



Curriculum

FNB Fellowship

2025



Paediatric Emergency Medicine

- ♦ Introduction
- ♦ Objectives of the Programme
- ♦ Teaching and Training Activities
- ♦ Syllabus
- ♦ Log Book



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1. INTRODUCTION

The goals of pediatric emergency medicine fellowship program are to provide specialized training to enhance cognitive, affective and psychomotor domains of learning. The fellowship will provide training in both private and public sector Institutions, so as to have a widespread coverage. The specialists thus produced are targeted to handle pediatric medical, initial stabilization of pediatric surgical and trauma emergencies. They will also be made proficient in the life-saving procedures and skills that are required to handle common and less common emergencies in children.

2. OBJECTIVES OF THE PROGRAMME

At the end of 2 years of training, a Pediatric Emergency expert must acquire the following knowledge, skills and competencies:

- a) Function as a productive member of a team engaged in health care, research and education.
- b) A thorough knowledge of pathological abnormalities, clinical manifestations, and principles of management of a large variety of medical, surgical and traumatic emergencies of pediatrics, affecting any organ system with the principles of professional ethics.
- c) Skills in triaging, competence in primary assessment and stabilization of life threatening conditions with focused medical history, secondary assessment and immediate clinical management, clinical decision making, documentation, re-evaluation and further management.
- d) Skill and competence to choose and interpret correctly the results of the various investigations necessary for proper management of the patient. While ordering these investigations, a resident must be able to understand the sensitivity,



specificity and the predictive value of the proposed investigation, as well as its cost effectiveness in the management of the patient and its application within the golden hour.

- e) Skill and competence in emergency interventions like endotracheal intubations, needle cricothyrotomy, tracheotomy, needle thoracocentesis, Intercostals drain placement, pericardiocentesis, defibrillation, mechanical ventilation, hemodialysis, ultrasonography, ECHO and so on.
- f) Skills and competence to perform commonly used diagnostic procedures those are life-saving and having implication in immediate management namely, arterial blood gas analysis, lumbar puncture, bone marrow aspiration, pleural/pericardial/abdominal/joint fluid aspiration, radiologic, ultrasonographic evaluation of different organs and interpretation of biochemical, hemodynamic, electro-cardio graphic, /biopsy, liver/nerve/muscle/ skin/ kidney/ pleural biopsy, fine needle aspiration cytology of palpable lumps, electrophysiological, pulmonary functional, hematological, immunological, nuclear isotope scanning results etc.
- g) Skill and competence to provide consultation to other medical and surgical specialties and subspecialties, whenever needed.
- h) Skill and competence to function effectively in varied clinical settings, namely emergency/critical care, ambulatory care, out-patient clinic, inpatient wards.
- i) Skill and competence to make sound and prompt decisions regarding hospitalization, or timely referral to other consultants of various medical subspecialties recognizing his limitations in knowledge and skills in these areas.
- j) Proficiency in selecting correct drug combinations for different clinical problems with thorough knowledge of their pharmacological effects, side effects, interactions with the other drugs, alteration of their metabolism in different clinical situations, including that in the elderly.



- k) Skill and competence to counsel the patient correctly in professional mannerism.
- l) Skill and competence to understand research methodology and to undertake a critical appraisal of the literature published in various emergency medical journals and be able to apply the same in the setting in which the resident is working.
- m) Skill and competence to work cohesively in Resuscitation team along with paramedical personnel, maintain discipline and healthy interaction with the colleagues and team.
- n) Skill and competence to communicate clearly and consciously, and teach other junior residents, medical students, nurses and other paramedical staff, the theory as well as the practical clinical skills required for the practice of PEM.
- o) Skill and competence to work in an integrated and co-ordinate manner in association with various pre-clinical, Para-clinical and clinical departments.
- p) Skill and competence to resolve legal issues in organizational planning and service management skills.
- q) Develop skill as a self-directed learner, recognize continuing educational needs; use appropriate learning resources and critically analyze relevant published literature in order to practice evidence based pediatrics.
- r) Facilitate learning of medical / nursing students, practicing physicians, paramedical health workers and other providers as a teacher trainer.
- s) Organize and supervise the desired managerial and leadership skills.
- t) Demonstrate skill in documentation of case details and of morbidity and mortality data relevant to the assigned situation.
- u) Recognize the emotional and behavioral characteristics of children and keep these fundamental attributes in focus while dealing with them.
- v) Demonstrate empathy, humane approach towards patients & their families and keep their sensibilities in high esteem.
- w) Demonstrate communication skills of a high order in explaining management and



prognosis, providing counseling and giving health education messages to patients, families and communities.

- x) To keep up-to-date and be familiar with all recent advances in the field of PEM.
- y) Define and harmonize training programmes in PEM within and between different countries, under the auspices of both the Pediatrics and Emergency Medicine.

3. TEACHING AND TRAINING ACTIVITIES

S. No.	Teaching	Duration
1.	Case presentations & discussion	once a week
2.	Seminar	once in 2 weeks
3.	Journal club	once a month
4.	Grand round presentation	once a week
5.	Statistical & mortality meet	once a month
6.	Clinico-pathological meet	once a month
7.	Clinico-radiological meet	once a month
8.	Faculty lecture teaching	once a month
9.	Clinical Audit	once a month
10.	A poster and one oral presentation during their training period in National or International conference.	

4. SYLLABUS

The curriculum should enable the fellow to acquire necessary competency in various clinical scenarios. The candidate should be able to manage all the cases coming to pediatric emergency. As an emergency medicine physician, one should



be trained to handle all the trauma and medico-legal cases. Research is an integral part of any scientific course and a basic understanding of biostatistics and research methodology has been included as a part of curriculum.

General

- Triage
- BLS, PALS and NALS
- Medical transport
- Disaster management
- Pre-hospital care

Airway Management and Anesthesia

- Principles of airway management including difficult airway management
- Rapid sequence intubation
- Pain management
- Procedural sedation

Trauma

- Trauma triage & resuscitation
- Primary survey
- Secondary survey and adjuncts
- Advanced trauma life support
- Transfer arrangements
- Wound management:
 - Lacerations
 - Abrasions
 - Contusion
 - Puncture wounds
 - Control of local bleeding
- Suturing



- General
- Specific sites local/regional anesthesia
- Head injury
- Facial injuries
- Dental injuries
- Nasal injuries
- Ear injuries
- Spinal trauma
- Chest trauma
 - Blunt/penetrating
 - Tension pneumothorax
 - Cardiac tamponade
 - Hemothorax
 - Open chest wound
 - Ruptured aorta
 - Flail chest
 - Contusion lung
- Abdominal trauma
- Blunt/penetrating trauma
- FAST/e-FAST
- Diagnostic peritoneal lavage
- Pelvic trauma
- Genitourinary trauma

Respiratory emergencies

- Respiratory distress and failure
- ARDS
- Hemoptysis



- Acute severe asthma
- Pneumothorax
- Foreign body aspiration
- Pneumonia and chest infections
- Thermal/chemical injury to lungs
- Neonatal respiratory distress

Cardiovascular Diseases

- Cardiopulmonary resuscitation
- Basic life support (one and two-rescuer CPR)
- Advanced life support
- Recognition of cardiac rhythms during cardiac arrest
- Use of drugs Defibrillation/Pacing
- Congestive heart failure and pulmonary edema
- Shock - different types
- Cyanotic spell
- Palpitations and syncope
- Cardiac arrhythmias
- Hypertensive urgencies and emergencies
- Pulmonary embolism/Deep vein thrombosis
- Infective endocarditis
- Acute pericarditis and cardiac tamponade
- Acute myocarditis
- Acute rheumatic fever and Complication

Gastrointestinal and Hepatic emergencies

- Abdominal pain
- Acute abdomen
- Renal pain



- Intestinal obstruction/Paralytic ileus
- Vomiting and diarrhea
- Evaluation of dehydration/Fluid therapy
- Upper GI bleed
- Lower GI bleed
- Foreign body ingestion
- Ascites
- Acute Peritonitis
- Acute liver failure
- Acute pancreatitis
- Acute Appendicitis

Onco-hematological emergencies

- Acute bleeding (including hemophilia, DIC)
- Febrile neutropenia
- Thrombocytopenia
- Severe anemia
- Acute hemolysis
- Superior vena cava syndrome
- Tumor lysis syndrome
- Hyperleukocytosis
- Cord compression
- Metastatic emergencies
- Blood/blood products and transfusion

Genitourinary emergencies

- Nephrolithiasis
- Acute kidney Injury
- Chronic Kidney disease and complications



- Acute retention of urine
- Sexual assault
- Hematuria
- Torsion of testis
- Epididymitis/Orchitis
- Obstructive Uropathy
- Acute pyelonephritis and perinephric abscess
- Phimosis and Paraphimosis
- Foreign body insertion

Ocular emergencies

- Red eye
- Trauma
- Foreign body
 - Corneal abrasion
 - Hyphema
 - Blow-out fracture
 - Chemical burns
- Visual loss/impairment Orbital cellulitis

CNS emergencies

- Headache
- Syncope, vertigo and dizziness
- Seizures/Status epilepticus
- Coma and neurological impairment
- Meningitis and encephalitis
- Acute stroke
- Intracranial bleed
- Raised intracranial pressure



- Cavernous sinus thrombosis
- Cranial nerve palsies

Infections

- Evaluation of fever in Emergency Department
- Evaluation of serious bacterial infections (SBI)
- HIV in emergency department
- Tropical infections: Malaria (complicated and uncomplicated)
 - Leptospirosis
 - Enteric fever
 - Scrub typhus and Rickettsial infections
 - Dengue and other hemorrhagic fevers
 - Chikungunya
 - Chicken pox and herpes zoster
- Critical pertussis
- Viral multisystem infections
- Measles/mumps
- Acute hepatitis
- Disseminated tuberculosis
- Tetanus
- Rabies
- Diphtheria/Pertussis
- Cholera
- Food poisoning
- Toxic shock syndrome
- Gas gangrene and other anaerobic infections
- Influenza
- Infection control including biomedical waste management



ENT Emergencies

- Upper airway obstruction and stridor
- Epistaxis
- Acute tonsillitis/sore throat/acute laryngitis
- Acute epiglottitis
- Foreign bodies
- Acute suppurative otitis media and externa
- Acute sinusitis
- ENT Trauma

Dermatological emergencies

- Steven Johnson Syndrome
- Toxic epidermal necrolysis
- Skin infections
- Inflammation and allergies

Metabolic and Endocrine emergencies

- Diabetic Ketoacidosis
- Fluid and electrolyte abnormalities
- Acid-base disturbances
- Hypopituitarism/Hypoadrenalism
- Thyrotoxic crisis and myxedema coma
- Inborn errors of metabolism

Acute toxicology

- Initial management
- Recognition of toxidromes
- Antidotes
- Insecticides and pesticides
- Drug overdose



- Snake bites, and scorpion and insect stings
- Kerosene oil poisoning
- Methemoglobinemia
- Hyperthermia
- Substance abuse
- Hazardous chemicals
- Metal poisoning

Environmental Emergencies

- Hyperthermia and heat exhaustion
- Burns (including Electric burns)
- Smoke inhalation
- Lightning
- Drowning Near-drowning
- Animal and human bites
- Natural disasters

Psychiatric emergencies

- Thought and mood disorders
- Anxiety and somatoform disorders
- Self-harm
- Delirium, dementia and psychosis
- Suicide and homicide
- Alcohol and substance abuse
- Sexual assault and
- Child abuse
- Conversion disorders

Miscellaneous

- Medico-legal examination



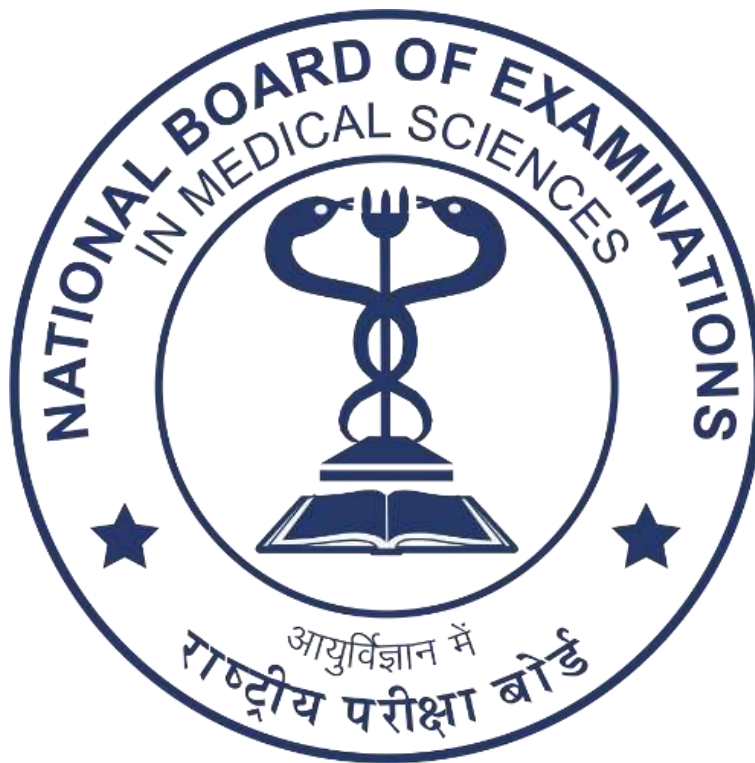
- Examination of rape accused
- Biostatistics
- Research methodology
- Ethical issues

5. LOG BOOK

Objectives: by carrying out a research project and presenting his work in the form of a thesis.

The student will be able to:

- Identify a relevant research questions
- Conduct a critical review of literature
- Formulate a hypothesis
- Determine the most suitable study design
- State the objectives of the study.
- Prepare a study protocol
- Undertake a study according to the protocol
- Analyze and interpret research data and draw conclusion
- Write a research paper.



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