



MGM INSTITUTE OF HEALTH SCIENCES

(Deemed to be University u/s 3 of UGC Act, 1956)

Grade 'A' Accredited by NAAC

Sector-01, Kamothe, Navi Mumbai -410 209

Tel 022-27432471, 022-27432994, Fax 022 -27431094

E-mail: registrar@mgmuhs.com; Website :www.mgmuhs.com

Curriculum for Fellowship in Neonatology (with effect from 2018-19 Batches)

Approved as per BOM - 53/2018, Dated 19/05/2018

Amended History

1. Approved as per BOM - 53/2018, [Resolution No.4.8], Dated 19/05/2018.



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FORMAT FOR SUBMISSION OF PROPOSAL/ FELLOWSHIP COURSE

1. Title of the fellowship : **POSTGRADUATE FELLOWSHIP IN NEONATOLOGY**
2. Duration of the fellowship : 1 year (12 Month)
3. Commencement (2 batches): a) 1st June, 2018 b) 1st December, 2018
4. Objectives of the fellowship: Train the qualified Pediatricians in understanding the basics of neonatal emergency and intensive care medicine, simultaneously working towards progressive positive outcomes in the form of morbidity and mortality.

At the end of fellowship, candidate should be able to handle any neonatal condition in rational and empathetic way. He will be able to improve goals of neonatal care in India. He will be able to do research and innovations in field of neonatology.

5. Eligibility Criteria for Admission : MD(Pediatrics) /DNB / DCH
6. Intake Capacity in each batch :2students per term
7. Admission/Selection Process/Procedure: NEET SORE
8. Fees :150000 rupees
9. Scheme of Examination (in detail) : 3 monthly formative assessment Project –given at end of 2month

PATTERN OF EXAM-

Final theory exam -2 papers 100 marks each

Practical examinations with two internal and two external examiners with subspeciality excellence

Practical examination -200 marks

Internal assessment and project work-50 marks each

Total marks -500

Passing criteria-50% in each criteria

Award of fellowship- at end of result by university

10. Infrastructure required for conducting the course and its availability in the College/Hospital -20 bed NICU,10 bed PICU
11. Scheme of Examination (in detail) : (Pattern of exam/Passing criteria/ Award of fellowship)
3 monthly formative assessments
Project –given at end of 2month

Final theory exam -200 marks, 2 Papers

Practical examinations with one 2 internal and 2 external with subspeciality excellence

12. Infrastructure required for conducting the course and its availability in the College/Hospital: 20 BED NICU with modern equipments, 6 ventilator beds. PICU and Pediatric, NEUROLOGY and Neurosurgery backup

13. Faculty required (with qualification) for conducting the course:

Dr. Vijay Kamale, Head Department, MGM 18 yrs experience

Dr. Piyush Jain, ex -ASSOCIATE Professor, DEPARTMENT OF paed. MGM Medical College

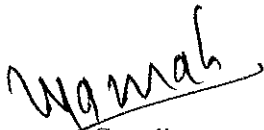
Dr. Vikas Gupta, Fellowship in neonatology, (MUHS, NASHIK)

14. Faculty required (with qualification) for conducting the course:

Dr Vijay Kamale, Professor Department OF Pediatrics

Dr. Vikas Gupta, M.D., Fellowship NICU (MUHS)

Dr. Vivek Bhagat M.D., Fellowship PICU (MUHS)



Programme Coordinator
Dr Vijay Kamale



Head, Dept. Of Pediatrics
Dr Vijay Kamale

PROFESSOR & HOD
Dept. of Paediatrics,
MGM Medical College Hospital,
Kalamboli, Navi Mumbai - 410 218

ANNEXURE:

PROGRAMME OUTCOME:

The objective of this program is to provide the trainee with the knowledge and expertise to be successful in clinical, research, teaching and administrative activities in the pediatric subspecialty of Neonatal Prenatal Medicine. The program provides a progression in clinical responsibilities as the trainee advances through the one-year program. Sufficient practical experience is provided with a wide variety of patients in the delivery rooms, the NICU, and the developmental follow-up clinics. Under the supervision of a large and diverse faculty, trainees gain exposure to babies with a broad spectrum of clinical problems and gestational ages. Learning from direct patient care is augmented by a comprehensive series of lectures focused on neonatal medicine. Additional seminars provide training in communication, ethics, and practice administration. Fellows receive ample opportunities to provide newborn resuscitation and to learn all of the common procedures employed in neonatal medicine. Fellows in our program develop the clinical skills necessary to prepare them to competently and confidently manage the broad spectrum of conditions that fall within the practice of neonatology.

Fellowship is self Study based, interactive and coordinated approach

Neonatal: A. to know about Demography and Neonatal Health Programmes

- Vital statistics, health system
- Causes of neonatal and perinatal mortality
- Neonatal care priorities
- Care at primary health centre
- Care of secondary level
- Role of different health functionaries
- National programmes pertaining to newborn care

B. To revise and consolidate Basic Sciences

- Feto-placental physiology
- Neonatal adaptation
- Fluid and electrolyte balance
- Blood gas and acid base disorders
- Thermoregulation and kangaroo Mother Care
- Basic science related to systems

C. To gain information Fetal Medicine

- Fetal and neonatal consequences of high risk pregnancy
- Fetal monitoring: Clinical, electronic, invasive and non-invasive
- Intrapartum monitoring and procedures
- Medical diseases affecting pregnancy and fetus
- Fetal nutrition and growth
- Birth defects

D. to have experience of General Neonatology related to practice in community

- Neonatal resuscitation
- Birth injury and birth asphyxia
- Normal newborn and common neonatal problems
- Preterm and low birth weight neonates

- Bioethics in Neonatology
- Pain Management
- Stress in NICU, Prevention and Management
- Assessment of gestation, neonatal behaviour, neonatal reflexes
- Developmental assessment, detection of neuromotor delay, developmentally supportive care
- Immunization including immunization of a preterm neonate
- Discharge planning
- Follow – up of high risk neonate
- Neonatal transport
- Neonatal equipments
- Neonatal Procedures
- Organization of neonatal care including level I, II care

E. To get acquainted with Systemic neonatology

1. Respiratory System

- Developmental biology, Pulmonary Surfactant
- Examination and interpretation of respiratory signs and symptoms
- Congenital malformations of respiratory system
- Pulmonary diseases: Hyaline membrane disease, transient tachypnea, pulmonary haemorrhage,
- Persistent fetal circulation, developmental defects Meconium aspiration syndrome
- Apnea
- Oxygen therapy and its monitoring
- Neonatal ventilation: principles and practices
- Pulmonary infections

2. Cardiovascular System

- Fetal circulation, transition from fetal to neonatal physiology
- Examination and interpretation of cardiovascular investigations
- Congenital heart diseases
- Shock: pathophysiology, monitoring, management
- Congestive cardiac failure
- Persistent Pulmonary Hypertension of the Neonate(PPHN)
- Patent Ductus Arteriosis(PDA)
- Hypertension in neonates
- Other cardiac disorders

3. Gastrointestinal system and hepatobiliarysystem

- Disorders of liver and biliary system
- Bilirubin metabolism
- Neonatal jaundice: diagnosis, monitoring, management (Phototherapy) Exchange transfusion and others)
- Conjugated hyperbilirubinemia
- Congenital malformations
- Necrotising enterocolitis
- Diarrheal diseases
- Gastro Oesophageal Reflux
- Gastro Intestinal Haemorrhage

4. Renal System

- Developmental disorders
- Renal functions
- Acute renal failure
- Urinary tract infection

5. Endocrine and Metabolic

- Hypoglycaemia, hyperglycaemia Infant of a Diabetic Mother
- Calcium, magnesium and electrolyte disorders
- Pituitary, thyroid & adrenal disorders
- Ambiguous genitalia
- Inborn errors of metabolism
- Other endocrine and metabolic disorders

6. Haematology

- Clinical evaluation of a neonate with haematological problems
- Anaemia
- Polycythemia
- Bleeding and coagulation disorders
- Rh and ABO haemolytic disease
- Hydrops fetalis: immune and non-Immune
- Other haemolytic disease

7. Neurology

- Neurological evaluation
- Neonatal seizures
- Intracranial haemorrhage
- Hypoxic ischemic encephalopathy
- CNS malformation and neural tube defects
- Developmental assessment
- The Floppy Infant

8. Nutrition

- Breastfeeding
- Lactation management
- Lactation counselling and education
- Recommended daily requirements of nutrients
- Internal feeding in special situations including LBW/preterm neonate
- Vitamins and micronutrients in newborn health and disease
- Parenteral nutrition

9. Surgery, Orthopaedics, dermatology, eye etc

- Neonatal surgical conditions
- Pre and post operative management
- Neonatal Orthopaedic problems: Congenital and acquired
- Neonatal Ophthalmology- Retinopathy of prematurity ,other
- Neonatal Dermatology – Common problems, life threatening conditions

10. Neonatal Infections

- Developmental Immunology
- Intrauterine Infections
- Perinatal HIV

- Bacterial infection
- Viral infections
- Fungal infections
- Septicaemia
- Meningitis
- Osteomyelites and arthritis

CURRICULUM:

- **1.Posting in PICU and NICU round the clock**
- **2.Additional postings are suggested in following areas for period of 2 weeks**
- each :-
 - a) Cardiac Surgery
 - b) Neurosurgery
 - c) Chemotherapy unit
- **3.Intensive Theory teaching programme**
- There are a series of regularly-scheduled conferences, seminars and lectures that trainees are required to attend:
- **Clinical Seminars (Monday, 2 p.m.)** – faculty and local invited speakers deliver information on topics of special interest and updates on diagnosis and treatment of various pediatric disorders.
- **Resident/Fellow Core Lecture Series: (Monday, 4 – 5 p.m.)** – this series is designed specifically for residents and diagnostic laboratory fellows and covers a wide range of topics including basic concepts, population dynamics, genetic counseling/communication skills and specific lectures
- **Biochemical Results Review** (Tuesday, 11 a.m. – Noon) – Laboratory directors & fellows and Metabolic faculty & residents review biochemical laboratory results from the prior week and discuss results and patient management.
- **Seminar Series** (Tuesday, Noon - 1 p.m.) – A monthly seminar series where intensivists from all over the country are invited by the Department's research faculty to come and speak about their work.
- **Post-clinic Conference** (Friday, 4 – 5 p.m.) – Selected patients from the outpatient and inpatients clinics are reviewed with video of salient findings and lab results.
- **Grand Rounds** (wednesday, Noon – 1 p.m.) – Genetics residents present an individual clinical case and discuss the diagnostic approach, prognosis and management.
- **Mortality meeting:** first Thursday of every month 2 00 pm

TEXTBOOK AND REFERENCE BOOKS:

1. Avery's Disease of the Newborn:
2. Fanaroff and Martin's Neonatal-Perinatal Medicine:
3. Rennie and Robertson's textbook of Neonatology:
4. Manual of Neonatal care- CIOHARTY
5. Assisted ventilation of the Neonates –Goldsmith(international) AND Khilnani (Indian)
6. The Neurological assessment of the preterm and full term newborn Infant- Dubowitz



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