

### 1. Information related to Course content :

#### Curriculum of PICU:

1. Basic training in Pediatric Emergencies and Intensive care
2. Clinical skills in procedures, understanding equipment's, monitoring and resuscitation
3. Mechanical ventilation
4. Allied posting in NNICU, Pediatric surgery and anesthesia - 1 month
5. Research programs, teaching skills
6. Designing a PICU: replica creation

**Research programs, teaching skills** Clinical Core competency skills : development and assessment ♣ Research dissertation completion ♣ Organizing a CME ♣ Representation in conferences ♣ Writing a paper and basics of statistics ♣ Staying in touch and staying updated: Virtual PICU

#### Designing a PICU: replica creation

Understanding a need for PICU at periphery

Point of Care PICU

PICU designing: budget, management and maintenance

Implementing a PICU protocol and a teaching program

- **Teaching scheme:** Daily teaching clinical rounds & case discussions, Bedside clinics and discussions. Monthly critical care audit meets, Success cases discussions Discussions on mortality data Monthly statistics of the unit Equipment maintenance

Classroom lecture series

Lectures on advances in Pediatric critical care

Seminars

Antimicrobial and infection control policies

Journal reading and advances in therapeutics

Case presentations: twice a week

Hands on supervision of procedures

#### Rotation

#### Allied posting in NICU ,Pediatric surgery and anaesthesia

Curriculum as per the respective departments, aimed at anaesthesia, analgesia and perioperative issues related to fluid and airway dynamics and drugs

- **KEY ACCOUNTABILITIES**

The Fellow reports to the Department Director and is supervised by Dr Manojkumar Patil with respect to general operational and clinical issues of the Fellowship.

#### Specific duties of the Fellow

Daily responsibilities:

- PICU duty for 12 hrs per day & as NEEDED , WEEKLY ONE OFF ,
- PICU rounds – reviewing new admissions, potential discharges and inpatient consultations.
- Supervise admissions of emergency, AND INFORMING TO INCHARGE TWICE DAILY AND AS PER NEED
- Take phone calls from the emergency department, other units, patients and other hospitals.

OTHER responsibilities:

- PRESENTATION OF MORTALITY MEET ONCE A MONTH
- WEEKLY ONE CASE, PRESENTATION AND JOURNAL CLUB.
- TEACHING PGs, STAFFS, BLS,PALS, ADVANCE PALS
- The Fellow is encouraged to undertake a clinical research project, which may take up one day per week. This time may also be used for private study or attending training opportunities outside the department or hospital.

- **QUALIFICATIONS AND EXPERIENCE**

#### Qualifications required

- **KEY SELECTION CRITERIA**

Applicants are expected to be able to provide a high standard of patient care, and possess skills in communication, problem-solving, and organisation, as well as the ability to work both independently as well as in a multi-disciplinary team

- **Examination**

At the end of his tenure there will be university exam (Theory +Practical) which will be conducted in the presence of external examiner. Examination will carry 500 marks.

Theory : 200 marks

One paper with multiple choice questions.

100 questions each with 4 options .Most appropriate answer for the question to be marked.. Each question will carry 1 mark.No negative marks for wrong attempt.

Objective structured Clinical and Practical Examination(OSCE) : 10 stations carrying 10 marks each

Practical : 300 marks

2 Laptop Cases – 100 marks.each

2 Tables - 50 marks each..

{Simulation , procedure,counseling and demonstration on mannequin }

- **Syllabus**

1. Textbook of Pediatric Intensive Care (Dr P Khilnani)
2. Roger's textbook of Pediatric intensive care
3. Zimmermann's textbook of Pediatric intensive care
4. Mechanical Ventilation Tobin & ,Khilnani
5. IAP Textbook of Pediatric Intensive Care
6. Pediatric Emergencies (Meherban Singh)

Nelson Textbook of Pediatrics

- **Expectation from the Fellow at the end of Fellowship**

At the end of his tenure fellow will be developed essential skills in diagnosis and management of Pediatric emergency and critical patients. He is supposed to work independently as Pediatric Intensivist in community and serve the people with critical kids with appropriate intervention at proper time

- **Curriculum**

**Basic training in Pediatric emergencies and intensive care:**

Emergency and critical Pediatrics: Scope and need Pediatric emergency resuscitation and Pediatric advanced life support, and lifesaving procedures Common Pediatric emergencies Sepsis and Hospital acquired infections Convulsion and Status epilepticus Respiratory distress Cardiac emergencies including arrhythmias, CCF Tetanus Burns Snake Bite & Scorpion Envenomation – snakebite, scorpion bite Near drowning Haemorrhagic Syncope Anaphylaxis Hypertension Diabetic ketoacidosis Inborn error of metabolism :- Diagnosis/Immediate evaluation/screening and lab diagnosis/immediate measures (e.g.: Supplement, dietary restriction, intervention) Poisoning - diagnosis and management antidotes Access to rare antidotes/literature/websites Neurological emergencies including ICP and coning Approach in a case of suspected brain death Taking care of a PICU child: basic nursing Taking care of a PICU child: anaesthesia and analgesia, head injury,POLY TRAUMA and other surgical emergencies Transporting a sick child Safety and Bio waste managements, DISASTER MANAGEMNT . Investigations in PICU: including radiology PRISM- PIM Score Record keeping in PICU **7.Inclusion/Emphasis** on following topics is suggested **Poisoning** Common : diagnosis and management Unknown : The universal antidotes and immediate measures Rare : Access should be available/Literature/Website/and access to rare antidotes **Inborn errors of Metabolism** : ,PLASMAFERESIS ,HEMODIALYSIS AND PERITONEAL DIALYSIS,TRANSPLANTM MANAGEMNT ,ECMO BASICS

**Clinical skills in procedures, understanding equipments, monitoring and resuscitation** Asepsis and anaesthesia and decision making in PICU emergency procedures Procedures in emergency medicine: tracheostomy, bronchoscopy, Needle drainage, Rapid IV access Rapid sequence intubation Vascular / Central line access: Jugular, subclavian, femoral and cut down access Arterial catheterization Intraosseous line Ventricular tap and VP shunt Pleuro and peritoneocentesis Peritoneal dialysis Difficult intubations Monitoring: Needs, modalities and action Resuscitation:

- Pediatric advanced life support: CPR, intubation and medicines
- Monitoring a resuscitated child Equipments-
- Invasive and non-invasive equipments
- Multichannel Monitors, defibrillators
- Nebulisers, suction, O2 delivery systems
- Ventilators
- Machines: ECG, Doppler, Echo
- EEG and ICP monitoring
- Maintenance and record keeping PICU Pharmacology

**Mechanical ventilation** Basic physiology of respiratory system in a child Need for artificial ventilation Modalities and machines: know your ventilators ABG analysis; ABG actions Ventilation modes and needs, Airway dynamics Ventilation graphics, HFO, Trouble shootings Controlled ventilations, Assist ventilations Care of a ventilated child; Weaning from ventilators CPAP, Tracheostomy, VAP ARDS and its management

**Allied posting in NICU ,Pediatric surgery and anaesthesia** Curriculum as per the respective departments, aimed at anaesthesia, analgesia and perioperative issues related to fluid and airway dynamics and drugs

**Research programs, teaching skills** ♣ Clinical Core competency skills : development and assessment ♣ Research dissertation completion ♣ Organizing a CME ♣ Representation in conferences ♣ Writing a paper and basics of statistics ♣ Staying in touch and staying updated: Virtual PICU

**2. Duration-** 1 Year

**3. Training Facility :-**

10 bedded PICU which is Fully equipped With requirement for tertiary level centre with 8 ventilator and 2 HFOV. PICU unit is headed by Head of Unit, Dr. Manojkumar G. Patil Pediatric Intensivist, MBBS, MD (PEDIATRICS), Fellowship in Pediatric Critical Care {KEMH PUNE}.he is working for PICU since last 14 years. HE is supported by Dr Siddhi And Dr. Balasubramanyam, in PICU since last one year.

PICU admission are about 700- to 800 per years with 20 % post surgical patient with all pediatric, general, neurosurgery, orthopedics, Urosurgery. CVTS All pediatric super-speciality also there namely, Hemat-onco, Cardiology, Neurology, Nephrology, Endocrinology, Immunology, Genetics, Allergy Speciality etc. Hospital also Have a High End Simulation training lab for training the newcomers

10 bedded PICU which is Fully equipped With requirement for tertiary level centre with 8 ventilator and 2 HFOV

Following facilities are available in PICU Unit

- Portable x-ray, sonography, M.R.I. C.T. facilities
- Defibrillator
- Portable USG & Echocardiography
- ABG facility
- Post-operative surgical care(Peritoneal dialysis, CAPD )
- Paediatric endoscopy, Bronchoscopy
- Peritoneal Dialysis, Haemodialysis, CRRT,SLED
- Special procedures like liver biopsy, bone marrow aspiration and biopsy, kidney biopsy etc.

**4. Teaching Faculty Faculty:-**

1. Dr. Shailaja Mane (Regg. No 70305)
2. Dr. Sampada Tambolkar ( Reg. No 2000020782)
3. Dr. Sudhir Malwade. ( Reg. No 81696)
4. Dr. Pranav Jadhav.

5. Dr. Manojkumar G. Patil ( Reg. No 2003020651)
6. Dr. Siddhi Gawhale ( Reg. No 2017073063)
7. Dr. Bala Subramanyam ( Reg. No 2023/11/8253)
8. Dr. Vishnu Biradar ( Reg. No 2003083133)
9. Dr Santosh Joshi ( Reg. No 2003031109)
10. Dr. Manoj Matnani ( Reg. No 88924)
11. Dr. Sarita Verma ( Reg. No 2007/05/2071)
12. Dr. Supriya Gupte ( Reg. No 2017104974)

## **5. Infrastructure**

Invasive and non-invasive equipments

- Multichannel Monitors, defibrillators
- Nebulisers, suction, O2 delivery systems
- Ventilators
- Machines: ECG, Doppler, Echo
- EEG and ICP

**6. Fees:** 1,00,000/- (Rupees one Lakh Only)