

POST DOCTORAL FELLOWSHIP IN PAEDIATRIC EMERGENCY MEDICINE

Duration of the Course: one year

Postings :

8 months	ED
1 month	Trauma
1 month	Anesthesia
1 months	Toxicology
1 month	PICU

ELECTIVE OPTIONS:

Radiology
Surgery
ENT
Ophthalmology

MANDATORY ATTENDANCE:

Attend One National PED/EM Conference
Participate in Morbidity and Mortality conferences.

DIDACTICS:

Wednesday morning fellow's conference is the main didactic session of the PEM fellowship which is held weekly from 7-10 AM. During this conference, literature updates, journal club, interesting cases and various other clinical and administrative topics are covered. Research design, methodology is also covered. Fellows present their research at this conference. Fellow's also teach medical students during their Emergency Medicine

month. The didactic sessions are monthly, 2 hours in duration and cover pediatric resuscitation. Fellows are encouraged to attend Pediatric Emergency Grand Rounds.

MANDATORY PRESENTATIONS:

PEM fellows regularly speak at weekly morning conference. Below are some of the more common topics that they need to prepare and talk. Fellows also speak at the Annual Pediatric Emergency Conference.

They also present their research at the National Conference.

- Journal Club
- Interesting cases
- Specific clinical topics

RESEARCH EXPECTATIONS:

- Identify topic of interest and perform literature search and design the study.

- Get IRB approval
- Data collection
- Analyze Data
- Submit research for publication in peer reviewed journal
- By the end of fellowship, fellows should have also published 2 case reports

PROCEDURE LOGS:

Fellows are expected to keep logs of the following procedures :

- - ☐ Sutures
 - ☐ Intubations
 - ☐ Rapid Sequence Induction
 - ☐ Sedation
 - ☐ I+D abscess
 - ☐ Central lines
 - ☐ Chest tube
 - ☐ Needle thoracostomy
 - ☐ Ultrasounds
 - ☐ Foreign body removal
 - ☐ Nail bed repair
 - ☐ G tube placement
 - ☐ Arthrocentesis
 - ☐ Fracture reduction
 - ☐ Pelvic Examination
 - ☐ Interosseous access
 - ☐ Sexual Assault examinations
 - ☐ Trauma codes (level 1) or level 2 requiring surgical consultation
 - ☐ Respiratory arrest post seizure
 - ☐ Sepsis requiring large amounts of IVF or pressors
 - ☐ Codes requiring PALS medications

EVALUATION:

ED Shifts

After each ED shift, the supervising attending should complete a competency based evaluation form which is located in the ED. When fellows supervise residents, the residents should also complete this form evaluating the fellows supervising and teaching capabilities.

Fellowship

All PEM fellows are also evaluated by ED faculty. Complete evaluation of the fellow is performed at these meetings and feedback for improvement is given. All evaluations are anonymous. Fellows evaluate out of the Department rotations upon completion of that particular month.

EMERGENCY RESUSCITATION & ACUTE AIRWAY MANAGEMENT

Cardiopulmonary resuscitation

- Airway management in pediatric critical care
- Transportation of Critically ill children

(II) RESPIRATORY FAILURE

- Developmental physiology of Respiratory System.
- Upper airway obstruction, including foreign bodies, infection and burns
- Lower airway disease: bronchiolitis and asthma
- Acute Lung injury, Adult respiratory disease Syndrome (ARDS)
- Neuro-muscular disease and respiratory failure.
- Principles and practice of basic and Advanced airway support
- Respiratory Support, mechanical ventilation
- Respiratory monitoring (pulse oximetry, capnography)
- Oxygen therapy
- Non-Invasive Positive pressure ventilation

(III) CARDIAC & CIRCULATORY FAILURE

- Developmental Cardio-vascular physiology
- Cardio respiratory interactions
- Arrhythmias and their management
- Shock management , Anaphylaxis
- Hypertensive emergencies

- Cardiogenic pulmonary edema, Cardiomyopathies
- Cyanotic spell
- Non- invasive Hemodynamic monitoring

(IV) NEUROLOGIC INTENSIVE CARE

- Evaluation of a comatose child
- Pathophysiology and management of raised intracranial pressure
- Monitoring of central nervous system
- Meningitis, Infectious Encephalopathies and other Central Nervous system Infections.
- Status Epilepticus
- Reyes syndrome and metabolic encephalopathies
- Head and spinal cord injury
- Cerebrovascular disease and vascular anomalies
- Drowning
- Principles of Brain Death, Organ, Donation

(V) IMMUNOLOGIC AND INFECTIOUS DISEASE CONSIDERATIONS

- Overwhelming sepsis, SIRS
- Severe infection due to aerobic and anerobic bacteria, viruses, fungal and parasites.
- Primary and Secondary Immunodeficiency
- The critically ill child with human immunodeficiency virus (HIV) infection
- Nosocomial infections
- Principles of antibiotic selections and dosage schedules for Immunotherapy in critical illnesses.

(VI) NUTRITION AND GASTROINTESTINAL EMERGENCIES

- Gastrointestinal and hepatic failure
- GIT bleeding, peritonitis
- Abdominal trauma, bowel obstruction

(VII) RENAL, ENDOCRINE AND METABOLIC DISORDERS :

- Approach To Acute Renal Failure in the Emergency Setting
- Approach to Metabolic Disorders in the Emergency Setting
- Approach to Endocrine Emergencies

(VIII) HEMATOLOGIC & ONCOLOGIC EMERGENCIES

- Hematologic Disorders requiring Emergency Care
- Emergency Care of the Child with malignant diseases.

- Principles of anti-coagulation, Fibrinolytic therapy and blood component therapy.

(IX) POISONINGS

- **Emergency resuscitation for common poisoning.**

(X) Environmental Hazards:

- Hyperthermia,
- Submersion Injury
- Electrocution
- Radiations
- Chemical injuries,
- Snake, scorpion and other animal bites.

(XI) TRAUMA

- Multiple trauma in the Paediatric patient
- Head Trauma

(XII) PAIN AND SEDATION

- Analgesia and Sedation for procedures in the Pediatric Emergency Department.

(XIII) PEDIATRIC EMERGENCY DEPARTMENT ADMINISTRATION

- Pediatric Emergency Care Nursing
- Continuous quality improvement in the Pediatric Emergency Department
- Ethical and legal aspects of Emergency Care including 'Do not resuscitate' orders, principles of informed consent, withholding and organ donation.

(XIV) GENERAL

- Pharmacology, pharmacokinetics and drug interactions.
- Transport of the critically ill child.

PARTICIPATION IN REGIONAL AND NATIONAL CME'S SEMINARS AND CONFERENCE IN EMERGENCY CARE AND AFFILIATION WITH SUCH EMERGENCY CARE ORGANIZATION IS ESSENTIAL.