheezing disorders
- Allergic disorders
- Cystic fibrosis
- Congenital malformations
- Bronchopulmonary dysplasia and chronic lung disease of infancy
- Rare diseases
- Sleep medicine
- Rehabilitation in chronic respiratory disorders
- Inhalation therapy
- Technology-dependent children
- Epidemiology and environmental health
- Management and leadership
- Teaching
- Research
- Communication

Optional

- Rigid and interventional airway endoscopy
- Post lung transplant management
- Additional diagnostic test

(For the exhaustive list of topics that need to be covered during the training, please refer to Appendix I)

Section III

Teaching, Learning methods and Activities

Learning in fellowship program shall be essentially autonomous, self-directed and entire fellowship period shall be in service training program based on the concept of learn as you work principle. The following organized learning experiences should be provided to the students. Timetable for these programs will be drawn every six months.

1. Case presentation & case management in OPD & Indoor wards: The fellow will present cases regularly on clinical rounds to the faculty members of the department.
2. Fellow should present seminar weekly and journal bimonthly
3. Bimonthly radiology Conference should be conducted and interesting chest X-ray and CT scan of chest should be discussed.
4. Medical audit / mortality case discussions: This will be done once a month by the fellow, who is expected to analyse & discuss the cases allotted to him/her.
5. Fellows are required to attend the infection control committee meetings, research meeting and other meeting conducted by institute from time to time.
6. Preparation and presentation of a research project: Every fellow will be required to carry out research project under the supervision of his guide as identified by the institution.
7. The guide shall maintain a log book of all the activities carried out by the trainee and by the end of twelve months complete the form given in Appendix II and submit the same to the Chairperson, National Respiratory Chapter of IAP for certification.
8. The fellow shall get enough opportunities to learn following procedures and skills
 - PFT: Develop and demonstrate ability to interpret pulmonary function tests including arterial blood gas, pulse oximetry and spirometry
 - FOB & BAL: Develop and demonstrate the ability to perform and interpret diagnostic flexible/video bronchoscopy and bronchoalveolar lavage fluid (BALF) findings, as well as understanding the indications for, risks and benefits of this procedure
 - Thoracocentesis: Understand the indications for, current techniques for, and potential complications of thoracentesis in children; develop and demonstrate the ability to interpret laboratory studies of pleural fluid
 - Chest physiotherapy: learn application and performance of various airway clearance techniques
 - FNAC: Learn techniques of performing, processing and interpreting fine needle aspiration and sweat chloride estimation in children
 - Respiratory Imaging: Develop and demonstrate ability to interpret respiratory imaging studies including chest radiographs, fluoroscopy, upper airway radiographs, ventilation/perfusion scans, and chest CT

- AFB staining: perform smear preparation, staining and reading smear of sputum and other body fluids for acid fast bacilli
- RNTCP: learn to register newly diagnosed and other cases of tuberculosis under RNTCP in children, manage multi drug resistant TB, complications of ATT and manage.
- Intubations: Develop and demonstrate the ability to perform endoscopic intubations in infants and children using the flexible bronchoscope
- Lung biopsy: Understand the indications for current techniques for and potential complications of lung biopsy in children
- Ventilation: Understand the appropriate use, risks and benefits of more specialized therapeutic modalities such as tracheostomy, chronic mechanical ventilation (positive and negative pressure), CPAP and BiPAP
- Polysomnograms: Understand the indications for, current techniques for, and interpretation of polysomnograms (sleep studies) in children
- Develop and demonstrate the ability to diagnose and treat acute airway and lung problems which occur in the settings of neonatal and pediatric intensive care units
- Understand the indications for, limitations of, and risks of other specialized diagnostic techniques in children, including rigid bronchoscopy, mediastinoscopy, and thoracoscopy
- Understand the appropriate use, risks and benefits of commonly used therapeutic modalities such as supplemental oxygen,, bronchodilators, diuretics, systemic and inhaled corticosteroids, leukotriene inhibitors, inhaled DNAase, and antibiotics.

8. During the fellowship training can also be opt for;

- a. Clinical and epidemiological research work through public health department
- b. Basic science research in a discipline related to paediatric respiratory diseases, for a minimum of one year.

Elective training overseas:

Further specialized training during the period of the fellowship shall be optional. A period of 4-12 weeks at one of the collaborating institutions overseas may be arranged with prior approvals. This will be competitive and will be based on receipt of scholarship.

Section IV

Evaluation System:

Evaluation will be Formative and Summative

Formative: Formative evaluation will be carried out over 5 activities of the Fellow

- Ward work
- Case presentation
- Seminar presentation
- Journal Club
- Internal assessment
- General assessment of attitude: Rapport and attitude

Summative

- Research project*: Evaluation of research done by the trainee
- Publications#
- Final examination

***Research Project:**

The topic for research project shall be finalized and discussed in the departmental faculty meeting and allotted to the individual fellow in the 1st three months of fellowship month after admission. The purpose of research project is to train the fellow to perform an independent study keeping the principles of research methodology and epidemiology in mind. The fellow will therefore work on a prospective or retrospective project within the department or in collaboration with other departments. There will be continuous monitoring of the dissertation/research/long essay work by the guides and co-guides and by the other department staff throughout the course. The completed research should be submitted 4 weeks before the final examination.

#Publications:

At least 1 original article/review article publications are expected by the end of the fellowship period. The articles may be published in peer-reviewed indexed journals, either national or international.

Final Examination:

Eligibility:

- Attendance: minimum 85%
- Satisfactory Internal assessment
- Approval of dissertation/research/long essay project submitted

Fellow will be eligible to appear for theory examination only after being certified on the basis of internal assessment.

Theory examination

- There will be 2 papers.
- Each paper will carry 100 marks.
- Distribution of questions in the 2 papers is usually as follows:

Theory Paper I: Basic sciences, Epidemiology, Congenital malformation, Sleep Medicine, Teaching, Research, Communication etc.

Theory Paper II: Case based questions

Clinical or Practical Examination:

There will be clinical examination based on cases, work stations and viva voce.

Examination will be on at least two cases and workstations. The “OSCE” method of examination can be a part of evaluation.

The fellow must pass in theory (both papers included) and practical (aggregate marks) independently by obtaining at least 50% marks in theory as well as in practical exam and obtain an overall percentage not less than 50% (viz 250 / 500). It is essential to obtain 50% marks in case base evaluation.

The summary of the examination is shown in Table: (Total marks obtainable = 500)

- Theory (Paper I + Paper II) 100 + 100 = 200
- Clinical Practical Examination: Total 300

Section V

Recommended Books and Resource Material Textbooks (Latest editions available)

Author Name	Name of the Books	Publishing Company
Robert Wilmott et al	Kending's Disorder of respiratory tract in children	Elsevier, Philadelphia
Jurg Hammer et al	Pediatric Pulmonary Function testing	Karger, Basel, Switzerland
Michel J et al	Paediatric Pulmonology	American academy of Pediatrics
Priftis KN et al	Pediatric Bronchoscopy	Karger, Basel, Switzerland
Midulla F et al	ERS Handbook of Pediatric Respiratory Medicine	European Respiratory Society
Kabra SK et al	Essential Paediatric Pulmonology	Nobel Publisher, New Delhi

Recommended journal for Paediatric Pulmonology Fellow

- Pediatric Pulmonology
- European Respiratory Journal
- Chest
- New England Journal of Medicine
- Paediatrics
- Journal of Paediatrics
- Lancet
- Indian Paediatrics
- Indian Journal of Paediatrics

Appendix I: Detailed List of Topics for Training in the Fellowship Program

- Structure and function of the respiratory system
 - Anatomy and development of the respiratory system
 - Applied respiratory physiology
 - Immunology and defense mechanisms
 - Environmental determinants of childhood respiratory health
- Respiratory signs and symptoms
 - History and physical examination
 - Cough Tachypnoea, Dyspnoeas, Respiratory distress and chest pain
 - Snoring, hoarseness, stridor and wheezing
 - Exercise intolerance
- Pulmonary function testing and other diagnostic tests
 - Static and dynamic lung volumes
 - Respiratory mechanics reversibility
 - Bronchial provocation testing and exercise testing
 - Blood gas assessment and oximetry
 - Exhaled nitric testing in infants and preschool children
 - Single and multiple breath washout techniques
 - Forced oscillation techniques
 - Polysomnography
- Airway endoscopy
 - Flexible bronchoscopy
 - Bronchoalveolar lavage
 - Bronchial brushing and bronchial & transbronchial biopsies
 - Rigid & Interventional endoscopy
 - General anesthesia, conscious sedation and local
- Lung imaging
 - Conventional radiography
 - Computed tomography
 - Magnetic resonance imaging
 - Ultrasonography imaging method
 - Interventional radiology
- Inhalation therapy
 - Aerosol therapy
- Acute and Chronic lung infections
 - Epidemiology
 - Microbiology testing and interpretation
 - Immunization against respiratory pathogens
 - Upper respiratory tract infections

Community acquired pneumonia
Hospital acquired pneumonia
Lung involvement in immunodeficiency disorders
Non-CF bronchiectasis
Pleural infections
Necrotizing pneumonia and lung abscess
Bacterial bronchitis with chronic wet lung

- Tuberculosis
 - Pulmonary TB, latent TB and in vivo and in vitro tests
 - Extra pulmonary TB and TB in the immunocompromised
- Bronchial asthma and wheezing disorders
 - Epidemiology and phenotypes of bronchial asthma and wheezing disorders
 - Genetic and environmental factors in bronchial asthma and wheezing disorders
 - Oliv acute viral bronchiolitis
 - Preschool wheezing
 - Bronchial asthma
 - Emerging therapeutic strategies
 - Differential diagnosis of bronchial asthma
- Allergic disorders
 - Pathophysiology and epidemiology of allergic disorders in vivo and in vitro
 - Diagnostic tests in allergic disorders
 - Allergic rhinitis
 - Atopic dermatitis
 - Food allergy
 - Allergic bronchopulmonary aspergillosis
 - Specific immunotherapy, prevention measures and alternative treatment
- Cystic fibrosis
 - Genetics, Pathophysiology and epidemiology screening and diagnosis of CF
 - CF Lung disease
 - Extrapulmonary manifestations of CF emerging treatment strategies in CF
 - Prognosis, management and indications for lung transplantation
- Congenital malformations
 - Airway malformations
 - Thoracic malformations
 - Vascular malformations
- Bronchopulmonary dysplasia and chronic lung disease
 - Aetiology, pathogenesis, prevention and evidence based Nutritional care
 - Neurodevelopmental assessment and outcomes
 - Long-term respiratory outcomes

- Pleural, mediastinal and chest wall diseases
 - Pleural effusion,
 - chylothorax
 - haemathorax and mediastinitis Pneumothorax and pneumomediastinum
 - Neuromuscular disorders chest wall disorder
- Sleep-related disorders
 - Physiology and pathophysiology of sleep
 - OSAS and upper respiratory airway resistance syndrome
 - Central sleep apnoea and hypocentilation syndromes
 - Impact of obesity on respiratory function
- Lung injury and respiratory failure
 - Lung injury
 - Acute and chronic respiratory failure
 - Home oxygen therapy, invasive ventilation and NIV, and home entilatory support
- Other respiratory disease
 - Primary ciliary dyskinesia
 - Gastro-oesophageal reflux associated disease and aspiration syndrome
 - Foreign Body aspiration
 - Bronchiolitis
 - Obliterans
 - Plastic Bronchitis
 - Haemangiomas, lymphangiomas and papillomatosis
 - Interstitial lung diseases
 - Surfactant dysfunction and alveolar proteinosis
 - Pulmonary vascular disorders
 - Eosinophilic ling diseases and hypersensitivity Pneumonitis
 - Pulmonary hemorrhage
 - Sickle cell diseases
 - Lund and mediastinal tumors
 - Systemic disorders with lung involvement
 - Lung transplantation and management of post-lung transplant patients
- Rehabilitation in chronic respiratory diseases
 - Rehabilitation programs and nutritional management
 - Prevention of indoor and outdoor pollution
 - Respiratory physiotherapy
 - Fitness-to-fly
 - Testing sports medicine

Appendix II:

Evaluation form for fellow on completion of fellowship (To be filled by the Institute and sent along with the application to take fellowship examination)

Full Name of Fellow: Dr. _____

Date of Joining fellowship program: _____

Date of filling evaluation form: _____

Guidance for Scoring:

Poor	Below average	Average	Above average	Very good
1	2	3	4	5

Evaluation form for Fellow:

Clinical work Score: ()

1. Punctuality
2. Regularity of attendance
3. Quality of Ward Work
4. Maintenance of case records
5. Presentation of cases during rounds
6. Investigations work-up
7. Bedside manners
8. Rapport with patients

Seminar ()

1. Presentation
2. Completeness of preparation
3. Cogency of presentation
4. Use of audiovisual aids
5. Understanding of subject
6. Ability of answer questions
7. Time scheduling
8. Consulted all relevant literature
9. Overall performance
10. Others

Clinical Meetings score ()

1. Completeness of history
2. Whether all relevant points elicited
3. Cogency of presentation
4. Logical order
5. Mentioned all positive and negative points of importance
6. Accuracy of general physical examination
7. Whether any physical signs missed or misinterpreted
8. Whether any major signs missed or misinterpreted
9. Diagnosis: whether it follows logically from history and findings
10. Investigations required – complete list
11. Relevant order
12. Interpretation of investigations
13. Overall ability to react to questioning
14. Whether answers relevant and complete
15. Ability to defend diagnosis
16. Confidence
17. Other

Research Work: Score ()

1. Interest shown in selecting a topic
2. Appropriate review
3. Discussion with guide and other faculty
4. Quality of protocol
5. Preparation of performa
6. Regular collection of case material
7. Depth of analysis / discussion
8. Departmental presentations of findings
9. Quality of final output
10. Other

Journal club Score ()

1. Choice of articles
2. Cogency of presentation
3. Whether he / she has understood the purpose of the article
4. How well did he / she defend the article?
5. Whether cross-references have been consulted
6. Whether other relevant publications have been consulted
7. His / her overall impression of articles
8. If good – reasons:
9. If poor – reasons:
10. Audiovisual aids
11. Response to questioning
12. Overall presentation
13. Others

Log (Performance record book)

Maintenance of performance record logbook is mandatory. Certified and assessed copy should be made available at the time of practical examination for review by examiners

Log Book should contain:

Certificate duly signed by teacher, head of department, head of institute stating Dr.
..... has worked in department from
...../...../..... to/...../.....

This performance record book contains the authentic record of work done and assessment for one year.

Colour
photograph
of candidate

LOG-BOOK

Candidate Name : Dr.
Present Address :
Phone no. (R):
Mobile no. :
Email:
Permanent Address :
Date of Birth :
Date of Joining Fellowship :
Name of the Guide. : Dr Sanjay Bafna

.....
Signature of the Candidate

.....
Signature of the Guide

Signature:

**Dr. S K Lalwani
Vice Principal
Medical Director
Professor and Head
Department of Pediatrics
Bharati Vidyapeeth (Deemed to be University) Medical College, Pune**

Date	Journal	Article	Faculty sign	Score

The presentation will be evaluated on the content, clarity, quality of slides, eye contact, use of pointer, summary and critical appraisal of the article. The Presentation will be evaluated by the faculty in the evaluation sheet attached.

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

Journal club evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grades/Remarks	Grades/Remarks	Grades/Remarks	Grades/Remarks
Date/Details of Article Presented				
Key learning points				
Choice of article & cogency of presentation				
Overall Understanding of Article/Study				
Relevant Cross References /Literature review				
Understanding of Statistic and Methodology				
Critical Appraisal of Article/Study				
Overall Grading:				
Faculty sign				

B. Seminars

Date	Topic	Faculty sign	Score

The Fellows are expected to make at least 10 presentations (Seminars). The presentation will be evolution by the faculty in the evaluation sheet attached in the log book.

Seminars

Date	Topic	Faculty sign	Score

The Fellows are expected to make at least 10 presentations (Seminars). The presentation will be evolution by the faculty in the evaluation sheet attached in the log book.

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, congency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, congruency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Seminar Evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/Remarks	Grading/Remarks	Grading/Remarks	Grading & remarks
Date/Seminar Topic				
Key learning Points				
Scheme and flow of Presentation- (completeness, cogency, AV aid				
Overall Understanding of Subject				
Ability to answer questions				
Relevant literature Review-				
Clinical Application				
Overall Grading-				
Guide / Faculty Sign				

Date	Case	Faculty sign	Score

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

Case Presentation evaluation sheet:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

	Grading/remarks	Grading/remarks	Grading/remarks	
Date / Case Details				
Key learning Points				
Relevant History				
Accuracy of Physical Examination				
Analysis of Clinical Details/Diagnosis				
Relevant Differential Diagnosis				
Investigations Plan				
Management Plan				
Counseling skills				
Overall Grading				
Guide/Faculty sign:				

E. Pediatric Pulmonology Patient managed (inpatient)

S.No.	Date	Name	Diagnosis	Procedures performed	Outcome	Sign of Faculty
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						

Pediatric Pulmonology Patient managed (inpatient)

S.No.	Date	Name	Diagnosis	Procedures performed	Outcome	Sign of Faculty
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

Pediatric Pulmonology Patient managed (inpatient)

S.No.	Date	Name	Diagnosis	Procedures performed	Outcome	Sign of Faculty
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

Pediatric Pulmonology Patient managed (inpatient)

S.No.	Date	Name	Diagnosis	Procedures performed	Outcome	Sign of Faculty
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Evaluation of Bronchoscopy:

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Sr No/date				
Case Details /Indication				
Assisted/done Under Supervision				
Important Findings				
Key learning Points				
	Grading/Remarks	Grading/Remarks	Grading/Remarks	
Pre-procedure preparation				
Upper Airway navigation				
Lower airway navigation				
BAL				
Interpretation				
Overall Grading-				
Guide/Faculty sign				

Details of Radiology Meetings / Intervention Radiology

Date	Details of Cases Discussed	Key Learning Points	Guide / faculty sign

Details of Radiology Meetings / Intervention Radiology

Date	Details of Cases Discussed	Key Learning Points	Guide / faculty sign

Details of Radiology Meetings / Intervention Radiology

Date	Details of Cases Discussed	Key Learning Points	Guide / faculty sign

Details of Radiology Meetings / Intervention Radiology

Date	Details of Cases Discussed	Key Learning Points	Guide / faculty sign

Details of Radiology Meetings / Intervention Radiology

Date	Details of Cases Discussed	Key Learning Points	Guide / faculty sign

Participation in Research Activity:

Name of project, Duration:

Case Presentations at CMEs/ Conferences

Sr. No.	Date	CME/Conference details	Case details

Poster Presentation

Sr. No.	Date	CME/Conference details	Poster Details

Paper presentation

Sr. No.	Date & Place	CME/Conference details	Paper Title /details

Details of CMEs/Workshops/Conferences

Date, Venue Conference / CME	Talks Attended with Key learning points

Clinical Duties and Academic Schedule:

Acquisition of practical competence is the keystone of fellow's medical education. The learning should essentially be self-directed and emanating from clinical and academic work.

A candidate has to cater to the hospitalized inpatient in the wards everyday besides looking after outpatients in the various OPDs like Asthma and allergy clinic, Chronic Pulmonology clinic, TB OPD BPD clinic and General respiratory clinic.

Daily activities include ward rounds of respiratory patients, attending OPDs, discussion of imaging with radiologists, performing spirometry, SPT etc. and informing updates of patients regularly to faculty.

The fellows will primarily be posted in Pediatric Pulmonology OPD and Pediatric wards where the major part of learning will take place through clinical case discussions, didactic lectures, grand rounds, seminars, journal clubs etc. along with rotational postings in the other sub-specialties relevant to the field of Pediatric Pulmonology.

The fellow is expected to attend various other CMEs, interinstitutional case discussions/lectures and conferences for acquisition of knowledge and skills in pulmonology.

Relevant Procedure and skill-based learning will be imparted by observing and assisting various procedures under supervision of faculty. The candidate will be encouraged to attend various workshops for improvisation of skills.

The candidate is required to make e-folders (including history, investigations, photos/videos etc) for all interesting respiratory patients.

The fellows are expected to impart and disseminate the knowledge and rational practice of the subspeciality through training of junior doctors which will have a positive impact on patient care.

Tentative Working Schedule:

Day	Morning	Afternoon	Teaching
Monday	Ward round/NICU ref.	PFT/sweat CL/SPT Radiology	
Tuesday	Ward/PICU Round	Bronchoscopy/ Faculty round	Seminar/journal club
Wednesday	Ward Round/ BPD clinic	Asthma OPD/Faculty round	Bedside discussion
Thursday	Ward Round/NICU ref.	PFT/SPT/Radiology discussion	BCH online session
Friday	Ward /PICU Round	Chronic Pulmonology patients OPD/Faculty round	Bedside discussion
Saturday	Ward Round/BPD clinic	Research work	

Radiology Meet-once a month

MDT meet as needed

Grading & Evaluation:

Will be done by guide/faculty for the academic activities and various procedures as follows.

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

Evaluation will be done by Guide every quarter and graded as above.

Final Evaluation:

Competency based Assessment- Will be done at the end of year as per competency level achieved by the candidate. Candidate is expected to achieve level 3 competency at the end of fellowship training.

Level 1-

Clinical knowledge and skills-

Basic knowledge of the topic-Pathophysiology, Manifestations and Management.

Ability to obtain and analyze clinical details and assist faculty in making management plan.

Procedure skills-

Proper patient selection, parent counseling, preprocedural preparation and assist faculty in procedures. Learn basic steps of interpretation.

Level 2-

Clinical knowledge and skills-

Ability to analyze various differential diagnosis and make a plan of investigation and management under supervision.

Procedure skills-

Ability to do the procedure under supervision and interpret the report/findings.

Level 3-

Clinical knowledge and skills-

In depth knowledge of the subject with sound clinical approach to investigate and manage complex respiratory cases.

Procedure skills-

Procedure skills- Proficiency in performing and interpreting reports/findings of PFTs, bronchoscopy, sleep studies etc.

Half Yearly Review :

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

<u>Areas</u>	<u>Attributes</u>	<u>Evaluation & Grading by Guide with sign</u>
Clinical Work	Punctuality & Regularity of Attendance:	
	Maintenance of Case Records	
	Approach to Clinical Problems	
	Attitude towards Patient Care	
	Rapport with Colleagues /Team	
	Rapport with Patients:	
	Counseling Patient's Relatives	
Procedures and Skills	Spirometry	
	Bronchoscopy	
	Radiology	
	Skin prick Testing	
	Sleep reporting	
Academic Activities	Case presentations	
	Seminars	
	Journal Club	
	Teaching	
	Research Work	

Half Yearly Review :

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

<u>Areas</u>	<u>Attributes</u>	<u>Evaluation & Grading by Guide with sign</u>
Clinical Work	Punctuality & Regularity of Attendance:	
	Maintenance of Case Records	
	Approach to Clinical Problems	
	Attitude towards Patient Care	
	Rapport with Colleagues /Team	
	Rapport with Patients:	
	Counseling Patient's Relatives	
Procedures and Skills	Spirometry	
	Bronchoscopy	
	Radiology	
	Skin prick Testing	
	Sleep reporting	
Academic Activities	Case presentations	
	Seminars	
	Journal Club	
	Teaching	
	Research Work	

Half Yearly Review :

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

<u>Areas</u>	<u>Attributes</u>	<u>Evaluation & Grading by Guide with sign</u>
Clinical Work	Punctuality & Regularity of Attendance:	
	Maintenance of Case Records	
	Approach to Clinical Problems	
	Attitude towards Patient Care	
	Rapport with Colleagues /Team	
	Rapport with Patients:	
	Counseling Patient's Relatives	
Procedures and Skills	Spirometry	
	Bronchoscopy	
	Radiology	
	Skin prick Testing	
	Sleep reporting	
Academic Activities	Case presentations	
	Seminars	
	Journal Club	
	Teaching	
	Research Work	

Half Yearly Review :

Poor 1	Below average 2	Average 3	Above average 4	Very good 5
--------	-----------------	-----------	-----------------	-------------

<u>Areas</u>	<u>Attributes</u>	<u>Evaluation & Grading by Guide with sign</u>
Clinical Work	Punctuality & Regularity of Attendance:	
	Maintenance of Case Records	
	Approach to Clinical Problems	
	Attitude towards Patient Care	
	Rapport with Colleagues /Team	
	Rapport with Patients:	
	Counseling Patient's Relatives	
Procedures and Skills	Spirometry	
	Bronchoscopy	
	Radiology	
	Skin prick Testing	
	Sleep reporting	
Academic Activities	Case presentations	
	Seminars	
	Journal Club	
	Teaching	
	Research Work	

Appendix III

Technical information relating to IAP National Respiratory Chapter fellowship program

1. IAPNRC Paediatric Pulmonology Fellowship program is endorsed by the Indian College of Paediatrics (ICP)
2. The Selection of institute will be based on the credentials + location + teaching facility + infrastructure of the institute. All applicant institutes will be physically inspected by an inspection team and the travel and lodging of these inspectors will be arranged by the applicant institute. The institutes will apply for fellowship through the institute head on institute letterhead and endorsed by the head of the paediatric pulmonology/ paediatric department / fellowship program coordinator. The application will be addressed to the Chairperson of the chapter. The institute should be registered with the local authorities and the registration number and certificate should be attached with the application.
3. All teachers at the Institute must be life members of Central IAP and life members of the IAP National Respiratory Chapter. The IAP life membership number of all teachers at the Institute must be mentioned in the application form.
4. The IAP National Respiratory chapter or the institute that conducts the fellowship program will advertise the positions as widely as possible to receive applications from all parts of the country and then choose the best candidates based on a system of interviews or examination. The advertisement can be made in the official instrument of IAP National Respiratory Chapter, institute bulletin or on institute notice board and in official instruments of IAP-the Academy today, Indian Paediatrics, and Indian Journal of Practical Paediatrics. Applications may also be invited through other reputed journals published by sister professional organizations.
5. Each institute can register candidate/candidates as fellows (as per allotment by Governing council of fellowship or IAP National Respiratory Chapter). Fellow will take the fellowship examination at the end of training. Institutes are encouraged to enrol MD / DNB candidates whenever possible. In the absence of such a candidate, a DCH qualified candidate with one year experience of JR/SR in MCI recognized institute can be selected.
6. Ideally, candidates should be enrolled on January 1/July 1 of a given year. However, for several considerations, the last date for enrolment may be extended to February 15/August 15 of that year. No new appointments must be made after these dates.
7. Institutes will inform the chapter about change of fellowship coordinator's name, if and when that happens. Institutes will also inform the chapter about any change in teaching faculty.
8. **Each candidate must submit a fellowship fee of Rs. 5,000/- in the form of a Demand Draft payable in the city where the chapter account is based (Jaipur at present), in the name of "Indian Academy of Paediatrics, National Respiratory Chapter". The DD should have the name, and cell number of the candidate, and the name of Institute of attachment written on the back.**
9. The institution will pay reasonable stipend to the fellow. Accommodation may be provided if available.
10. The institute will submit a fellowship information form (appended with this document) which

should contain information about the institute and candidates along with details of the DDs and copies of qualification certificates of the candidates. Candidate will not submit this information to the chapter individually. All communications regarding the technicalities of the fellowship program and fellowship examination will be done by the fellowship coordinator and not by individual candidates.

11. The receipts for the DDs will be posted to the institute / fellowship coordinator and not to individual candidates.
12. No refund will be made if a candidate chooses to abandon the program at any time after enrolment.
13. Any dispute between the institute and candidate will be resolved between themselves. If it is not resolved the chapter may mediate.
14. The exam fee as decided by the chapter from time to time will be paid through a DD in the name of the chapter by each candidate, through the institute, with a covering note (sample appended with this document) after the exam date is announced, to reach the chapter address one month in advance of the examination date.
15. The names of candidates who pay the exam fee in time, will be intimated to the exam coordinator in the order of receipt of DDs and roll numbers for exam will be allotted in a likewise order.
16. If examination fee is not received a month in advance of the examination date, the respective candidate will not be allowed to take the fellowship exam. If a candidate withdraws from taking the exam after paying the exam fee, the fee will not be refunded.
17. The research project has to be submitted as 3 hard copies along with CD containing dissertation/research work in Word document format and the clinical photographs if any with appropriate labelling, in jpeg 300 dpi formats. The last date for submission of research project thesis is 4 weeks before the fellowship exam date.
18. Each institute will be communicated the venue and date of the fellowship exam at least two months before the exam, and the details of the theory and practical examinations, roll numbers, and the specific dates allotted to individual candidates for practical exam will be communicated at least one month before the dates of examinations.
19. The roll number allotted to each candidate is non-negotiable. Individual requests from candidates or institutes for change of roll number or date of practical examination will not be entertained.
20. It is essential to obtain 50% marks in theory (100/200), overall 50% marks in practical (150/300), 50% marks in clinical case presentations and aggregate 50% marks (250/500) to clear the exam.
21. Examination result will be communicated to the institutes on email immediately as it becomes available. Marks card (with details of marks) and the certificate will be posted to the institutes within 6 weeks of declaration of result.
22. Candidates that fail to clear the exam may take another exam when the next exam is conducted after re-apply to the chapter with a DD for exam fee.

23. A failed candidate who may seek re-evaluation of his / her theory paper marks, may request the chapter for the same, with endorsement from the institute head, and submit a DD for Rs. 2000/- for re-evaluation of both theory papers, and Rs. 1000/- for re-evaluation of one theory paper. The theory papers will be re-evaluated (re-read and remarked) by an independent examiner (other than the panel of original examiners). Marks will be communicated to the candidate within two weeks from the date of request.

Appendix IV

Pattern of Examination

1. The IAP National Respiratory Chapter office bearers have the discretionary powers to decide the venue of fellowship examination based upon the number of candidates to be examined, availability of infrastructure and examiners, and the willingness of Institute to conduct the examination as per the guidelines of the chapter.
2. A team of examiners will be invited to conduct the exam by the chapter.
3. The theory papers will be set by two sets of examiners independently. The questions will be communicated to the chairperson / fellowship program in-charge of the chapter or an independent authority figure with no interest in the exam, and both sets of theory papers (I and II) will be brought to the examination hall in sealed envelopes. One of the envelopes will be opened for each of theory papers I and II.
4. Each theory paper will be of 100 marks

Theory papers (200 marks) (100 X 2)

a) **Paper 1** - Theory paper I will cover topics like Basic sciences, Epidemiology, Congenital malformation, sleep Medicine, Teaching, Research, Communication etc.

b) **Paper 2** - Case -based questions: The purpose of this paper will be to test the candidate's ability to evaluate the case correctly and make correct clinical use of knowledge to make appropriate decisions.

5. Practical Examination will consist of clinical cases, work stations and viva voce. Examination will be on two or more cases and workstations. The 'OSCE' method of clinical evaluation can be a part of examination.

6. The dissertation/research will be evaluated on the following aspects

Clinical relevance in India, study size and statistical significance	15 marks
Type of Study: prospective/ retrospective, comparative, controlled, randomized, blinded etc	10 marks
Presentation; use of flowcharts, clinical photographs, clarity of results	10 marks
Discussion, comparison with similar other studies, ability to analyze the strengths, limitations and scope of the clinical study	15 marks

Eligibility form and the application form for enrolment of Institute to conduct IAP National Respiratory Chapter Fellowship program

Date: _____

Name of the Institute: _____

Address: _____

Contact numbers: _____

E mail id: _____ Web address: _____

Fellowship Coordinator's name: _____

Contact numbers: _____

Email id: _____

Fellowship program inspection fee - payment details:

1) Amount: /- ; DD number: _____ Bank: _____

Date: _____

Appendix IX

Application to take the IAPNRC Paediatric Pulmonology Fellowship

Date: _____

To,

The Chairperson,
IAP National Respiratory Chapter

Sir / Madam,

The below mentioned fellowship candidates training at our Institute, would like to take the IAP Pulmonology Fellowship exam scheduled on _____ at _____

The details of the candidates and their exam fee payment are given below:

1) Candidate name: _____

Qualification: _____ Date of Appointment: _____

IAPNRC Membership number. _____

(please attach a copy of the appointment letter from Institute)

Completed 85% of the prescribed period of training Yes / No

Performance / Conduct / Internal assessment : Satisfactory / Unsatisfactory

Clinical study completed: Yes / No

Exam fee amount INR 5,000/- (Rupees Five Thousand Only)

DD / Transaction id no. _____

Bank _____ Date of DD / Transaction _____

Signature of the Institute Head & Seal

Fellowship Coordinator Sign & Seal

Appendix X

Application for Re-evaluation of the Theory paper(s)

(Separate form for each candidate)

Date: _____

To,

The Chairperson

Dear Sir / Madam,

Our Fellowship Candidate named Dr. _____ took then IAP Paediatric Pulmonology fellowship exam on _____ held at _____ and obtained the following marks:

Theory: _____ / 200

Practical: _____ / 300

Overall: _____ / 500

He / she was not declared PASSED based on the above marks.

We would like his / her theory paper(s) I / II / I and II to be re-evaluated by the IAP National Respiratory Chapter.

Kindly arrange for the same.

We are submitting a DD of Rs.1,000 / 2,000 for evaluation of one / both theory papers. Kindly inform us of the result as soon as it is available.

Truly,

Signature of the Institute Head & Seal

Fellowship Coordinator Sign & Seal

Appendix XI

Application for Life Membership of Central IAP

INDIAN ACADEMY OF PEDIATRICS

Kailas Darshan, Kennedy Bridge (Nana Chowk), Mumbai-400007

IAP MEMBERSHIP FORM

Name of the Applicant: _____
(Surname) (First Name) (Middle Name)

Date of Birth: _____. Sex: M / F

Communication Address: _____

Telephones (ISD CODE) (city code)_____.

Residence: _____ Office: _____.

FAX: _____ Mobile: _____.

Email ID: _____

Degrees Registration No & registering Authority (MCI or State Medical Council):

Medical / Paediatric Qualification: _____

Name of the University: _____

Qualifying Year: _____

Name & Membership No & Signature of the Proposer: _____.

Name & Membership No & Signature of the Seconder: _____

Place: _____ Date: _____

(Signature of the Applicant)

The Membership Fee should be paid by a crossed bank draft drawn in favor of "INDIAN ACADEMY OF PEDIATRICS" payable at Mumbai.

Final evaluation Form:

Full Name of Fellow: Dr. _____

Date of Joining fellowship program: _____

Date of filling evaluation form: _____

Guidance for Scoring:

Poor	Below average	Average	Above average	Very good
1	2	3	4	5

Evaluation form for Fellow

Clinical Work: ())

1. Punctuality
2. Regularity of attendance
3. Quality of Ward Work
4. Maintenance of case records
5. Presentation of cases during rounds
6. Investigations work-up
7. Bedside manners
8. Rapport with patients

Seminar: Score ()

1. Presentation
2. Completeness of preparation
3. Cogency of presentation
4. Use of audiovisual aids
5. Understanding of subject
6. Ability to answer questions
7. Time scheduling
8. Consulted all relevant literature
9. Overall performance
10. Others

Clinical Meeting: Score ()

1. Completeness of history
2. Whether all relevant points elicited
3. Cogency of presentation
4. Logical order
5. Mentioned all positive and negative points of importance
6. Accuracy of general physical examination
7. Whether any physical signs missed or misinterpreted
8. Whether any major signs missed or misinterpreted
9. Diagnosis: whether it follows logically from history and findings.
10. Investigations required - Complete list -
11. Relevant order
12. Interpretation of investigations
13. Overall ability to react to questioning
14. Whether answers relevant and complete
15. Ability to defend diagnosis
16. Ability to justify differential diagnosis
17. Confidence
18. Others

Research Work: Score ()

1. Interest shown in selecting a topic
2. Appropriate review
3. Discussion with guide and other faculty
4. Quality of protocol
5. Preparation of Performa
6. Regular collection of case material
7. Depth of analysis/discussion
8. Departmental presentation of findings
9. Quality of final output
10. Others

Journal Club Score ()

1. Choice of articles
2. Cogency of presentation
3. Whether he has understood the purpose of the article
4. How well did he defend the article?
5. Whether cross-references have been consulted
6. Whether other relevant publications have been consulted
7. His Overall impression of articles
8. If good - reasons:
9. If poor - reasons:
10. Audiovisual aids
11. Response to questioning
12. Overall presentation
13. Others

Certificate

This is to certify that Dr. _____ has worked in department from _____ to _____ as IAP NRC fellow in Paediatric Pulmonology.

This performance record book contains the authentic record of work done and assessment for the same.

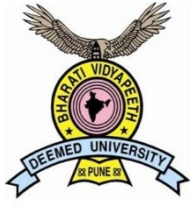
His / Her performance during the above posting was satisfactory / non satisfactory.

Signature:

Guide – Dr Sanjay Bafna

Signature:

**Dr. S K Lalwani
Vice Principal
Medical Director
Professor and Head
Department of Pediatrics
Bharati Vidyapeeth Deemed to be University Medical College, Pune**



Bharati Vidyapeeth Deemed University Medical College, Pune

Cardiac Fellowship Syllabus

Syllabus:

Basic medical sciences:

Anatomy, pathophysiology of cardiac and thoracic disease, pharmacology, pre-anaesthesia check up, anaesthetic management, post operative care including intensive care.

Respiratory disorders

Management of airways (including upper airways obstruction), pulmonary edema, adult respiratory distress syndrome and hypercapnic respiratory failure, severe asthma, chest trauma, respiratory muscle disorders, thoracic surgery.

Cardiovascular disorders

Haemodynamic instability and shock, cardiac arrest acute myocardial infarction and unstable angina severe heart failure, common arrhythmias and conduction disturbance, specific cardiac disorders (cardiomyopathies, valvular heart disease, atrial or ventricular septal defects, myocarditis), cardiac tamponade, pulmonary embolism, aortic dissection, hypertensive crisis, peripheral vascular diseases. Cardiovascular surgery. Cardio pulmonary resuscitation (CPR) Training in Basic Life Support (BLS), and Advance Life Support (ALS)

Neurological disorders

Coma, cerebrovascular accidents, cerebral vasospasm, acute neuromuscular disease (including myasthenia), post anoxic brain damage, acute confusional states, spinal cord injury, brain death.

Renal disorders

Oliguria. Acute renal failure, renal replacement therapy

Metabolic and Nutritional disorders

Fluid electrolyte and acid-base disorders, endocrine disorders (including diabetes), nutritional requirements, monitoring of nutrition

Haematological disorders

Disseminated intravascular coagulation and other coagulation disorders, anaemia, blood component therapy, and immunological conditions like myasthenia gravis

Monitoring coagulation status and anticoagulation, thrombolytic therapy, fibrinolytic, cell salvage methods and blood conservation techniques.

Infections:

Severe infection due to aerobic and anaerobic bacteria, viruses, fungal and parasites, nosocomial infection, infection in the immunocompromised, antimicrobial therapy, immunotherapy

Gastro-intestinal disorders

Acid peptic disease, acute and chronic liver failure, prevention and treatment of acute G.I. Bleeding (including variceal bleeding), gastric paresis etc.

Environmental Hazards:

Hypo-and hyperthermia, radiation hazards in the cardiac catheterization suites.

General:

Fellow will be trained : In Pharmacology, pharmacokinetics and drug interactions of drugs used during course of anaesthesia , anti-inflammatory agents. He/She will also be trained to manage Multiple trauma, transport of the critically ill patients, Multisystem disorders (including Multi Organ Dysfunction syndrome MODS and the Systemic Inflammatory Response Syndrome (SIRS) Management of the organ donor.

Intervention and procedure:

The cardiac anaesthesiologist must be able to perform a number of specific procedures; for all candidates experience is desirable but not mandatory in the following area.

Respiratory: (Mandatory)

Emergency Cricothyrotomy (desirable), Percutaneous tracheostomy, different modes of ventilation, techniques of weaning from mechanical ventilation in adult and paediatric patients, placement of an intercostal tube, fiberoptic Bronchoscopy (desirable) interpretation of arterial and mixed venous bloodgases, assessment of gas exchange and respiratory mechanics. Bronchoscopy (desirable)

Cardiovascular: (Mandatory)

Placement of a central venous catheter (by different routes), pulmonary artery: (Swan Ganz) catheter, an arterial catheter (by different routes) measurement and interpretation of the hemodynamic variables including the derived variables), implementation of cardiovascular support both pharmacological and mechanical, antiarrhythmic therapy and thrombolysis.

Transthoracic and transesophageal echocardiography in adults and children in the perioperative period.

Neurologic:

Basic interpretation of CT/MRI scan (desirable) Central nervous system function monitoring (BIS, etc.)

Metabolic and Nutritionnl

Implementation of Enteral and parental nutrition in adult and paediatric patients, management of glycemic status

Haematologic:

Correction of haemostatic and coagulation disorders, interpretation of a coagulation profile including TEG, implementation of thrombolysis

Renal:

Renal support techniques (desirable).

Gastro-intestinal:

Esophageal and gastric tamponade balloon

General Topics:

Joint inter-departmental academic meets with Critical care , Cardiology, Radiology and Microbiology, etc.

Clinical and practical training:

The candidates should follow full time in-service residency and should be given increasing responsibilities on a gradual basis for independently managing complicated, cardiac and cardiothoracic cases

Teaching and training of students shall include graded all round patient care responsibility including resuscitation and clinical diagnosis.

Training in ABC (airway, breathing and circulation) including practical training and complete understanding of airway armamentarium, breathing circuits, rapid sequence intubation, initiation-maintenance-termination of mechanical ventilation, invasive or non-invasive hemodynamic monitoring and safe insertion of central venous and intra-arterial catheters, etc.

The fellow will also participate in ICU procedures supervised by ICU trained professionals

The fellow will acquire clinical and practical skills in pre-anaesthetic evaluation and acute post operative care along with administering anaesthesia to children and adults with cardiac illness.

*Bharati Hospital & Research Centre
Bharati Vidyapeeth Deemed to be University Medical College
Pune, Maharashtra*



Fellowship in Musculoskeletal Imaging

Name of the mentor with academic credentials / qualifications

1. Dr Abhimanyu Kelkar MD

Dr Kelkar has vast experience in musculoskeletal imaging. He is one of the pioneers in MR imaging in Pune and is invited faculty at national and international conferences

2. Dr Joban Babulkar DNB

An experienced radiologist with over 20 years experience. She is trained in MSK ultrasound doing both diagnostic scans and ultrasound guided interventions.

Overview of the programme

This program is designed to prepare radiologists with an interest in musculoskeletal MRI for an academic or private practice career. Fellows will gain experience with a wide diversity of cases

Modalities would include Digital Radiography, Musculoskeletal Ultrasonography, Computed Tomography (CT), musculoskeletal Magnetic Resonance Imaging (MRI), Image Guided Biopsies

This program is designed to prepare radiologists with an interest in musculoskeletal MRI for an academic or private practice career. Fellows will gain experience with a wide diversity of cases

Modalities would include Digital Radiography, Musculoskeletal Ultrasonography, Computed Tomography (CT), musculoskeletal Magnetic Resonance Imaging (MRI), Image Guided Biopsies Clinical correlation meetings, interpretation sessions.

They will be given an opportunity to conduct at least one *original research study* during the course

Eligibility: Post graduate in Radiodiagnosis either MD/DNB, less than 35 years of age.

Preference would be given to candidates with experience.

Duration of the course: One year

Date of commencement: 15 Sept 2020

Selection Process: On the basis of previous experience, research papers published and an interview.

Eligibility: Post graduate in Radiodiagnosis either MD/DNB, less than 35 years of age.

Preference would be given to candidates with experience.

List of documents required from the candidate

CV with names and contact details of two referees

MBBS degree

Registration of MBBS with renewal if applicable

Post graduate diploma / degree certificate with additional registration

PAN card

Aadhar card

Photograph

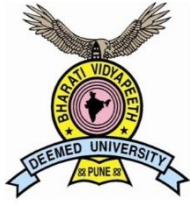
Assessment system

Internal assessment

Theory as well as practical examination at the end of the course

No of alumni qualified so far since the inception of the fellowship

One candidate



Bharati Vidyapeeth Deemed University Medical College, Pune

Chronic Pain Fellowship Syllabus

Syllabus:

1. Basics of pain
Chronic Pain- Theory and Intervention, Applied Anatomy relevant to Pain medicine, Applied physiology Pharmacology for pain management- NSAIDs, coxibs, opioids, neuromodulators (tricyclics antidepressants, anticonvulsants SSRI, SNRI), Pathophysiology of nociceptive pain , Pathophysiology of neuropathic pain, Pathophysiology of neuromyopathy.
2. Diagnostic Aids and Pain Measurements
Designing Reporting of pain – Pain scales, Ethical standards in pain
3. Taxonomy of pain systems An integrated approach to pain in various parts of the body. Including etiology, diagnosis, pathophysiology, investigations, treatment, rehabilitation:
Cancer Pain and palliative medicine, Cervical Radicular Pain, Lumbar Radicular Pain, Visceral Pain, Chronic Urogenital Pain, Pain in Pregnancy and Labor, Somatic Pains (Repetitive Strain injury), Somatic Pains (fibromyalgia), Neuropathic pains, CRPS, Post herpetic neuralgia etc
4. Observation, assistance and documentation of block:
Transforaminal epidural, Cervical epidural, Pulsed Radiofrequency neck facets, Radiofrequency ablation of medial branches in lumbar region Pulsed Radiofrequency knee, Stellate Ganglion Block, Lumbar/thoracic sympathetic block, Pulsed Radiofrequency trigeminal nerve, Trigger point injection under USG, Intra articular blocks (knee, shoulder, digital), Frozen shoulder block (5 blocks)



Syllabus of Fellowship in Diabetology

Course content/syllabus

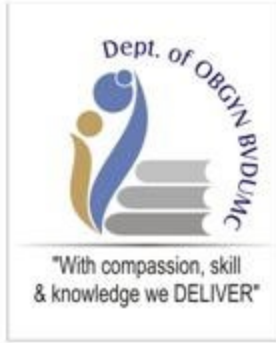
1. Epidemiology of Diabetes Mellitus (DM)
2. Classification of Diabetes – Mellitus (DM)
3. Normal glucose metabolism & other metabolic issues in diabetes mellitus
4. Aetio-pathogenesis of Diabetes mellitus and classification of DM
5. Clinical features and examination in patients with Diabetes mellitus.
6. Laboratory diagnosis of DM
7. Complications of DM
 - Diabetic ketoacidosis
 - Hypoglycemia
 - Non – Ketotic Hyperosmolar Diabetic Coma
 - Diabetic Neuropathy
 - Diabetic Nephropathy
 - Diabetic Retinopathy
8. Diabetes and Heart
9. Diabetes and Hypertension
10. Diabetes and Pregnancy
11. Diabetes and Infections
12. Diabetes and Surgery
13. Diabetic Foot
14. Sexual dysfunction in Diabetes Mellitus
15. Dietetics in diabetes
16. Exercise, Physical activity and non – Drug therapy in DM
17. Management of Diabetes-Oral Anti Diabetic Agents , Insulin , insulin delivery systems, monitoring ,
18. Primary Prevention & clinical research issues in Diabetes Mellitus.
19. Diabetes in special situations

Syllabus : Theory

- The basic and applied intermediary metabolic aspects in diabetes mellitus and its complications - with relevance to clinical diabetes
- The epidemiology of diabetes mellitus - a brief global profile highlights - with large focus on epidemiology of diabetes in India
- The diagnostic criteria and classification of diabetes mellitus - and varied clinical patterns
- Basic laboratory tests in diabetes mellitus - blood glucose, urine ketones and albumin, HbA1c, fructosamine, lipids, creatinine and their significance
- Day to day management' of diabetes mellitus - diet, exercise, drugs, non drug therapy, insulin and diabetic education - an overview
- Practical aspects and hints on diet therapy - diabetic diet exhibits, certain selective aspects like Glycaemic index, fiber diet etc.
- Exercise and its aspects in diabetes mellitus and allied disorders - obesity, hypertension, insulin resistance etc.
- Various aspects of oral anti-diabetic drugs - including a touch on indigenous drugs
- The current insulin, newer insulin and insulin delivery systems - the initiation of insulin therapy in diabetes and in acute & chronic complications
- Monitoring of blood glucose control - criteria, and benefits of Glycaemic achievements in control - practical aspects
- An overview of complications of diabetes mellitus - and their recognition and presentation.
- Metabolic complications in diabetes mellitus - brief outlines and management.
- Diabetes related acute clinical emergencies in all its aspects
- Infections and diabetes mellitus - the precautions including the foot syndrome
- The diabetic neuropathies and management
- Diabetes and the eye - a brief over view and aspects in management
- Diabetes and the kidney - nephropathy and non-nephropathy aspects
- Management tactics of Diabetes during Surgery & Anaesthesia
- Pregnancy and diabetes - problems, highlights and management
- The organization skills to conduct routine screening of diabetes camps for public and establishment of a diabetic clinic for clinical practice

Practical:

1. Diet exhibition and diet workshops - and well designed charts
2. Diabetes - laboratory techniques - visiting diabetes laboratories
Sops
3. Instrumental Diabetology - various instruments – Doppler, NCV, Biothesiometry, Nerve Conduction Velocity, Pedometer, ECG, ECHO, Vascular laboratory techniques, Self Glucose Monitoring techniques, Insulin Infusion Pumps, CSII monitoring machines.
4. Eye and diabetes - fundus examination and techniques (photocoagulation)
Demonstration
5. Visiting connected specialty referral clinical services. Art of maintaining clinical case records and electronic case recording techniques
6. Insulin, insulin syringes and Insulin pens - display and explanation -
7. A visit to Intensive Coronary Care, the Intensive Medical Care & EMS facilities



Bharati Vidyapeeth Deemed University Medical College, Pune

Department Of Obstetrics & Gynecology

Fellowship In Infertility & Assisted Reproductive Technology (Art)

Preamble:

The need for a fellowship training program in infertility & assisted reproductive technology

Knowledge in the field of Gynecology is evolving very fast. Knowledge and skill in the field of infertility & assisted reproductive technology is the need of the hour. Any practicing Gynecologist should have the basic training in ART to aid him in diagnosis and management of patients. Patient's awareness of ART as an advanced and safe mode of intervention is rising day by day and it has become the 'need of the hour'.

Presently very few institutes in the country provide Fellowship courses in ART. Many institutes are small hospitals which provide weekly, two weekly or six monthly courses in ART. Due to paucity of clinical material in these institutes very less hands on training is provided.

The department of Obstetrics and Gynecology in Bharati Vidyapeeth Deemed University has established itself as a referral center for advanced ART. The department is providing this treatment modality since last three years. We have the basic infrastructure to start with a fellowship course of one year for the training in ART

This fellowship program will not only help the residents in the department and university but also will be a boon to the novice in the practice of Gynecology to enhance his skills in this specialty too.

Learning the technique of ART is difficult as it has a long learning curve and is a completely technically diverse modality of treatment. Any ART procedure to be learnt safely has to be done

under proper guidance and mentorship. The current curriculum of post graduate training of gynecology includes very little exposure to training in ART. The current trend therefore makes the learner seek training through attending workshops or attending small short courses with established specialists.

Aims and Objectives of the Fellowship:

1. To train postgraduate degree holders in Obstetrics & Gynecology (OB/GYN) with sufficient skill and knowledge to manage patients with sub fertility & infertility
2. To provide in house training of one year covering all aspects in Reproductive medicine.
3. The faculty and infrastructure developed for this fellowship will pave way for development of the subspeciality of IVF & reproductive medicine in our Institute and will benefit the patients and residents in the institute.

Proposed eligibility and selection of trainee:

Eligibility: Candidate holding any postgraduate qualification in Gynecology and Obstetrics: M.D., M.S., D.N.B. or D.G.O.

The candidate should bear valid registration certificate of Maharashtra Medical Council or MCI.

Number of candidates: Two per year. As an exception an additional candidate per year when the extra candidate is an Alumni/faculty of Bharati Vidyapeeth.

Entrance examination and selection: Written test and interview.

Training period: 1 year for MD/MS/DNB candidate & 1.5 years for DGO candidate.

Program Director: Dr T M Panchanadikar, Department of Obstetrics & Gynecology, Bharati Vidyapeeth (Deemed to be) University Medical College, Pune.

Program Coordinator: Dr D B Inamdar, I/C Fertility unit, Department of Obstetrics & Gynecology, Bharati Vidyapeeth (Deemed to be) University Medical College, Pune

Terms & Conditions:

1. The duration of the course will be 1 or 1.5 years in which the candidate will be posted in the Department of Obstetrics & Gynecology, B.V.D.U.M.C Pune.

2. The candidate will be a part of the Fertility Unit of Bharati Hospital, Pune.
3. The candidate will ensure registration with PCPNDT, Pune as soon as possible after joining the course.
4. The candidate is expected to complete one research paper in infertility and submit the manuscript for publication in peer reviewed reputed journal. He/She will also present one paper and/or one poster in state/national level ART conference.
5. The course will commence on 15th September. Exit Examination will be conducted by Bharati Vidyapeeth (Deemed to be) University in the first week of October in the subsequent year. It is mandatory to pass this examination to acquire the fellowship certificate.
6. The selection of the candidate for the fellowship training will be on the basis of written test & interview
7. Shared accommodation in the hostel shall be provided to the candidate as per the availability.
8. Each candidate selected shall pay a fee of Rs 1,00,000/- (One Lakh Only) for the fellowship. He/she will receive a stipend of Rs 45,000/- per month for the duration of training. The candidate has to submit a refundable deposit of Rs 50,000/- which will be returned at the completion of the tenure of 1 year.
9. The candidate has to have professional indemnity cover and the same letter has to be submitted at the start of course.
10. Leaves: The candidate is allotted 15 leaves in a year (7 leaves in each term). There will be weekly Sunday off.
11. The candidate is bound to attend outreach patient camps conducted by the Hospital for the retrieval of cases.

Course Design:

Consist of lectures, practical & hands on training, discussion on the current guidelines on following topics

1. Evaluating infertile couple

- History taking
- Ordering relevant investigations
- Interpretation & analysis to reach a diagnosis
- Formulating plan of management.
- Counseling

2. Ovulation induction

- Drugs
- Protocols & patient selection

3. Ultrasound in infertility

4. Andrology

5. Endoscopy in infertility

- Hysteroscopy
- Laparoscopy

6. ART (IVF/ICSI)

7. Clinical embryology - Lectures

8. Medicolegal aspects

1. There will be Lecture series in each of the modules covering all aspects of the included topic

2. The candidate has to attend OPD, Operation Theatre, Embryology & andrology lab and observe, assist and perform under supervision as per the availability of the cases.
3. The candidate will attend patients in wards and assess, investigate, treat and do postoperative & post procedural monitoring of the cases.
4. They will attend postgraduate activities, case presentations, seminars and journal club sessions in the department.
5. They will be responsible for proper care and handling of all instruments in the department.
6. They will maintain a logbook of the work done and get it signed by the concerned faculty from time to time.
7. They will be medico-legally responsible for the cases they perform during the training.

Candidate Evaluation

1. **Internal Assessment:** Twenty percent of the total marks shall be for internal assessment which will include personal attributes (availability, sincerity and motivation, diligence, performance and inter-personal communication skills), clinical skills and performance and academic activity (journal club, seminars, case discussion).

2. Examination Pattern:

At the end of the course the candidate will appear for theory and practical examination.

He/she must have fulfilled all the basic requirement of duration, paper presentation, poster presentation and publication. He/she has to submit a no due certificate from the Department and Hospital prior to the examination.

Theory:

There will be two theory papers of 100 marks each which will consist of

2 Long Questions of 20 marks each

6 Short Questions of 10 marks each

The candidate has to score minimum 50% marks to qualify for the fellowship.

Practical: 100 marks

- One long case – 50 marks
- Two short case – 25 marks each
- Viva voce & practical assessment: 60 marks
- Internal assessment – 40 marks

There will be one internal and one external examiner appointed by the University.

Certification: The fellowship will be awarded in the Convocation ceremony of the University.

Salient Features

- *Bharati Hospital being a tertiary hospital and a teaching institute, the Dept of Obstetrics and Gynecology has patients seeking medical care from all nearby villages as also referrals from the Primary Health Centers.*
- *We have an excellent infrastructure and competent resource persons to evolve a good ART Training Institute.*
- *Bharati University can be a pioneer institute in providing training in ART in India.*

Books and study materials:

1. Textbook of Assisted reproductive technologies: David Gardner
2. Textbook of Clinical endocrinology & infertility: Leon Speroff
3. Langmann's Embryology
4. Male Infertility: T Kruger

*Bharati Hospital & Research Centre
Bharati Vidyapeeth Deemed to be University Medical College
Pune, Maharashtra*



Fellowship in Body Imaging

Name of the mentor with academic credentials / qualifications :

1. Dr Priscilla Joshi MD Professor and Head of Department with a special interest in Pediatric Imaging. Trained radiologist with more than 35 years experience in Radiodiagnosis and Imaging in the Armed forces as well as corporate and teaching hospitals in Delhi, Mumbai and Poona. She has done observership at Sick Children's hospital Toronto Canada. Experience in Pediatric body imaging .
2. Dr Nagesh Seth Professor in Radiodiagnosis. Dr Seth has over 30 years experience as radiologist in the Armed forces as well as in a medical college

Overview of the programme:

With the availability of advanced sophisticated equipment , subspeciality imaging has now become inevitable.

Our motivation is to train fellows with the technical and clinical aspects of body CT and MRI who will be able to set up a cutting-edge Body CT and MRI practice i their future positions. This is a 12-month fellowship with focus on Abdominal and Pelvic CT and MRI.

The fellow will be responsible for rendering interpretations of Body CT and MRI studies under the direct supervision of a faculty radiologist. The fellow previews the case, formulates a differential diagnosis (if appropriate), formulates any follow-up recommendations (if any), and then presents the case to the faculty radiologist. The fellow then alters their dictated report, if necessary, to reflect the interpretation of the radiology staff prior to final approval by the faculty. The fellow's patient care responsibility is to report all body CT and MRI scans and communicate findings (especially critical or unexpected ones) with the referring physicians in person, by phone and through dictated report.

The fellow will also participate in supervising the service by writing protocols, obtaining consent, checking images of patients prior to completion of the study when necessary, and teaching residents and medical students.

The fellow will take part, and be encouraged to moderate, in Multidisciplinary Case Conferences with Gastroenterologists, Surgeons and Oncologists. In this role, the fellow will under the general supervision of faculty, prepare and present the imaging findings of patients being discussed at these case conferences.

The radiologists undergoing fellowship will be adequately trained to work in a tertiary care hospital including an Oncology set up.

They will be given an opportunity to conduct at least one *original research study* during the course

Eligibility : Post graduate in Radiodiagnosis either MD/DNB , less than 35 years of age.

Preference would be given to candidates with experience.

Duration of the course : One year

Date of commencement : 15 Sept 2020

Selection Process : On the basis of previous experience, research papers published and an interview.

List of documents required from the candidate

CV with names and contact details of two referees

MBBS degree

Registration of MBBS with renewal if applicable

Post graduate diploma / degree certificate with additional registration

PAN card

Aadhar card

Photograph

Assessment system

Internal assessment

Theory as well as practical examination at the end of the course

No of alumni qualified so far since the inception of the fellowship

One candidate who will be appearing this October

*Bharati Hospital & Research Centre
Bharati Vidyapeeth Deemed to be University Medical College
Pune, Maharashtra*



Fellowship in Diagnostic Neuroradiology

Name of the mentor with academic credentials / qualifications :

1. Dr Abhimanyu Kelkar : Over 40 years experience in Radiodiagnosis and > 35 years experience in MR imaging and Neuro radiology

2. Dr Anand Rahalkar

An experienced radiologist with over 20 years of experience. His special interests are Pediatric and adult neuroradiology

Overview of the programme

With rapid advances in technology , the need has arisen for sub specialisation in radiology which is system based. The fellow would be trained in image interpretation of diseases of the nervous system on both CT and MR.

The fellow will be responsible for rendering interpretations of CT and MRI studies of the Brain and Spine under the direct supervision of a faculty radiologist. The fellow would preview the case, formulate a differential diagnosis (if appropriate), formulate any follow-up recommendations (if any), and then present the case to the faculty radiologist. The fellow's patient care responsibility is to report all neuro CT and MRI scans and communicate findings (especially critical or unexpected ones) with the referring physicians in person, by phone and through dictated report.

The fellow also participates in supervising the service by writing protocols, obtaining consent, checking images on patients prior to completion of the study when necessary, and teaching residents and medical students.

The fellow will take part, and be encouraged to moderate, in Multidisciplinary Case Conferences with adult and pediatric neurologists and neurosurgeons . In this role, the fellow will prepare, under the general supervision of faculty, and present the imaging findings of patients being discussed at these case conferences.

They will be given an opportunity to conduct at least one *original research study* during the course The radiologists undergoing fellowship will be adequately trained to work in a tertiary care hospital .

Eligibility Post graduate in Radiodiagnosis either MD/DNB , less than 35 years of age.

Preference would be given to candidates with experience.

Selection and Admission Procedure : On the basis of previous experience, research papers published and an interview.

Duration of the course : One year

Date of commencement : 15 Sept 2020

List of documents required from the candidate

CV with names and contact details of two referees

MBBS degree

Registration of MBBS with renewal if applicable

Post graduate diploma / degree certificate with additional registration

PAN card

Aadhar card

Photograph

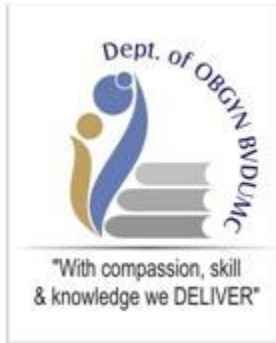
Assessment system

Internal assessment

Theory as well as practical examination at the end of the course

No of alumni qualified so far since the inception of the fellowship

Nil



Bharati Vidyapeeth Deemed University Medical College, Pune

Department Of Obstetrics & Gynecology

Fellowship in Gynecological Endoscopy

Preamble:

The need for a fellowship training program in Gynecological Endoscopy

Knowledge in the field of Gynecology is evolving very fast. Laparoscopy is the need of the hour. Any practicing Gynecologist should have the basic training in Laparoscopy to aid him in diagnosis and management of patients. Patient's awareness of laparoscopy as a advanced and safe mode of intervention is rising day by day and it has become the 'need of the hour'.

Presently very few institutes in the country provide Fellowship courses in Gynece Laparoscopy. Many an institutes are small hospitals which provide weekly, two weekly or six monthly courses in laparoscopy. Due to paucity of clinical material in these institutes very less hands on training is provided.

The department of Obstetrics and Gynecology in Bharati Vidyapeeth Deemed University has established itself as a tertiary care referral center for advanced laparoscopy. The department is providing this treatment modality since last ten years. We have the basic infrastructure to start with a fellowship course of one year for the training in Laparoscopy

This fellowship program will not only help the residents in the department and university but also will be a boon to the novice in the practice of Gynecology to enhance his skills in this specialty also

Learning the technique of endoscopic surgery is difficult as it has a long learning curve and is a completely technically diverse modality of treatment. Any surgical procedure to be learnt safely

has to be done under proper guidance and mentorship and so is true also of endoscopic surgery. The current curriculum of post graduate training of gynecological surgery includes very little exposure to training in endoscopic surgery. The current trend therefore makes the learner seek training through attending workshops or attending small short courses with established surgeons. These unfortunately do not impart training in the right sense and therefore it is observed that the beginners make many mistakes leading to complications which actually could have been avoided..

Developing a state of the art laparoscopy center will also add a feather in the cap of Bharati University.

Aims and Objectives of the Fellowship:

1. To train postgraduates in Obgyn with sufficient skill and knowledge to manage patients with the aid of Endoscopy.
2. To provide in house training of one year covering basics and advances in Endoscopy
3. To provide a viable alternative to endoscopy training imparted abroad and in the country which are often beyond the financial reach of a typical postgraduate in India.
4. The faculty and infrastructure developed for this fellowship will pave way for 'State of Art' endoscopy in our Institute and will benefit the patients and residents in the institute.
5. This kind of proper training will also help decrease the mortality and morbidity associated with this technique which results in hesitancy on the part of surgeons in performing this surgery

Proposed eligibility and selection of trainee:

Eligibility: Candidate holding any postgraduate qualification in Gynecology and Obstetrics: M.D., M.S., D.N.B. or D.G.O.

Number of candidates: One per year. As an exception two candidates per year when the extra candidate is a Alumini of Bharati Vidyapeeth.

Entrance examination and selection: Written test and interview.

Training period: 1 year

Terms & Conditions:

1. The faculty for the fellowship training will be in house teachers with sufficient training in endoscopy, overseas training, and long standing experience in the field of endoscopy and are qualified teachers in the parent subject.
2. The duration of the course will be 1 year in which the candidate will be posted in the Department of Obstetrics & Gynecology, B.V.D.U.M.C Pune.
3. The candidate will be a part of the Endoscopy Unit of Bharati Hospital, Pune.
4. The candidate is expected to complete one research paper in endoscopy and submit the manuscript for publication in peer reviewed reputed journal. He/She will also present one paper and one poster in Endoscopy conference.
5. The course will commence on 15th March. And there will be an Examination conducted by Bharati Vidyapeeth University in the first week of April. It is mandatory to pass this examination to acquire the fellowship certificate.
6. The selection of the candidate for the fellowship training will be on the basis of interview
7. Shared accommodation in the hostel shall be provided to the candidate as per the availability.
8. Each candidate selected shall pay a fee of Rs 1,00,000/- (One Lakh Only) for the fellowship. He/she will receive a stipend of Rs 25,000/- per month for the duration of training. The candidate has to submit a refundable deposit of Rs 50,000/- which will be returned at the completion of the tenure of 1 year.
9. The candidate has to have professional indemnity cover and the same letter has to be submitted at the start of course.
10. The candidate has to work in rotation and do once a week emergency duties in the labor room.
11. Leaves: The candidate is allotted 10 leaves in a year. There will be weekly Sunday off (Except one Sunday in a month where he/she will be on labor room duty.)
12. The candidate is bound to attend outreach patient camps conducted by the Hospital for the retrieval of cases.

Course Design:

Postings:

1. There will be Lecture series on Basic Endoscopy, Anatomy of Pelvis, Port Access.
2. The candidate has to attend Operation Theatre and observe, assist and perform the endoscopy surgeries under supervision as per the availability of the cases.
3. The candidate will attend OPD, and wards and asses, investigate, treat and do postoperative monitoring of the endoscopy cases.
4. They will attend postgraduate activities, case presentations, seminars and journal club sessions in the department.
5. They will be responsible for proper care and handling of all endoscopy instruments in the department.
6. They will maintain a logbook of the work done and get it signed by the concerned faculty from time to time.
7. They will be medico-legally responsible for the cases they perform during the training.
8. They will be initially trained on a endotrainer and gradually will be assessed and then will be given hands on training.

Curriculum:

- 1.) *Introduction to Endoscopy*
 - i. Cadaveric dissection
 - ii. Laparoscopic view
- 2.) *Revision of Pelvic Anatomy*
- 3.) *Basics of Laparoscopy*
 - Instrumentation & Equipment
 - Ports & access to abdomen
 - Hand instruments

- Optics
- Insufflations
- Modern Energy sources
- Port Access
- Endotrainers
- Anaesthesia

4.) *Case Situations*

- Diagnostic Laparohysteroscopy
- Adhesiolysis
- Hysteroscopic tubal cannulation
- Hysteroscopic septal resection
- Hysteroscopic submucous polypectomy / Myomectomy
- Endometriotic fulguration
- Endometrioma
- Ovarian cysts
- Other Adnexal pathology ,Ectopic pregnancy

6.) *Advanced Endosurgery*

- Pelvic floor repair – posterior sling
- Burch Colposuspension
- TLH
- LAVH
- Presacral neurectomy
- Laparoscopic suturing

Examination Pattern:

At the end of the course the candidate will appear for theory and practical examination.

He/she must have fulfilled all the basic requirement of duration, paper presentation, poster presentation and publication. He/she has to submit a no due certificate from the Department and Hospital prior to the examination.

Theory:

There will be one theory paper of 100 marks.

There will be 10 short questions of 10 marks each. The candidate has to score minimum 50% marks to qualify for the fellowship.

Practical:

There will be OSCE & viva-voce exam for 100 marks. The candidate has to score minimum 50% marks to qualify for the fellowship.

The candidate has to pass independently in the theory and practical examination to qualify for the fellowship.

Examiners:

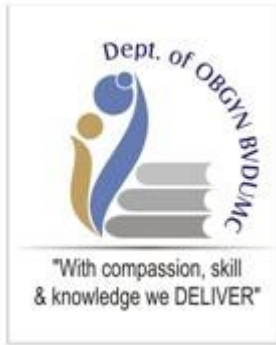
There will be one internal and one external examiner appointed by the University.

Certification:

The fellowship will be awarded in the Convocation ceremony of the University.

Salient Features

- *Bharati Hospital being a tertiary hospital and a teaching institute, the Dept of Obstetrics and Gynecology has patients seeking medical care from all nearby villages as also referrals from the Primary Health Centers.*
- *We have an excellent infrastructure and competent resource persons to evolve a good Endoscopy Training Institute.*
- *No training of this surgery is offered by any Institution in India.*
- *This Course shall be the only one being provided by a University Medical College.*
- *Bharati University can be a pioneer institute in providing training in endoscopic surgery in India with affiliations with other International University.*



Bharati Vidyapeeth Deemed University Medical College, Pune

Department Of Obstetrics & Gynecology

High risk Pregnancy and Critical care in Obstetrics

I. Name of the Course:

Fellowship in “**High risk Pregnancy and Critical care in Obstetrics**”.

Most pregnancies come to term normally, without any unusual complications. However, eight to ten percent of pregnancies are complicated by problems with the health of the mother or fetus. Maternal mortality is very high in some parts of India (350/100,000 pregnancies) compared to the developed countries (less than 30). India compares poorly in the care of the mothers and babies even when compared to countries like Thailand and Srilanka.

Fellowship training provides additional education and practical experience to gain special competence in various obstetrical, medical, and surgical complications of pregnancy. By virtue of this training and technical proficiency, the Obstetric critical care specialist provides care or consultation for both mother and fetus in a complicated pregnancy. In addition, he/she provides education and research concerning the most recent approaches to the diagnosis and treatment of obstetrical problems. He/she thus promotes awareness of the diagnostic and therapeutic techniques for optimal management of these complicated pregnancies.

a. **Goal** of the Fellowship programme is:

- a) To provide high quality training in Obstetric Critical care
- b) To attain proficiency in treatment of high risk pregnancy.
- c) To attain proficiency in the prevention/diagnosis/treatment of fetal problems.
- d) To motivate conduct of epidemiological and clinical research in several Maternal Fetal Medicine problems which are unique to India.
- e) To motivate the fellows to be teachers to the forthcoming generations of Obstetric critical care specialists.

b. **Statement of Objectives of the course**

Maternal Fetal Medicine is a highly specialized and progressively expanding discipline which is concerned with prevention, diagnosis and treatment of high risk mothers and fetus. Due to lack of high risk units and Obstetric Consultants practicing only high risk pregnancies there continues to be high maternal and fetal

morbidity and mortality. The 'Fellowship programme' would fill some void in the need of maternal and fetal medicine specialist.

Skills/attitudes and communication abilities: It is vital that the candidate learns the art of communication with the patients and relatives especially in high risk situations because they could be associated with maternal or fetal mortality or morbidity or both. Grief reaction, easing the pressure caused by the mother being in ICU/NICU and lactation support will form an important part of the training. Ethics and patient choice and communication skills and a basic knowledge of the medicine and law and documentation keeping will also form a part of the curriculum.

c. Course Content:

a) The Basic Knowledge

High risk pregnancy management techniques including decisions of how and when to deliver and balancing of risks shall form an integral component of the course. The trainee would already possess the knowledge of basic sciences and training in Obstetrics & Gynecology. He / She will further learn the anatomy physiology and pathology of the mother and the fetus.

The spectrum of knowledge and skills to be mastered during Fellowship are

- (i) Fetal Physiology, Fetal development and its aberrations
- (ii) Physiology and pathology of maternal adaptation to pregnancy
- (iii) Maternal acid base and electrolyte balance
- (iv) Ventilatory care during pregnancy and postpartum
- (v) Pharmacology including use of vasopressors and higher antibiotics
- (vi) Study of demographic, socio-logic and environmental factors affecting pregnancy
- (vii) Chromosomal disorders, genetic disorders and multi-factor organ dysgenesis.
- (viii) Infections, immunological disorders and pharmacotherapy
- (ix) Normal puerperium and its deviations.
- (x) Preventive aspects of Obstetrics and means to reduce the maternal and Perinatal mortality and morbidity.

Maternal Fetal medicine is unique in that the maternal medications affects the fetus and the neonate. Hence training in the use of pharmaco therapeutic agents is needed.

b) The Clinical Acumen

History takings and examinations in conjunction with investigations is the main stay for diagnosis and treatment of high risk pregnancies. The art of clinical examination of patients is simple and brisk and should be rapidly learnt by the students.

Essential investigation and diagnostic procedures:

a) The noninvasive procedures

It is an indispensable part of High risk pregnancy care and many times, supersedes the more invasive and sophisticated techniques. The use of duplex Scan (Combination of B mode and Doppler ultrasound) is an essential part of

training. The trainee should also be taught the use of hand held Doppler, Fetal surveillance including cardiotocography and various laboratory tests.

b) Invasive procedure

The “Gold Standard” of pathological diagnosis in the fetus is the invasive procedure and obtaining the fetal tissues for pathological diagnosis. This needs specialized training within the “Fellowship” programme.. Diagnostic procedures like CVs, amniocentesis cordocentesis, skin and liver biopsy and therapeutic procedures including amnioreduction, amnioinfusion, intrauterine intra vascular transfusion for Rh isoimmunisation, multi fetal reduction and selective feticide must be suitably emphasized.

c) ICU care of the pregnant women :

Pregnancy causes changes in maternal physiology and special care to maintain blood pressure and oxygen saturation is required. The fellow needs to be proficient in Central Venous line insertion and monitoring, Invasive blood pressure measurements and Ventilatory care including settings for the pregnant patient.

d) Preventive aspects

Critical care in Obstetrics Specialist should be actively involved in the risk factor modification of their patients to prevent progression or recurrence of the diseases. This is not only preventive but also of therapeutic value. This involves premarital and pre pregnancy counseling. Dietetics and nutrition forms an important aspect of this prevention strategy.

e) The Diabetic Clinic – The need for this improperly understood field is of paramount importance in India, since we have the highest number of Diabetics in the world. (30 million) Because of our habits and environments it is likely we will have the highest number of pregnant diabetics leading to maternal and perinatal morbidity & mortality. A multi specialty approach including good glycemic control, a thorough understanding of the physiology and pathology and prevention and therapy can improve the outcome.

f) Anemia clinic: Anemia has been recognized to be the highest contributor to maternal morbidity and mortality. Various types of anemia and their prevention and therapy shall be suitable emphasized.

g) Hypertension Clinic – PIH remains one of the biggest killers of mother and babies. It contributes to 12% of all maternal mortalities, Eclampsia is a preventable disorder. Increasing number of chronic hypertensives becoming pregnant makes it mandatory for the fellow to understand pathology, prevention and management of this disorder,

Procedural and operative skills:

The following lists the minimal requirements to be met by the trainee with graded responsibility accorded during the 6 months.

Key:

- O Washed up and observed
- A Assisted a more senior surgeon
- PA Performed procedures under direct supervision
- PI Performed independently
- OI Observed when opportunity existed

The below suggested categories, level of training and number are minimum requirements. The students / teachers are encouraged to advance these further to the best of their abilities and also strive to gain experience in many procedures that are not listed.

Procedures	Category	Semester	Number
Fetal surveillance			
Electronic Fetal monitoring	PA/PI	I/II	15/15
Ultra sound scan	PA/PI	I/II	25/25
Doppler	PA/PI	I/II	10/10
Fetal invasive procedures			
CVS	A/PA	III	3
Amniocentesis	A/PA	III	4
Cordocentesis	A/PA	III	3
Others	A/PA	III	5
Therapeutic procedures	OI	II/III	5
High risk deliveries	O	I	15
	A	II	15
	PA	III	5
	PI	III	5
Step wise devascularazation	OI/A	c	2
Cervical stitch	A/PA	II	4
Post partum haemorrhage	O/A/PA	I/II/III	8
DIC	O/PA/PI	I/II/III	2
Central Venous line Insertion	O/PA/PI	II/III	4
Invasive arterial monitoring	O/PA/PI	II/III	3
Ventillatory care of the pregnant women	O/PA/PI	I/II/III	4

Cases to be managed

About 5 cases of each of the following must be managed or assisted during the fellowship

1. Severe PH/ Eclampsia
2. APH
3. Multiple Gestation
4. Diabetes
5. Heart disease
6. Respiratory disease
7. Anemia
8. Fetal anomalies
9. BOH
10. Pre term
11. IUGR
12. Fever with pregnancy including malaria/Dengue/H1N1

About 3 cases of each of the following must be managed or assisted during the fellowship

1. Neurological problems/epilepsy
2. Liver problems including jaundice and others.
3. Puerperal problems including DVT/CVT/ARF/Sepsis etc.
4. Any others (Trauma, burns, poisoning, drowning, cord prolapsed, uterine inversion etc in pregnant patient)

Experience to be gained in:

A) RESCUSCITATION

- a) Airway obstruction
- b) Cardiopulmonary Resuscitation (CPR)
- c) Periarrest Arrhythmias
- d) Respiratory Emergencies
- e) Trauma
- f) Shock

B) MEDICAL EMERGENCIES

- a) Anaphylaxis
- b) Transfusion Reactions
- c) Severe Hypertension
- d) Diabetic Ketoacidosis
- e) Congestive Cardiac Failure

- f) Pulmonary Edema
 - g) Thromboembolism
 - h) Oliguria / Anuria
 - i) Seizure – Toxicity due to Magnesium Sulphate
- c) CRITICAL CARE
- a) Central Venous Placement
 - b) Rational use of Blood Products
 - c) Fluid and Electrolytes
 - d) Management of Sepsis and Burns
 - e) High Dependency Unit (HDU)
- D) OBSTETRIC EMERGENCIES
- a) Drills for
 - 1) Eclampsia
 - 2) PPH
 - 3) Crash Caesarean Section
 - 4) Shoulder Dystocia,
 - 5) Cord Prolapse
 - b) Massive Obstetric Haemorrhage- [Conservative surgical ligations, Caesarean Hysterectomy]
 - c) Amniotic fluid embolism
- E) MISCELLANEOUS
- a) Identification of High Risk Pregnancies and Risk Modification
 - b) Triage policy for high risk pregnancy
 - c) High Risk Consents and Patient counseling
 - d) Investigation panels for specific emergencies

e) Medico Legal Aspects

d. Teaching and Learning activities:

- The duration of the course shall be total of 12 months - 10 months in Obstetrics department + 2 months for rotations in different allied (Radiology ,anaesthesia,Critical care, neonatology)and applied subjects/ departments
- The 10 months will be divided into 3 'semesters' of 4 months with progressively graded responsibility assigned during each semester.
- Maximum of 1 and 1/2 months rotation will be allowed during the 3 'semesters'

in the same institution or at other Institutions, to upgrade the knowledge and skills in related specialties.

Education – Both learning and teaching will be an integral part of the Fellowship programmes. The chain of learning from peers and teaching the juniors will never be broken.

Ward rounds and hands teaching in the ward and operating theatre would be the mainstay of the teaching programme, rather than didactic lectures.

The unscheduled and informal discussions to be held as often as possible depending upon the variety and the number of diseases / procedures seen. This method could be an excellent teaching tool, rather than totally regimented scheduling at this level of education.

e. Participation in Department activities :

- ✓ Journal Club Meetings will be held once a month.
- ✓ A mortality / morbidity review and departmental audit will be held bimonthly to review all deaths and complications.
- ✓ Subject seminars to be held once a month to review selected topics.
- ✓ Clinicopathological conference and posting to the laboratory to learn the basic laboratory skills and its implications for clinical practice. This meeting which includes postmortem will be held once in two months.
- ✓ Interdepartmental meetings will be held once in two months and shall include department of Nephrology, Pulmonology, cardiology and Vascular Surgery amongst others.
- ✓ They will actively take part in creating public awareness about high risk factors.
- ✓ The "Fellows" will be encouraged to undertake epidemiological and clinical research programmes on selected topics. They should be taught the basic methods of research and reporting.
- ✓ They will submit at least one scientific paper in national or local conference.
- ✓ They will be encouraged to deliver lecture at the CME programmes conducted at state and local levels as this would not only help them to learn to deliver scientific lectures, but also will increase awareness about high risk cases among Gynecologists..

2. Rotation and Positing in Departments

The following 'rotations' are planned.

a. Basic Medical sciences and allied subjects: (Optional)

Laboratory medicine including Foetal pathology, Cytogenetics, Molecular diagnosis Duration – 1 week

b. Applied subjects:

1. Cardiology – For better management of cardiac problem during pregnancy and have firsthand knowledge of procedure like BMV & valve replacement – Duration 1 week

2. Nephrology – Basic technique of dialysis and fluid management -Duration 1 week

3. Endocrinology – Physiology, pathology clinical features and management of abnormal hormonal milieu and its effect on mother and the fetus. Duration 1 week

4. Pulmonology – Pulmonary function changes and its effect on pregnancy Duration 1 week

5. Vascular – Vascular disorders affecting pregnancy including coagulation disorders and varicose veins Duration 1 week

6. Psychiatry – Psychiatric disorders affecting pregnancy, pregnancies in patients with psychiatric disorders and the effect of pharmacotherapy on pregnancy: Duration: 1 week (optional, if possible)

7. Neurology: Management of Epilepsy, CVT, pituitary tumors and other neurological problems. Duration – 1 week.

c. Allied subjects:

1. *Radiology*

(a) To learn the basic and advanced skills in imaging techniques. Mainly Ultrasound and Doppler, but also about X-ray/CT/ MRI –Duration 1 month.

(b) Anomaly scan and prenatal diagnostic techniques – Duration 1 week.

2. Neonatology: care of the new born, problematic new born feeding and psychosocial problems with NICU care Duration– 1 week. Apart from this formal posting the fellow will do rounds and follow up all the newborns especially premature and IUGR babies.

3. Anesthesiology : Fluid management , High risk Obstetrical Anaesthesia ,choice of anaesthesia ,anesthetic agents and approach in PPH

4. Critical care Unit : Intervention and critical monitoring techniques .

d. Orientation programme:

A team of professionals attached to the hospital will orient the fellows to the use of library and internet. The fellow will also be posted to laboratory to understand the technique and pitfalls of the various tests useful in the field of maternal fetal medicine. Prenatal diagnosis act will form a part of the curriculum. The fellow will participate in the various reproductive and Child health programmes .

4. Training in Teaching skills and Research methodology:

The fellows will be encouraged to teach their juniors, residents and nurses. The hospital has a ethics committee for research projects and the members of this committee shall interact with the fellow. Statistics will be arranged as a special course. Research and paper writing will be a integral part of the programme.

5. Monitoring teaching /Learning activities :

a, Methods & Frequency : The students will be monitored for basic clinical work on a day to day basis. Their surgical and communication skills will also be monitored. Once every semester they will face a clinical examination.

c. Logbook will be mandatory. Fellows will be asked to keep a record of cases conducted or assisted by them and the number of meetings and papers published/presented by them. Each candidate will be evaluated every semester. The candidate will be asked to put in extra hours or days if found lacking.

6. Scheme of examination:

a. Written: The written examination will consist of 2 papers:

Each paper shall consist of long and short questions including MCQ and shall carry 100 marks. 60% needs to be obtaining in each of the papers for passing.

b. Clinical: There will be 2 long cases (75 marks x 2 = 150)

2 Short cases (50 marks x 2 = 100)

c. Viva Voc : 50 Marks

Thus a total of 500 marks of which in each part the candidate is expected to score at least 60%. The exams will have 2 examiners – one internal and one external.

LOGISTICS:

1. **Qualification of student:** Shall preferably be MS/MD/DNB Ob Gyn. degree/DGO holder may be taken in if found suitable, at the time of interview.
2. **Selection process:** Shall be by an entrance examination followed by interview assessing the candidate's interest in high risk pregnancy.
3. **Fee structure:** At present the fee for the entire course shall be 60,000/-.
4. **Qualification of the teacher:** Shall be a person with interest in high risk pregnancy and critical Obstetric care. A minimum of 5 years experience is required.

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*Bharati Hospital & Research Centre
Bharati Vidyapeeth Deemed to be University Medical College
Pune, Maharashtra*



Fellowship in Pediatric Radiology

Name of the mentor with academic credentials / qualifications:

1. Dr Priscilla Joshi MD

Professor and Head of Department with a special interest in Pediatric Imaging. Trained radiologist with more than 35 years experience in Radiodiagnosis and Imaging in the Armed forces as well as corporate and teaching hospitals in Delhi, Mumbai and Poona.

She has done observership at Sick Childrens hospital Toronto Canada.

Experience in Pediatric body imaging and neuroradiology

2. Dr Abhimanyu Kelkar

Professor with experience in Pediatric MSK and neuro radiology. Dr Kelkar has more than 40 years of experience on Radiodiagnosis and is one of the pioneers in the field of MR imaging in Pune.

3. Dr Anand Rahalkar

A professor in the department with more than 20 year's experience. His special interests include neuroradiology both pediatric and adult.

Overview of the programme

Radiodiagnosis and imaging is one of the specialities which has shown tremendous technical advances over the last three decades during which various cross sectional imaging modalities like ultrasound, CT and MRI have emerged ,revolutionized imaging and become a cornerstone in diagnosis of various syndromes and diseases.

“A child is not a young adult” hence the need to impart specialized training to a subset of radiologists to handle children and interpret the diseases and diagnostic problems peculiar to them.

Aim of the program is to train post graduates in Radiodiagnosis in the sub speciality of pediatric radiology.

They will be given an opportunity to conduct at least one *original research study* during the course

Eligibility Post Graduate in Radiodiagnosis either MD/DNB, less than 35 years of age.

Preference would be given to candidates with experience.

Duration of the course: One year

Date of commencement: 15 Sept 2020

Selection and Admission Procedure: On the basis of previous experience, research papers published and an interview.

List of documents required from the candidate

CV with names and contact details of two referees

MBBS degree

Registration of MBBS with renewal if applicable

Post graduate diploma / degree certificate with additional registration

PAN card

Aadhar card

Photograph

Assessment system

Internal assessment

Theory as well as practical examination at the end of the course

No of alumni qualified so far since the inception of the fellowship

Nil

One in service candidate who did not complete the fellowship

Pediatric Radiology Syllabus

1. Radiation safety

2. Pediatric Chest – Imaging in Neonates and young children

Lines and catheters

Childhood Pneumonia

Pulmonary Edema

Esophagus and Airway

Esophageal Atresia

Esophageal Foreign Body

Gastroesophageal Reflux

Bronchopulmonary foregut malformations

Ganglioneuroma

Scrotal neoplasms

Pediatric Cardiac

i. Acyanotic congenital heart disease

ii. Coarctation of the Aorta and Hypoplastic Left Heart

iii. Cyanotic Congenital Heart Disease

2. Pediatric Musculoskeletal imaging - Imaging in Neonates and young children

Skeletal Trauma

Childhood fractures

Legg---Calve---Perthes Disease

Septic Arthritis and Toxic Synovitis

Slipped Capital Femoral Epiphysis

Bone tumors

Metabolic diseases

Bone dysplasias

3. Pediatric Ultrasound – head, spine, pylorus, hips

4. Pediatric ENT– temporal bone, salivary glands, face

5. Imaging Child abuse head to toe, including pitfalls and controversies

6. Pediatric Genitourinary

Duplication of the Collecting System/Ureters

Multicystic Dysplastic Kidneys

Posterior Urethral Valves

Testicular Torsion

Ureteropelvic Junction Obstruction

Vesicoureteral Reflux

7. Pediatric Nuclear medicine basics

8. Pediatric acute abdomen and GI radiology

Appendicitis

Blunt Abdominal Trauma

Congenital Duodenal Obstruction

Hypertrophic Pyloric Stenosis

Intussusception

Jejunal and Ileal Stenosis/Atresia

Malrotation and Midgut Volvulus

Newborn Low Intestinal Obstruction

Omphalocele, gastroschisis,

Diaphragmatic hernia

Pneumoperitoneum

9. Pediatric abdomen liver disease, renal masses

10. Pediatric Neuroradiology – Basics of brain and spine

Pediatric hypoxic ischemic injury

11. Pediatric Neuroradiology – Advanced imaging techniques

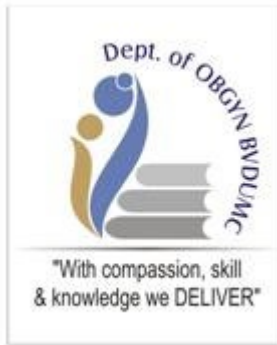
13. Pediatric Spine imaging

Congenital conditions – dysraphism

Tumors

Infections

14. Recent advances



BHARATI VIDYAPEETH DEEMED UNIVERSITY MEDICAL COLLEGE, PUNE

DEPARTMENT OF OBSTETRICS & GYNECOLOGY

FELLOWSHIP IN MATERNAL-FETAL MEDICINE

Rationale – Why This fellowship?

This era is facing a period of dramatic change that is causing the healthcare to redefine their role and strategic direction in the areas of maternal fetal care and neonatology. Technology is allowing for more accurate *in utero* diagnosis of fetal anomalies and malformations while accountable care is compelling some large adult healthcare systems to invest in maternal, fetal and pediatric programs. Medical practice has also changed over the past twenty years such that high-risk mothers are now often transferred to centers with strong neonatal capabilities prior to delivery; in the past, many of these deliveries occurred in community settings and neonates were transferred to regional neonatal centers Postnatally, which may sometimes pose problems.

The continued success of maternal-fetal medicine unit increasingly depends on their ability to identify and manage the care of expectant mothers, their fetuses and their high-risk infants. Developing such teaching programmes and perinatal networks will be better able to screen expectant mothers with high-risk infants, thereby ensuring that these women receive the highest quality perinatal care while also securing their opportunity to serve as the specialty care provider for their infants.

This teaching programme shall ensure departing knowledge about the much-required maternal-fetal medicine to the trainee, which shall in turn enhance maternal, fetal and pediatric outcomes.

Aims and objectives of the program:

Through the course, the fellow shall become proficient in the following thorough hands-on, and observational clinical skills

✓ OBSTETRICS AND OBSTETRIC ULTRASONOGRAPHY

- High-Resolution, Targeted Obstetric Ultrasonography: Viability scan, 12 weeks scan (NT), Anomaly scan, Feta Wellbeing Scan, Fetal Dopplers, Assessment of cervix and placenta
- Fetal echocardiography
- Twins and higher order multifetal gestations: Ultrasonography, monitoring, diagnosis, management and delivery decision making
- Rh negative mother: Ultrasonography, monitoring, diagnosis, management and delivery decision making
- Co-Management of preterm labor and other antepartum conditions
- Co-Management of other maternal medical conditions during pregnancy including but not limited to diabetes, hypertension, autoimmune disorders, thyroid, thrombophilia, etc.

- Assessment of Fetal Well-Being – Clinical parameters, Ultrasound, Dopplers, Non-stress test monitoring
- Diagnosis, monitoring, counseling for fetuses with abnormalities
- Fetal MRI

✓ **COUNSELLING AND GENETICS**

- Preconception Counseling
- Genetic Counseling and Genetic Carrier Screening
- Options for aneuploidy screening – Invasive diagnostic testing, Non-Invasive Prenatal Testing (NIPT) – Analysis of Fetal DNA in Maternal Blood
- Counselling and workup of bad obstetric histories
- Recurrent pregnancy loss
- Workup of structural, metabolic and single gene abnormalities

✓ **FETAL DIAGNOSIS AND THERAPY, AS AND WHEN REQUIRED:**

- Chorionic Villus Sampling
- Diagnostic and/or Therapeutic Amniocentesis
- Percutaneous Umbilical Blood Sampling (PUBS)
- Intrauterine Fetal Transfusion (IUT)
- Fetal shunts (Pleural, abdominal)
- When appropriate interventional fetal surgery, including: sacrococcygeal teratoma, congenital diaphragmatic hernia, open neural, twin-twin transfusion and laser therapy for fetal tumors among others

✓ **NEONATAL, PEDIATRIC AND PEDIATRIC SURGERY**

- Training in the basic care of a healthy and sick new born
- Exposure to follow up for a variety of pediatric surgeries diagnosed antenatally and their prognosis

INFRASTRUCTURE, FACULTIES AD STAFF INVOLVED: (Trainee shall be posted in the following departments)

Department of Radiology – High-end Ultrasound machinery, MRI for fetal MRI

Department of Obstetrics – High risk obstetric unit, labour ward, Operation theatres

Department of Genetics

Department of Neonatology and Pediatrics

Department of pediatric surgery

Laboratory services

Eligibility of trainee: DGO/DNB/MD in Obstetrics and Gynecology from a recognized medical college & Hospital

Number of candidates: Two per year,

One extra candidate can be added as in service candidate if he/she is a faculty member of Bharati Vidyapeeth Medical College.

Entrance examination and selection: Written test and interview

Training period: 1 year. The course starts on every 15th September

Programme coordinator: Dr. Pooja Lodha, Lead Consultant, Fetal Medicine & Fetal Therapy, Bharati Vidyapeeth University Medical College, Pune.

Exam and assessment pattern:

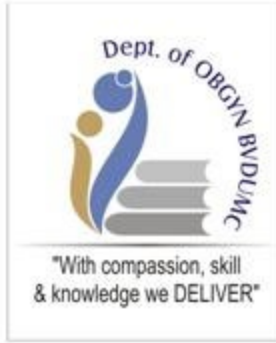
- **2 assessments – One at the end of 6 months, and the 2nd; final exit exam. Multiple choice questions, theory papers, and practical viva and demonstrations of ultrasound and procedures.**
- **Log book compulsory**
- **1 research project during the tenure of 1 year compulsory**
- **1 Conference in Maternal-fetal Medicine compulsory**

Proposed fee structure for the fellowship – Rs.60,000/- (Rupees Sixty Thousand Only) per term of six months.

Terms and conditions:

1. The faculty shall include individuals with sufficient post MD or DNB experience in Maternal Fetal Medicine as a teacher.
2. The course duration is of 12 months and course will start on 15th September every year. The candidate would be posted in Department of Radiology, Obstetrics, Neonatology, Genetics, and Pediatric surgery at Bharati. He would rotate with the faculty in other hospitals/health care clinics/centers as and when interesting rare cases being done there (with due permission of the hospital/healthcare clinic/centers)
3. He/she will be expected to complete one research paper in Maternal Fetal Medicine during the training programme at least 2 months prior to his / her completion of the course. This is a part of assessment.

4. At the end of 12 months of training there would be an examination conducted by Bharati Vidyapeeth University. It is mandatory to pass this examination to acquire fellowship certificate.
5. He/she will participate in the teaching programs in the department (case presentations, seminar, journal club, radiology / Obstetrics / Genetics/ pediatrics/ mortality / research project presentation/combined interdepartmental meetings).
6. Logbook of all cases and daily postings will be maintained.
7. Shared accommodation in the hostel shall be provided to the candidates as per availability. Hostel accommodation and mess shall be as per the existing rules of the hospital as applicable from time to time.
8. Each candidate selected shall pay a fee of (Rs.60,000/- Rupees Sixty Thousand Only) per six months, at the start of each term payable to Bharati Vidyapeeth University Medical College, Pune. The in-service candidate would be exempted from course fee; however he / she needs to pay examination fee
9. Examination Fee: Rs.10,000/- only
10. The selected candidate will receive a stipend of Rs.40,000/- (Rupees Forth Thousand Only) per month for the stipulated period of one year of training.
11. Examination & evaluation Fees: the examination will be held once a year in every October. The examination fees will be as per university rules.
12. **The candidate must procure necessary permissions from the PCPNDT Corporation cell before starting the fellowship programme**
13. **Vicarious responsibilities of the institution:** The candidate shall abide by the regulations and shall give written undertaking regarding medical indemnity, medical negligence etc.
14. **Permitted leave:** The trainee will have to work on Sundays and other public holidays in rotation. The candidate is entitled to 7 days of paid leave for every term of 06 months and is not eligible for any other leave. Any leave availed apart from above sanctioned leave will have to be compensated for prior to appearing for examination.
15. Based on unsatisfactory reports, the fellowship may be terminated.
16. If the trainee does not complete his / her tenure of 12 months / 18 months, the fellowship certificate shall not be granted.



Bharati Vidyapeeth Deemed University Medical College, Pune
Department Of Obstetrics & Gynecology

FELLOWSHIP IN GYNAEC ONCOLOGY

Preamble:

Rising incidence of malignancy in Gynaecology needs special care & treatment by skilled person trained in this aspect.

Fellowship training provides additional education & practical experience to gain special competence in various gynecological cancers, which is the need of the hour. He/she thus promotes awareness of the diagnosis & therapeutic techniques for optimal treatment of gynaec malignancy.

Trainee in this aspect will go a long way in improving the the health of the nation & help in providing skilled care in this emerging challenge in Gyanecology.

A) AIMS & OBJECTIVES OF THE FELLOWSHIP PROGRAMME IS:-

- a) To provide high quality training in Gynaec oncology.
- b) To attain proficiency in treatment of Gynaec cancers.
- c) To be able to provide expert care in gynaec onco cases.
- d) To be able to set up and handle an Gyn oncology unit.

B) STATEMENT OF OBJECTIVES OF THE COURSE:-

Gynaec oncology is a highly specialized and progressively expanding discipline which is concerned with prevention, diagnosis and treatment of gynaec cancers. Due to increasing

incidence of cancer cases practicing gynaec oncology is essential. The 'fellowship programme' would fill some void in the need of gynaec oncology.

C) SKILLS/ATTITUDES AND COMMUNICATION ABILITIES:-

- a) Developing surgical skills in Gyn Oncology with basic knowledge of chemo and radiation.
- b) To be well versed with different diagnostics in prevention & treatment of Gyn cancers.
- c) It is vital that the candidate learns the art of communication with the patients and relatives because they could be associated with mortality or morbidity or both.
- d) Documentation keeping will also form a part of the curriculum.

D) PROPOSED ELIGIBILITY & SELECTION OF CANDIDATES: -

- a) **Eligibility:** Candidates holding postgraduate qualification in obstetrics & Gynaecology: The qualification should be MD/MS or DNB duly registered with MMC/ MCI/ State Medical Council.
- b) **Number of candidates:** Two per year. As an exception, one extra candidate may be permitted provided he/she is an alumni or faculty in Bharati Vidyapeeth medical college.
- c) **Entrance examination & selection:** The candidate has to appear for a written test based on Gynaec oncology and basic sciences which will be short answer questionnaire.
- d) **Training period:** one year.

E) TERMS AND CONDITIONS:-

- a) The faculty for the fellowship training will be In house teachers with sufficient experience in oncology and long standing experience in the field of subject.
- b) The duration of the course is one year, in which the candidate will be posted in the Department of **OBSTETRICS AND GYNAECOLOGY, B.V.D to be .U.M.C. pune.**
- c) The candidate will be a part of the gynaec oncology unit of BVDU, pune.
- d) The candidate is expected to complete one research paper in gynaec oncology and submit the manuscript for publication in peer reviewed reputed journal. He/she will also present one paper and one poster in a state / national conference pertaining to gynaec oncology.
- e) The course will commence on the 15th September. And there will be an examination conducted by Bharati Vidyapeeth university in the first week of October in the following year (next year). It is mandatory to pass this examination to acquire the fellowship certificate.

- f) The selection of the candidate for the fellowship training will be on the basis of written examination and interview.
- g) Shared accommodation in the hostel shall be provided to the candidate as per the availability. Due charges will have to be paid by the candidate.
- h) Each candidate selected shall pay a fees of Rs1,00,000 for the fellowship. He/she will receive a stipend of Rs.45, 000/- per month for the duration of training. (One year). The candidate has to make a deposit Rs. 50,000/- which will be returned on completion of the fellowship.
- i) The candidate will work as a resident and shall submit all the necessary documents to the college. The candidate will give an undertaking and shall appear as a SR for all the MCI inspections during the tenure of training (if required).
- j) The candidate has to have professional indemnity cover and the same letter has to be submitted at the start of course.
- k) Leaves: the candidate is allotted 7 leaves per term. Prior permission from the head of Department is mandatory. The candidate is eligible for 14 casual leaves during the course
- l) The candidate is bound to attend outreach patients camps conducted by the hospital for the retrievals.

F) COURSE CONTENT:-

a) The basic knowledge

The spectrum of knowledge and skills to be mastered during fellowship are:

- Anatomy of pelvic organs
- Basics of Pathology /Pharmacology / Radio diagnosis
- Study of demographics, social and environmental factors affecting Gynaec cancers.
- Preventive aspects of Gynaec Oncology.

b) The clinical acumen

History taking and examinations in conjunction with investigations is the main stay for diagnosis and treatment of malignancy. The art of clinical examination of the patients is simple and should be rapidly learnt by the students.

c) Procedural and operative skills:

The following lists the minimal requirements to be met by the trainee with graded responsibility accorded during the year of training :

- Screening Modalities

- Insertion of central venous line, arterial line and collection of ABG sample.
- Insertion of endotracheal tube and basics in ventilation.
- Radical surgery – Laparotomy/Endoscopic/Robotic
- Retroperitoneal dissection- Pelvic/ Paraaortic
- Basics in chemotherapy.
- Basics in radiotherapy.

d) ICU care of the malignancy Patient :

The fellow needs to be proficient in central venous line insertion and monitoring invasive blood pressure measurements and ventilatory care including settings for the post operative patient.

Observe and interpret the coagulation report and transfusion of blood and blood components.

e) Cases To Be Managed:-

- Ca cervix
- Ca Endometrium
- Ca ovary
- Ca vulva
- Ca vagina
- GTN

f) Teaching And Learning Activities:-

a) Duration

- 10 months in Gynaec department
- ii) 1 Month in Medical oncology
- ii) 15 days in ICU
- iv) 15 days in Radiation Department

b) Training in teaching skills & Research Methodology

c) Maintain Logbook

g) Participation In Department Activities:-

- Journal club meetings will be held once a month
- Tumour board meet
- The “fellows” will be encouraged to undertake epidemiological and clinical research programmes on selected topics. They should be taught the basic methods of research and reporting.

- They will be encouraged to deliver lecture at the CME programmes conducted at state and local levels as this would not only help them to learn to deliver scientific lectures , but also will increase awareness about high risk cases among Gynecologist

h) Orientation Programme:-

The orientation programme to this course will be conducted at the beginning by the faculty.

G). CANDIDATE EVALUATION:-

a) Theory:

There will be two theory paper of 100 marks each .

There will be 2 long questions of 20 marks each & 6 short questions of 10 marks each.

The candidate has to score min 50% marks to qualify for the fellowship.

b)Practical:-

There will be viva voce exam for 200 marks. The candidate has to score minimum 50% marks to qualify for the fellowship. The Candidate has to pass Theory and Practical examinations separately.

Practical examinations will be conducted as follows:

- 1) Long Case: - 50 Marks
- 2) Two Short cases: - 25 Marks each.
- 3) Viva – voce and Table Viva- 60 Marks.
- 4) Internal Assessment – 40 Marks

c) Examiners:

There will be one internal and one external examiner appointed by the university.

d) Certification:

The fellowship will be awarded in convocation ceremony of the University.

Future prospects and job opportunities

It is an upcoming super subspecialty in which the fellow will have high prospects of being a faculty at various institutions all over India.

*Bharati Hospital & Research Centre
Bharati Vidyapeeth Deemed to be University Medical College
Pune, Maharashtra*



Fellowship in Fetal Medicine

FETAL MEDICINE FELLOWSHIP (ONE - YEAR)

COURSE OBJECTIVES:

1. To be able to use the ultrasound scan machine effectively.
2. To understand normal and abnormal development in a fetus.
3. To be able to interpret findings on a scan and reach a reasonable diagnosis.
4. To be able to manage common abnormalities integrating the various modalities of investigation for perinatal diagnosis.
5. To be able to liaise with the appropriate departments as dictated by the case and make effective use of the current knowledge and technology available.
6. To be able to provide appropriate pre- pregnancy and perinatal advice to prospective parents.
7. To be able to critically assess available literature and interpret current papers to suit the needs of the patient and the population.
8. To be able to integrate oneself and work as a team showing due respect to colleagues and contribute effectively to the team.
9. To attempt publication of case reports and other review/research articles.

SYLLABUS FOR FETAL MEDICINE FELLOWSHIP COURSE (ONE YEAR)

The fellows will go through the following modules during the one- year course.

MODULE 1 Basics of Fetal Medicine

Relevant Physics of Ultrasound Embryology and fetal development

MODULE 2 Core Fetal Medicine Subjects

Perinatal Genetics

Fetal abnormalities and its management Prenatal Diagnostics and therapy

Perinatal Pathology

MODULE 3 Clinical Obstetrics

Multiple Pregnancies

Perinatal Infectious Diseases

MODULE 4 Personal Development and management skills

Communication, team building and management

Critical Appraisal Skills

Module I

Physics of Ultrasonography (USG)

1. Terminology, Physical & Technical principles
2. USG equipment - knobology
3. Transducers, Real time ultrasound techniques
4. Scanning methods
5. Doppler

Embryology and Fetal development

1. General embryology
2. Ovulation to implantation
3. Development of germ disc, yolksac and trophoplast
4. Development of placenta and membranes
5. Timing and normal development of main organ systems
6. Basic principles of teratogens
7. Mechanism of Teratogenesis
8. Effects of possible teratogens – drugs, infection, radiation

Module – 2

Core fetal medicine subjects

1. Perinatal genetics
2. Basic principles of genetics
3. Genetics disorders
4. Chromosomal disorders (including screening, diagnosis and management)
5. Multiple anomalies and syndromic disorders

Fetal abnormalities and its management

CNS anomalies
Cardiac anomalies
Genito urinary anomalies
Pulmonary abnormalities
Neck and face anomalies
Skeletal anomalies
Fetal tumors
Fetal hydrops
Multiple pregnancies
Disorders of amniotic fluid
Management options including termination of pregnancy
Preconception counseling

Antenatal Screening

1. Invasive Tests– Amniocentesis, Chorion Villous Sampling
2. Maternal serum screening (AFP, BhcG, Estriol, Papp- A)

Perinatal pathology

Analysis of fetal and placental tissues

Module – 3

Clinical Obstetrics

1. Multiple pregnancies – Twins, Triplets and more
2. Antenatal complications – IUGR, Chorioamnionitis, premature rupture of membranes, intrauterine fetal death.
3. Perinatal infectious diseases – Toxoplasmosis, CMV, Herpes, HBV, HIV, HPV, Rubella, Parvovirus, streptococcal infection and syphilis.
4. Common infections in mother – Dengue, malaria, H1N1, Chicken pox

Module 4

1. Communication, teambuilding and management skills.
2. Critical appraisal skills.
3. Interdisciplinary interactions and application of allied sciences for a practical approach to a case

Assessment

Logbook of cases

Clinical Scenario Evaluations.

Publications in national/international journals

Project(Thesis)

Exit Exam

The External examiners will be chosen from the fetal medicine specialty.

Recommended Reading:

1. Text Book of Obstetric Medicine by Catherine Nelson Piercy.
2. Medicine of the fetus & mother by Reece & Hobbins
3. Fetology by Bianchi, Cromblehome, D'alton
4. The unborn patient by Harrison, Evans, Adzick, Holzgrieve
5. The Developing Human : Clinically oriented Embryology by Moore
6. Practical Genetic Counseling by Peter Harper
7. Genetic Disorders & The Fetus : Diagnosis, Prevention & Treatment
8. Diagnostic Ultrasound of Fetal Anomalies – by David A Nyberg et al.
9. Fetal Medicine Basic Science and Clinical practice – Charles H. Rodeck.
Martin J whittle
10. A Practical Guide to Fetal Echocardiography – Alfred Abu Hamad.

Manuscript for Fellowship in GI & HPB Surgery

April 2022

Theory paper pattern with topics

Paper Pattern:

1. Two papers of 100 mark each. Theory will be conducted at BVDUMC, Pune.
2. Each paper shall have 10 short answer type questions for 10 marks each.
3. Each paper shall be for 3 hours.
4. Draw algorithms and diagrams wherever necessary.

Paper I: *Basic Sciences, Upper GI, Small Intestine, Retro peritoneum, Spleen, Bariatric surgery, Laparoscopic surgery, GI Hemorrhage, Pre & post-operative pain management in abdominal surgery, Ethics for surgeons.*

Paper II: *Hepato, pancreatic and biliary surgery, colorectal, anal canal disease, Recent advances in GI Surgery, Organ transplantation.*

Topics

Paper I:

1. GI imaging, infection and antibiotic in GI Surgery, nuclear medicine, Imaging in GI Surgery, Chemo & radiation therapy in GI malignancies.
2. Interventional radiology in GI tract and HPB system, Statistics for GI surgeons. Nutritional support in GI surgical cases.
3. Disease of Esophagus including motility disorders reflux disease, benign & malignant tumors, trauma, corrosive injuries.
4. Peptic ulcer disease benign & malignant disease of stomach, duodenum, small intestine, & retro peritoneum.
5. Disorders of spleen, trauma to spleen
6. Bariatric and metabolic surgery
7. Laparoscopic surgery including robotic surgery.
8. Tumor markers in GI Malignancies.
9. Approach to GI tract hemorrhage including variceal bleeding
10. Ethics in Surgery.

Paper II:

1. Benign and malignant disorders of liver including management of trauma to liver, approach to a patient with jaundice, SOL liver, preoperative management of patients with liver & biliary tract disease.
2. Liver resection surgery in benign & malignant liver diseases.
3. Liver pancreatic & small intestine transplantation, artificial liver support in liver failures.
4. Acute & chronic pancreatitis medical and surgical management, Benign & malignant neoplasm of pancreas included cystic neoplasms of pancreas.
5. Minimal invasive surgical approach to pancreas.
6. Management of pancreaticoduodenal injuries.
7. Acute and chronic disorders including malignancies of Gall Bladder and Biliary system.
8. Benign and malignant conditions of colon & rectum including inflammatory bowel disease, prolapse and incontinence. Minimal invasive surgery for colorectal disorders.
9. Acute and chronic disorders of anal canal including malignant disorders.
10. Recent advances in all GI surgical fields.

Practical Examination pattern**Key aspects:**

1. The practical assessment will be of 200 marks. Will be conducted in Department of General Surgery, Bharati Hospital, and Pune.
2. 40 marks will be allotted to internal assessment based upon the overall performance of the fellow and will be graded by the allotted mentors in the department.

Distribution of marks & Cases:

	Marks
Long Case - one	50
Ward Rounds	50
Table Viva	60
Internal assessment	40
Total	200



Department of Medicine

Syllabus of Fellowship in Infectious Diseases

1. **Introduction to infectious diseases**
Infectious disease history, discovery of antibiotics, discovery of vaccines, timeline of development of antimicrobials and antimicrobial resistance, microbial characteristics, organism pathogenicity and virulence, general principles of diagnosis and management of infectious diseases, emerging infectious diseases
2. **Infectious disease syndromes by body systems**
Symptomatology of infectious diseases and pathogenesis of symptoms, fever and its characteristics, sepsis and its characteristics, infectious disease syndromes by body systems, septic shock and its management
3. **Management of community acquired infections**
Definition of community acquired infections, meningitis, infective endocarditis, respiratory infections, intra abdominal infections, skin and skin structure infections, bone infections
4. **Management of nosocomial infections**
Definition of nosocomial infections, Ventilator associated pneumonia, Catheter associated urinary tract infection, catheter related blood stream infection, surgical site infection, Antimicrobial resistance, choice of antimicrobials in multi-drug resistant organism (MDR) infections
5. **Special populations in infectious diseases**
Infections in patients with oncological and hematological disorders, new fever in intensive care units, rheumatic manifestations of infectious diseases, infectious disease mimics, infections in patients with indwelling devices, prosthetic joint infections, infections in pregnancy, infections in patients with paraplegia and chronic bed-bound state, infections in geriatric population
6. **Infections in immunocompromized hosts**
Infections in patients with solid organ transplantation, infections in patients with hematopoietic stem cell transplantation
7. **HIV and AIDS**
HIV- virology, natural history of HIV infection, diagnosis of HIV infection, symptoms of HIV infections, opportunistic infections, standards of care in HIV infection, HIV/HBV coinfection, HIV/HCV coinfection, antiretroviral therapy, failure of antiretroviral therapy, post-exposure prophylaxis, management of pregnancy with HIV infection, improving adherence to antiretroviral drugs, National AIDS control programme, social issues in HIV infection
8. **Tropical infectious disorders**
Tropical infectious disease epidemiology, Malaria, Filaria, Dengue hemorrhagic fever, rickettsial infections, leptospirosis, Kala azar, parasitic infections and infestations
9. **Pyrexia of unknown origin**
Definition of pyrexia of unknown origin (PUO), etiology of PUO, diagnostic approach to a case of PUO
10. **Drug sensitive and drug resistant tuberculosis**
Tuberculosis- history and epidemiology, pathogenesis and Symptomatology, management of drug sensitive tuberculosis, Revised national tuberculosis control programme, management of drug-resistant tuberculosis, latent tuberculosis infection, HIV/TB coinfection, infection control in tuberculosis
11. **Atypical mycobacterial infections**

- Microbiology of atypical mycobacteria, American thoracic society recommendations for nontuberculous mycobacterial infections
12. **Anti-infective therapy**
History of antimicrobial discovery/inventions, anti-infective drugs, antimicrobial drug Resistance, hospital antibiotic policy
 13. **Invasive fungal infections and antifungal therapy**
Candidiasis, Aspergillosis, Cryptococcosis, Mucormycosis, Other invasive fungal infections, Azoles, triazoles, Echinocandins, Amphoterecin B
 14. **Geographic and travel medicine**
Travel medicine, Adult immunization clinic, Infections in returned travellers
 15. **Principles of clinical microbiology**
Gram stain, ZN stain, other stains, Gram positive bacteria, Gram negative bacteria, Mycobacteria, clinical mycology, culture methods, organism identification and drug susceptibility, basics of pharmacokinetics and pharmacodynamics, interpretation of antibiograms, minimum inhibitory concentration (MIC) interpretations, newer methods of TB diagnosis
 16. **Principles of hospital infection control**
Definition of infection control, basics of hospital infection control, infection control bundles, how to establish a successful hospital infection control programme, epidemic control, control of hospital outbreaks, infection control indicators

 17. **Biostatistics, how to read a research paper**
Sensitivity, specificity, Positive and negative predictive values, accuracy, tests of significance, characteristics of data, data analysis, how to read a research paper, how to write a research paper for an international journal

Manuscript for Fellowship in Minimal access surgery

April 2022

Theory paper pattern with topics

Paper Pattern:

1. Two papers of 100 mark each. Theory will be conducted at BVDUMC, Pune.
2. Each paper shall have 10 short answer type questions for 10 marks each.
3. Each paper shall be for 3 hours.
4. Draw algorithms and diagrams wherever necessary.

Paper I: *Fundamentals of laparoscopic surgery*

Paper II: *Advanced laparoscopic surgery*

Topics

Paper I: *Fundamentals of laparoscopic surgery*

1. Indications and contra indications in laparoscopy
2. Access to abdomen and extra-peritoneal space
3. HALS , VATS and SILS
4. Hemostasis in laparoscopy
5. Physiology of pneumo-peritoneum
6. Tissue approximation in laparoscopy
7. Laparoscopy in pregnancy, malignancy and acute abdomen
8. Robotic surgery
9. Complications of laparoscopic surgery
10. Optical system, laparoscopy trolley and instrument sterilization

Paper II: *Advanced laparoscopic surgery*

1. Diagnostic laparoscopy
2. Bariatric surgery- types, mechanism of action and complications
3. Metabolic surgery
4. Laparoscopic hernia repair- TAPP,TEP, eTEP, TAR, AWR, IPOM
5. Pediatric laparoscopy
6. Routine laparoscopic surgeries – appendectomy, cholecystectomy, CBD exploration, fundoplication, rectopexy, Heller’s cardiomyotomy etc.

7. Laparoscopic ultrasound in CBD exploration
8. Laparoscopic hepatic, gastric, pancreatobiliary surgeries, laparoscopic hydatid cyst management.
9. Recent advances in minimally invasive management of GERD, Achalasia, bariatric procedures etc.
10. NOTES

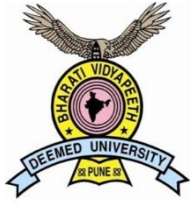
Practical Examination pattern

Key aspects:

1. The practical assessment will be of 200 marks. Will be conducted in Department of General surgery, Bharati Hospital, Pune.
2. 20 marks will be allotted to internal assessment based upon the overall performance of the fellow and will be graded by the allotted mentors in the department.
3. 10 marks for publication done in this one year period

Distribution of marks & Cases:

	Marks
Long Case	50
Ward Rounds/ Short Case	30
Manual Skill Stations [4]	40
Table Viva	30
Spots (5)	20
Internal assessment	20
Publication	10
Total	200



Bharati Vidyapeeth Deemed University Medical College, Pune

Paediatric Fellowship Syllabus

Syllabus

a) Basic principles in paediatric anaesthesia

- Special characteristics of paediatric anaesthesia
- Respiratory physiology in infants and children
- Cardiovascular physiology
- Regulation of fluids and electrolytes
- Thermal regulation
- Pharmacology of paediatric anaesthesia

b) General approach to paediatric anaesthesia

- Preoperative preparation
- Anaesthesia equipment and monitoring
- Induction of anaesthesia and endotracheal intubation
- Intra and postoperative management
- Blood conservation
- Pain management in infants and children
- Regional anaesthesia and analgesia

c) Clinical management of special surgical problems

- Anaesthesia for neonates and premature infants
- Anaesthesia for general, urologic and plastic surgery
- Anaesthesia for ear, nose, and throat surgery.
- Anaesthesia for Ophthalmic surgery
- Anaesthesia for Orthopedic surgery
- Anaesthesia and sedation for procedure outside the OR

- Paediatric outpatient anaesthesia
- Anaesthesia for organ transplantation
- Anaesthesia for trauma

ICU management and ventilation in children

Bharati Vidyapeeth (Deemed University) Medical College and Hospital Pune.

Post-Doctoral Course Pediatric Orthopaedics Syllabus

A. DISCIPLINES

1. Growth and Development
2. The Orthopaedics Examination : A comprehensive Overview
3. Gait Analysis
4. Management of the Child with Development Disabilities.

B. ANATOMIC DISORDERS

1. Disorders of Neck
2. Scoliosis
3. Kyphosis
4. Disorders of the Upper Extremity
5. Developmental Dysplasia of Hip
6. Legg- Calve- Perthes Disease
7. Slipped Capital Femoral Epiphysis
8. Congenital Coxa Vara
9. Disorders of the Femur
10. Disorders of the Knee
11. Disorders of the Leg
12. Disorders of the Foot
13. Limb Length Discrepancy.

C. COMMON ORTHOPAEDIC DISORDERS

1. Limb Deficiencies
2. Infections of the Musculoskeletal System

D. MUSCULOSKELETAL TUMORS.

1. General Principals of Tumor Management.
2. Benign Musculoskeletal Tumors

E. INJURIES.

1. General Principles of Managing Orthopaedic Injuries

2. Spinal Injuries
3. Upper Extremity Injuries
4. Lower Extremity Injuries

F. NEUROMUSCULAR DISORDERS.

1. Disorders of the Brain
2. Disorders of the Spinal Cord
3. Poliomyelitis
4. Disorders of the Peripheral Nervous System
5. Muscle Diseases.

G. MISC ORTHOPAEDICS DISORDERS.

1. Skeletal Dysplasias
2. Metabolic and Endocrine Bone Diseases

Dr. Sandeep Patwardhan

Professor

Orthopaedics Department

Bharati Vidyapeeth Medical College & Hospital Pune.

Dr. G. R. Joshi

Professor & HOD

Orthopaedics Department

Bharati Vidyapeeth Medical College & Hospital Pune.

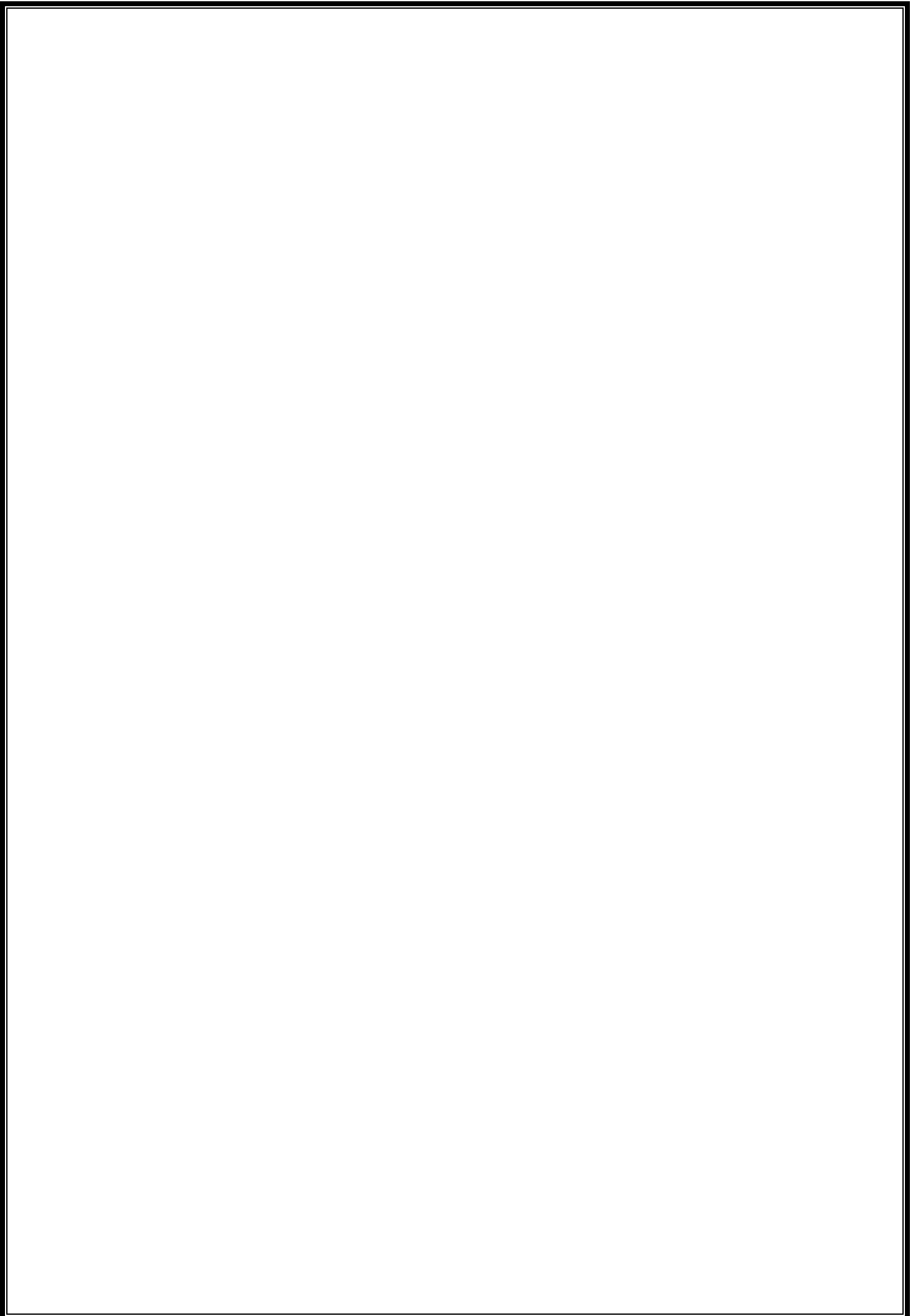
Dr. Ashish Ranade

Consultant

Pediatric Orthopaedics

Orthopaedics Department

Bharati Vidyapeeth Medical College & Hospital Pune.



Dept of Microbiology

Bharati Vidyapeeth (DU) Medical College Pune

Syllabus – Fellowship in Infection Control and Antimicrobial Stewardship

Infection Control	Antimicrobial Stewardship
Introduction to infection control & epidemiology	Interpretation of biochemical tests and clinical pathology related to infections
Structured organization of Infection control program	Laboratory Microbiology Quality control Automation in Microbiology Diagnostic stewardship/Cascaded reporting
Device Care bundles	Antimicrobial therapy including PK PD
CSSD	Antibiotic policy /Antibiogram
Hand hygiene: Requirement, moments, audits Personal protective equipment Pre exposure prophylaxis Post exposure prophylaxis Transmission based precautions Root cause analysis Audits related to infection control	Data collection of antimicrobial use Antimicrobial consumption calculation DDD/DOT/Cost metrics
Major healthcare-associated infections : <ul style="list-style-type: none"> • Catheter associated urinary tract infections • Central line associated blood stream infections • Ventilator associated pneumonia • Surgical site infections 	Clinical rounds with ID physician/Medicine/Surgery/Ortho
Surveillance of Health care associated infections, HAI Indicators Environmental surveillance <ul style="list-style-type: none"> • Water • Air • Environmental surface surveillance 	Setting up an AMS Programme
Disinfection and cleaning Biomedical waste management	Resident /ICN /Clinical pharmacist training
Infection control in special situations <ul style="list-style-type: none"> • laundry • dialysis unit • transplant unit • ICU • Operation theatre • OPD • laboratory • blood bank • canteen 	
Microbiology specimen collection Outbreak investigation NABH requirement of Infection control	

Assessment :

Internal assessment

- a) Log book – 25 cases – complete microbiological and clinical follow up including infection control and antimicrobial stewardship efforts (infections – Both HAI and community acquired)
- b) 10 audits/RCA related to infection control: Hand Hygiene, Surface cleaning, needle stick injury, device care bundles
- c) Minimum of 2 lectures/ seminars in 12 months

Exam pattern

Theory : 200 marks – 2 papers, each paper will have 10 question of 10 marks each

S No	Sub Head	Max Marks
1	Paper 1: Sterilization/Disinfection, Infection Control, Hospital infections, Automated tests, Device insertion/care bundles	100
2	Paper 2: Antimicrobials, Antibigram, Antimicrobials, Biomarkers, Recent advances	100

Practical : 200 marks

S No	Sub Head	Max Marks
1	1 long case – clinical – Microbiological diagnosis and antibiotic therapy, infection control	50
2	Bacteriology: Identification, antimicrobial testing and interpretation	50
3	Sample collection on Simulator- Blood culture, catheterised Urine sample	25
4	Serology tests and interpretation	25
5	Disinfectants and CSSD	25
6	Viva	25

Suggested Seminar topics: (Will be decided as per requirement)

- 1) Automation in clinical Microbiology
- 2) Sterilisation of reusable devices
- 3) Outbreak surveillance
- 4) Care bundles for HAI prevention.
- 5) Audits in infection control

*Bharati Hospital & Research Centre
Bharati Vidyapeeth Deemed to be University Medical College
Pune, Maharashtra*



Fellowship in Women's Imaging

Duration Of Course

1 Year

Curriculum

Mammography/Women's Imaging fellowship is designed to provide an opportunity to develop expertise in all aspects of breast imaging and intervention as well as female pelvic imaging. Fellows work closely with staff consultant. Opportunities exist for involvement in current research programs or formulation of original investigations.

Women's Imaging and Intervention Training

- Screening and diagnostic mammography
 - Breast ultrasound
 - Breast MRI
 - Image-guided procedures: Stereotactic, US
 - Training in quality control and assurance.
 - Body MRI – includes pelvic MRI
 - Body US – includes pelvic US (OB US possible by special arrangement)
 - Body CT – includes abdomen and pelvic CT
 - Additional time in breast imaging and intervention
-

Program Highlights:-

1. A 1 year comprehensive and well-balanced training program encompassing all the basic and advanced clinical areas of women's imaging.
2. Training in breast, gynaecological and obstetrical imaging.
3. Modular Fellowship course format
4. Obstetrical imaging training includes performing and interpreting OB ultrasound and exposure to fetal MR.
5. The fellow will be involved with all aspects of breast imaging and procedures including mammography, ultrasound, breast MRI, breast biopsy and wire localizations.
6. Gynaecological training includes MR interpretation, hands on endo-vaginal scanning and fluoroscopic procedures and sonographic evaluation of the endometrium and fallopian tubes.
7. The fellow receives "hands-on" experience at the workstation as well as through active procedure services with image-guided aspirations and biopsies.
8. Fellows fully participate in all aspects of clinical services, with frequent contact.
9. Fellows will be given an opportunity to conduct at least one ***original research study*** during the course duration.



POST DOCTORAL CERTIFICATE COURSE IN DIAGNOSTIC HAEMATOLOGY

DEPARTMENT OF PATHOLOGY

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY) MEDICAL COLLEGE AND HOSPITAL, PUNE

SYLLABUS

- Basic biology and pathology of haematological conditions.
- Laboratory procedures, Diagnostic approaches and interpretative analyses in laboratory haematology.
- Diagnosis of acute and chronic leukaemias - bone marrow studies- morphology, special stains, flow cytometry, genetic studies
- Diagnosis of nutritional, deficiency anaemias
- Diagnosis of thalasseмииs, haemoglobin disorders, haemolytic anaemias
- Genetic basis of diseases and their genotype-phenotype correlation.
- Diagnosis of congenital and acquired bleeding disorders
- Understanding of obstetric and gynaecological haematology, haematological conditions in ICU and HDU
- Quality control in haematology



FELLOWSHIP IN ONCOPATHOLOGY

DEPARTMENT OF PATHOLOGY

BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY) MEDICAL COLLEGE AND HOSPITAL, PUNE

SYLLABUS

General Pathology

- Cellular adaptation
- Cell injury and death
- Tissue renewal and repair
- Genetic disease and tumor immunology
- Carcinogenesis and neoplasia
- Hereditary cancers and familial cancer syndromes.

Systemic Pathology

- Tumors of GIT and hepato biliary system
- Tumors of soft tissue and bone
- Tumors of lung and mediastinum
- Tumors of lymph node and hemopoietic system
- Tumors of CNS and Eye
- Tumors of Thorax
- Tumors of Head and neck
- Tumors of breast
- Tumors of Female genital system
- Tumors of male genital system
- Tumors of urinary system
- Tumors of Endocrine system
- Tumors of skin
- Tumor like lesions in all sites
- Pediatric tumors
- Immunohistochemistry and FISH for accurate subcategorisation of specific tumors.





Cyto-Oncopathology

Cytopathology techniques

Routine, guided (computed tomography (CT) and, ultrasound guided fine needle aspiration cytology.

- Liquid based cytology
- Non gynaec cytology including fluids, bronchial wash and BAL
- Automated cytology
- Oncocytology of different systems :
 - ▶ Lung and mediastinum
 - ▶ Soft tissue and bone
 - ▶ Lymph node
 - ▶ Salivary glands
 - ▶ Breast
 - ▶ GIT, liver, abdominal organs
 - ▶ Thyroid
 - ▶ Kidney
- FNA for cytogenetics, cell blocks, IHC and ISH
- FNA for flowcytometry of lymphoproliferative disorders and paediatric solid tumors.

Molecular Pathology

- Techniques in cytogenetics - routine karyotyping
- IMA (Tissue micro array)
- FISH (Fluorescence in-situ hybridization)
- CGH (Comparative genomic hybridization)
- PCR (Polymerase chain reaction) and RT-PCR
- NGS (Next generation Sequencing)

Recent advances in Oncopathology

Recent advances in molecular pathology