Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow
Department of Emergency Medicine

Minutes of meeting of Board of Studies 2023

A Board of Studies (BoS) meeting was convened on 26.04.2023 at 12:30 pm on hybrid platform (External experts joined online through Zoom virtual platform). Following members were present in the meeting online and offline.

1.	Prof. (Dr.) S P Ambesh, Dean, SGPGIMS, Lucknow,	Chairman
2.	Prof. (Dr.) R K Singh, HoD, EM, SGPGIMS, Lucknow	Member Secretary
3.	Prof. (Dr.) P K Agarwal, HoD, EM, AIIMS, New Delhi,	External Expert
4.	Prof. (Dr.) H Abbas, HoD, EM, KGMU, Lucknow,	External Expert
5.	Dr. S STripathi, HoD, EM, RMLIMS, Lucknow	External Expert
6.	Dr. O P Sanjeev, Associate Professor, EM,	Department Expert
7.	Dr. Tanmoy Ghatak, Associate Professor, EM,	Department Expert
8.	Dr. Alka Verma, Associate Professor, EM,	Department Expert

Agendas of the meeting were as follows.

1. Revision of MD-Emergency Medicine course curriculum to meet the requirement of NAAC accreditation.
2. Revision of PDCC- Resuscitative Emergency Medicine course curriculum to meet the requirement of NAAC accreditation.

Following decisions were unanimously taken by all the members.

1. Modifications in course curriculum of MD-Emergency Medicine and PDCC-Resuscitative Emergency Medicine were approved unanimously by all the members.
2. Members agreed to the fact that NMC has still not published Course Curriculum of MD-Emergency Medicine, hence any new update by NMC should be incorporated in teaching training of both these courses.
3. Prof. Dr. P. K. Aggarwal suggested to recruit more faculties to run smoothly both the courses

Meeting concluded with Vote of thanks from the chairman.

Dr. Alka Verma
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Dr. Tanmoy Ghatak

Dr. O P Sanjeev

Prof. H. Abbas

Prof. R K Singh

Dr. S. S. Tripathi

Prof. Praveen Agarwal
Digital Signature.

Prof. S P Ambesh

Board of Studies

Department of Emergency Medicine

SGPGIMS, Lucknow

26.04.2023

Revised Course Curriculum 2023

for

Post-Doctoral Certificate Course (PDCC) in

Resuscitative Emergency Medicine

PDCC-Resuscitative Emergency Medicine Curriculum

GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR PDCC-Resuscitative Emergency Medicine

Program Outcome for PDCC in Resuscitative Emergency Medicine

A PDCC in Resuscitative Emergency Medicine student, at the end of its one year program, will have at least the following capabilities

1. A detailed knowledge about the anatomy, physiology, pathogenesis, pharmacology relevant with Emergency Medicine.
2. Knowledge in the areas of Medical Emergency, Trauma, related interventions, Resuscitation so as to understand the disease burden, distribution in the state and country.
3. Clinical, experimental, investigative, surgical aspects of Emergencies.
4. To follow, understand and judiciously implement the recent advances in the field, adopting the cost-effective approach for the country.
5. Team leadership and networking skills to train the medical fraternity in the state or country
6. To evaluate, diagnosis, and manage the patients with common/uncommon, simple/complicated conditions presenting as emergency of endocrine system which are prevalent in the local community, country or region
7. To critically analyse the available scientific evidences and judiciously apply to serve the citizen of the country
8. To advance the field of Emergency Medicine by promoting the research in terms of identification of research gap, conducting research, promoting research, and imparting guidance/training to those who wish to pursue research. They will be helpful in improving the research milieu of the country. They will be capable of play a lead role in global research
9. To identify the research priorities at international, national, and region levels
10. To impart theoretical, clinical, and research training/education to the next generation of health care workers in the country
11. Has acquired skills to establish an effective communication with the patients, patients' relatives, health administration, policy makers, common man of the society, medical fraternity, academicians in the field of Emergency Medicine or other streams of medicine, and the community leaders.

Subject specific learning objectives

The postgraduate training should enable the student to:

1. Practice efficiently emergency medicine specialty, backed by scientific knowledge including basic sciences and skills.
2. Diagnose and manage majority of conditions in emergency medicine on the basis of clinical assessment, and appropriately selected and conducted investigations.
3. Exercise empathy and a caring attitude and maintain professional integrity, honesty and high ethical standards.
4. Practice pre-hospital and in-hospital reception, resuscitation and management of undifferentiated urgent and emergency cases until discharge from the Emergency Department or transfer to the care of another physician.

5. Plan, develop and implement comprehensive pre-hospital and in hospital emergency systems.
6. Plan and deliver comprehensive treatment using the principles of rational drug therapy.
7. Manage emergencies efficiently by providing Basic Life Support (BLS) and Advanced Life Support (ALS), other interventions and invasive procedures in emergency situations.
8. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.
9. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and pre-emptive measure/strategies.
10. Demonstrate competence in basic concepts of research methodology and clinical epidemiology; and be able to critically analyze relevant published research literature.
11. Be a motivated 'teacher'-keen to share knowledge and skills with a colleague or a junior, paramedic or any learner.
12. Develop skills as a self-directed learner, recognize continuing education needs; use appropriate learning resources in educational methods and techniques as applicable to the teaching and learning.
13. Be well versed with his medico-legal responsibilities.
14. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.
15. Undertake audit, use information technology tools and carry out research - both basic and clinical, with the aim of publishing the work and presenting the work at scientific forums.

The intended outcome of a competency-based program is a consultant specialist who can provide quality health care to patients at a defined level of competency in different settings i.e. Pre- hospital, inpatient, and Intensive care at tertiary care as well as in the community.

No limit can be fixed and no fixed number of topics can be prescribed as course contents. The student is expected to know his subject in depth; however, emphasis should be on the diseases/health problems most prevalent in that area. Knowledge of recent advances and basic sciences as applicable to his/her specialty should get high priority. Competence in skills commensurate with the specialty (actual hands-on training) must be ensured.

The student is expected to gain knowledge in the following FOUR key areas:

A. Theoretical Knowledge:

i. The student will acquire knowledge in all aspects pertaining to the practice of Emergency Medicine. Must be familiar with acute emergencies and trauma in the region, state and country. This shall involve teaching and training to enable the PDCC in Resuscitative Emergency Medicine student to provide specialist care to the citizens of the country. In addition to clinical training, research skills shall also be prioritized so that the PDCC in Resuscitative Emergency Medicine trainee gets the skills to set up collaborative networking at institutional, state, national and global levels to add to the research milieu of the country.

ii. The MD trainee shall acquire up-to-date knowledge, skills and attitudes in clinical Emergency Medicine to understand the disease burden, epidemiology, patho-physiology and key determinants of emergency disease in the region, state and country.

iii. Shall be able to make patient-centric decisions based on the latest scientific advances in Emergency Medicine after rationally examining available data and apply these ethically in a cost-effective manner tailored to the needs of the patients of the region, state and country.

iv Shall be well versed not only with diagnostic and therapeutic modalities related to pharmacological and non-pharmacological management, interventions, cutting edge research

and their application to diverse aspects of Emergency Medicine but shall also be trained in disease patterns, distributions, epidemiological burden and preventive aspects of Emergency Medicine.

B. Teaching skill

i. The student will be able to teach diverse aspects of Emergency diseases to other resident doctors, junior colleagues, and nursing and para-medical staff to enhance the skills of the work force at local level.
ii. Shall develop mentorship and leadership qualities to help teach, train and impart clinical and research skills to future cardiologists in the state and country

C. Research methodology

i. Shall have the skills to recognize knowledge gaps and unmet areas of need relevant to Emergency diseases of the local community.
ii. To seek solutions to such areas of unmet clinical need, should be conversant with principles of research as applied to contemporary emergency disease spectrum prevailing in the local community, state or country.
iii Shall be trained to formulate, write and conduct research proposal using appropriate methodologies related to Emergency Medicine in accordance with ethical guidelines
iv. Shall have the skills to promote inter-institutional research and help train and guide those who wish to undertake pursue research

D. Group approach

i. During the academic training, student will be part of multi-disciplinary meetings with specialists in Cardiology, Nephrology, Anaesthesiology, Neurology, Radiology, Nuclear Medicine departments and allied clinical disciplines.
ii. This will help them to understand the concept of Heart-team approach that seeks a multi-disciplinary approach in patient care. Inputs and insights gained during such interactions shall help in knowledge and skill building and is likely to improve patient outcomes of the region, state and country.

Subject specific competencies

At the end of the course, the PDCC student should acquire the following competencies under the one domains:

A. Cognitive domain (Knowledge domain)

By the end of the course, the MD student should be able to:

1. Demonstrate that he/she is well versed with the past and current literature on relevant aspects of basic, preventive, investigative, clinical and interventional Emergency Medicine.
2. Demonstrate a thorough knowledge of epidemiology, natural history, pathological abnormalities, etiopathogenesis, clinical manifestations and principles of management of various medical emergencies of adults and children.
3. Plan appropriate investigations applicable for diagnosis and management of patients in a cost-effective manner and interpret correctly the results of various routine and specialized investigations necessary for proper management of patients reporting to Emergency Medicine.

4. Recognize and manage emergencies.
5. Acquire knowledge of the functioning of various equipments in routine use in the Emergency Medicine.
6. Be able to plan and conduct a research proposal in the specialty in accordance with guidelines of Ethics Committee and critically evaluate published literature in medical journal.
7. Be able to establish a research laboratory.
8. Acquire relevant knowledge of biostatistics so as to be able to critically read and judge new literature.
9. Recognize the value of ethical principles of patient care and research.
10. Be able to take decisions regarding hospitalization or timely referral to other consultants of various specialties recognizing his/her limitations in these areas.

B. Affective domain (Attitudes including Communication and Professionalism)

The MD student should:

1. Have empathy for patients and their family and should address them as worthy human beings.
2. Discuss options, including advantages and disadvantages of each investigation and treatment. She/He should be able to discuss medical issues with them in layperson's language.
3. Become confident communicators and should be well accomplished professionals.
4. Have developed skills to debate, deliver scientific lecture, participate in panel discussions, and hold group discussions and be ready to deliver the knowledge received by him/her during the course.
5. Be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
6. Always adopt ethical principles and maintain proper etiquette in dealing with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
7. Develop communication skills to write reports and give professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

C. Psychomotor domain

At the end of the course, the student should have acquired at minimum following skills just for symbolization (A detailed list of these invasive procedures is attached in Core syllabus):

1. Arterial Catheterization
2. Point-of-Care Ultrasound
3. Central Venous Catheterization
4. Endotracheal Intubation
5. High Quality CPR
6. Bronchoscopy Electromagnetic enteral access System for NJ tube placement
7. Emergency Thoracotomy
8. Extracorporeal Membrane Oxygenation (ECMO)

TEACHING AND LEARNING METHODS

General principles

The basic aim of postgraduate medical training and education is to produce specialists who understand the needs of community health of the state and country and enhance the quality of health care as well as provide an impetus to research, education, and training of the medical community. The postgraduate doctor after completion of the skill based competency training programme should be able to successfully address the medical requirements of the community. Learning during the programme is not only goal-oriented and diadactic but also essentially self-directed and emanates from clinical and academic work. The designated academic sessions are meant to supplement the student's core efforts.

Teaching Methodology

The post graduate student shall be given the responsibility of managing and caring for patients in a gradual and phased manner under supervision, after the student demonstrates skill and efficiency at each step. Teaching sessions shall be an overall judicious amalgamation of case presentations, journal clubs, seminars, group discussion related to non-invasive and invasive lab data, cardiac cath meetings, bed-side teaching, focused brief topic presentations as allotted from time to time, case-based learning, integrated and interdepartmental meetings including any other collaborative activity with allied departments, as deemed necessary. Suggested modalities of teaching-learning methods are summarized below but shall not be limited to these. The frequency of the mentioned teaching and learning methods may vary based on perceived requirements, candidates' competencies, work load and overall working schedule. Self-directed motivational learning forms a key part of the training for which although the hours are not specifically ear-marked, but it shall be integrated into day to day learning.

Formal teaching sessions

These include regular bedside case presentations and demonstrations, didactic lectures, journal clubs, seminars, discussions related to non-invasive and invasive lab data, cardiac cath meetings, bed-side teaching, case-based learning, interdepartmental meetings and collaborative meetings with allied departments.

This will comprise of the following:

TEACHING MODEL (With frequency)

Sl No.	Module Name	Minimum Frequency
1.	Specialty Lectures	Once in a week
2.	Inter-institutional Lectures	Once in a month
3.	PG-Seminars	Twice a week
4.	Journal Club	Once in a week
5.	Periodical Exams	Formal Six-monthly exams to meet SGPGI criteria.
6.	Honing special skills in simulation lab	Once a week
7.	BCLS/ACLS/ATLS/NALS/PALS	Every year

Recommended Reading

- Text Books (latest edition)

1. Emergency Medicine – Concept and Clinical Practice –VII Edition, Rosen Barkin
2. Principle and Practice of Emergency Medicine – George Schwartz - IV Edition
3. Emergency Medicine – Hamilton
4. Essential of Immediate Medical Care, II Edition – Dr. C. John Eaton
5. Clinical Management of Drug Overdose and Poisoning, - Haddad, Shannon, Winchester
6. Emergency Department Management Principles and Application - Richard F Salluzzo
7. The Five Minute Emergency Medicine Consult - Rosen Barkin – III Edison
8. Disaster Medicine - David E Hugan
9. Text Book of Paediatric Emergency Medicine – Fleisher – XVII Edition
10. Medical Emergencies In Children - Meherban Singh
11. Drugs Therapy in Emergency Medicine - Joseph P. Ornato/Edgar R. Gonalez
12. Hamilton Bailey's 1995 - Emergency Surgery - BW Ellis, 12th edition.
13. Davidson's Principles and Practices of Medicine
14. Clinical Medicine - Kumar & Clark
15. Harrisons Principles of Internal Medicine
16. Emergency Medicine – A comprehensive Study Guide – VII Edition. – Judith Tintinalli
17. Text Book of Critical Care – V Edition – Shoe maker
18. Gold frank's Toxicologic Emergencies – V Edition
19. Pediatric Emergency Medicine: A Comprehensive Study Guide by Gary R. Strange, William R. Ahrens, Steven Lelyveld, William Ahrens- McGraw-Hill Professional; 1st edition (August 1, 1995)
20. Emergencies in Obstetrics and Gynaecology (Oxford Handbooks in Emergency Medicine, Vol 8) by Lindsey Stevens, Anthony Kenney- Oxford University Press; (July 1, 1994)
21. Principles of Critical Care by Jesse B. Hall, Gregory A. Schmidt, Lawrence D. H. Wood- McGraw-Hill Professional Publishing; 2nd edition (January 1, 1998)
22. Critical Care by Joseph M. Civetta, Robert W. Taylor, Robert R. Kirby- Lippincott Williams & Wilkins; 3rd edition (January 15, 1997)
23. Emergency Medicine: Topics and Problems for Students by Jelinek- Blackwell Science Ltd; (September 28, 1999)
24. Accidents and Emergencies in Children (Oxford Handbooks in Emergency Medicine)

1. Emergency Medical Journal BMJ
2. Journal of Trauma and Shock
3. Canadian journal of emergency medicine
4. Annals of Emergency Medicine
5. Paediatric Emergency Medicine journals
6. Journal of Accident and Emergency Medicine
7. The American journal of Emergency Medicine

E-learning Contents:

1. **https://www.clinicalkey.com**
2. **https://www.wolterskluwer.com/en-in/solutions/uptodate**
3. **https://www.medscape.com**
4. **https://swayam.gov.in**

Post-Doctoral Certificate Course (PDCC) in Resuscitative Emergency Medicine (REM)

Course duration: 12 months
Number of candidates: 04

Mode of Selection:
The Post Doctoral Certificate Course in Resuscitative Emergency Medicine (PDCC in REM) is open to candidates holding postgraduate degree (MD/MS) from an Indian University or a Diplomate of the National Board or any other qualification approved by the Institute for this purpose from time to time, in either of the following specialties:

1. Emergency Medicine
2. Internal Medicine
3. Anaesthesiology
4. Respiratory Medicine
5. General Surgery
6. Orthopedics

The advertisement and selection process will be as per the Institute norms prevailing at the time.

Training schedule:

This is a full time, one-year period training programme. This programme shall have two kind of posting schedules as follows:

1. The training programme for the students from Internal Medicine, Anaesthesiology, General Surgery & Orthopedics shall comprise of 9 months training in Emergency Medicine (triage, resuscitation, emergency care in red/yellow/green zones, toxicology-envenomation, Emergency Medicine-ICU/HDU, major/minor procedures) and 3 months training in the complementary specialties (Anesthesiology, Medical & Surgical Super-Specialties, and Critical Care Medicine).

2. The training programme for the students from Emergency Medicine shall comprise of 6 months training in Emergency Medicine (triage, resuscitation, emergency care in red/yellow/green zones, toxicology-envenomation, Emergency Medicine-ICU/HDU, major/minor procedures) and 6 months training in the complementary

specialties (Anesthesiology, Medical & Surgical Super-Specialties, and Critical Care Medicine).

Programme content:
The candidate must gain experience in the management (diagnosis and treatment) of patients with acute, serious, limb and life-threatening medical and surgical diseases. The present document defines the core curriculum of cognitive knowledge and procedural skills that a PDCC-REM candidate is expected to be equipped with to effectively approach the complex problems encountered in the emergency medicine.

The content of this one-year training in Emergency Medicine deals with the following aspects:

(A) Theoretical knowledge about pathophysiology, diagnosis and treatment of Medical and Surgical, limb and life-threatening Emergencies.

(B) General and specific emergency procedures and interventions that the candidate must be able to perform

(C) Logbook

(D) Research project and audit

(A)Theoretical Knowledge:

Physiology, Pathology, Pathophysiology, and Management

The ED physician must understand the physiology, pathology, and pathophysiology and construct a differential diagnosis and apply appropriate prophylactic and therapeutic interventions in the management of the below mentioned Emergency disorders. The list is not comprehensive and can be modified from time to time.

1. **Respiratory emergencies**
   - Dyspnea
   - Respiratory failure and ARDS
   - Hemoptysis
   - Acute severe asthma/COPD
   - Pneumothorax
   - Foreign body
   - Pneumonia and chest infections
   - Thermal/Chemical lung injuries
   - Sleep apnea syndrome

2. **Airway management and Anaesthesia**
    - Principle of airway management including difficult airway management
    - Rapid sequence intubation
    - Pain management
    - Procedural sedation
    - Regional, local and general anaesthesia

3. **Cardiovascular emergencies**
    - 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
        - Leadership during CPR
        - Choking victim
        - Neonatal/Pediatric CPR
        - CPR during pregnancy
    - Chest pain
        - Stable angina
        - Acute coronary syndromes (Unstable angina, ST/Non-ST EMI)
            - Use of thrombolytics
            - Use of glycoprotein inhibitors in ED
            - Angioplasty vs. thrombolytics
    - Congestive Heart Failure and Pulmonary edema
    - Palpitations
    - Cardiac arrhythmias
        - Tachycardias
            - Narrow complex vs. broad complex
            - Electric cardioversion
            - Anti-arrhythmic drugs
        - Bradycardias
    - Hypertensive urgencies and emergencies
    - Temporary and permanent cardiac pacemaker
    - Shock
        - Haemorrhagic shock

    - Cardiogenic shock
    - Neurogenic shock
    - Septic shock
    - Anaphylactic shock
    - Blood/blood products
    - Cardiovascular drugs
        - Fluids
        - Vasopressors
        - Inotropes
- Cardiovascular drugs
- Deep vein thrombosis
- Valvular heart disease
- Stuck artificial cardiac valve
- Infective endocarditis
- Acute pericarditis and cardiac tamponade
- Acute myocarditis
- Acute rheumatic fever
- Vascular access
- Peripheral vascular disease
- Sudden cardiac death
- Cardiac transplant patient

4. Neurological emergencies

- Headache
    - Approach
    - Specific disorders (including migraine)
- Syncope, vertigo and dizziness
- Seizures
    - Epileptic seizures
    - Pseudoseizures
    - Status epilepticus
- Coma and neurological impairment
    - Metabolic
        - Hypoglycemia
        - Ketoacidosis
        - Hyperosmolar
        - Hepatic encephalopathy
    - Neurological coma

- Meningitis and encephalitis
- Acute stroke
    - Ischemic
    - Haemorrhagic
    - Transient ischemic attack
    - Subarachnoid haemorrhage
- Cavernous sinus thrombosis
- Compressive and non-compressive myelopathies
- Peripheral neuropathy (including LBG syndrome)
- Myasthenia crisis
- Cranial nerve palsies
- Brain dead (Diagnosis and Decleration)

5. Genitourinary emergencies

- Nephrolithiasis
- Acute renal failure
- Acute retention of urine
- Sexual assault
- Complications of chronic kidney disease
- Hematuria
- Torsion of testes
- Sexually transmitted diseases
- Epididymitis/orchitis/prostatitis
- Obstructive uropathy
- Acute pyelonephritis and perinephric abscess
- Phimosis and paraphimosis
- Foreign body insertion
- Kidney transplant patient
- Renal replacement therapies (RRT)

6. Gastro-intestinal emergencies

- Abdominal pain
    - Acute abdomen
    - Acute gastritis
    - Cholangitis, cholecystitis
    - Acute pancreatitis
    - Perforation/peritonitis
    - Mesenteric ischemia

    - Renal pain
    - Intestinal obstruction
    - Paralytic ileus
    - Inflammatory bowel disease
- Vomiting and diarrhoea
    - Evaluation of dehydration
    - Fluid therapy
- Acute GI bleed
    - Upper GI bleed
    - Lower GI bleed
- Foreign body ingestion
- Acute volvulus
- Hemorrhoids
- Rectal prolapse
- Perirectal abscess
- Hernias
- Ascites
- Acute liver failure
- Cirrhosis and its complications
- Liver abscess
- Jaundice
- Liver transplant patient

7. Endocrine, Metabolic and Nutritional emergencies

- Diabetic emergencies
    - Hypoglycemia
    - Hyperosmolar hyperglycemic state
    - Ketoacidosis
- Fluid and electrolyte abnormalities
    - Normal physiology
    - Hypovolemia
    - Hper/Hyponatremia
    - Hyper/hypokalemia
    - Hyper/hypocalcemia
- Acid-Base disturbances
- Hypopituitarism
- Hypoadrenalism
- Thyrotoxic crisis

- Myxedema coma
- Nutrition assessment and calorie intake
- Parenteral and enteral nutrition

8. Onco-Hematological emergencies

- Acute bleeding (including hemophilia)
- Disseminated intravascular coagulation (DIC)
- Use of antithrombotic and antiplatelet agents
- Febrile neutropenia
- Thrombocytopenia
- Severe anemia
- Acute hemolysis
- Superior vena cava syndrome
- Tumor lysis syndrome
- Cord compression
- Metastatic emergencies
- Blood/Blood products and transfusion
- Stem cell and bone marrow transplantation

9. Infections

- HIV in Emergency department
- Malaria (complicated and un-complicated)
- Leptospirosis
- Enteric fever
- Chicken pox and herpes zoster
- Measles/mumps
- Dengue and other haemorrhagic fevers
- Chikungunya
- Evaluation of fever in Emergency department
- Acute hepatitis
- Disseminated tuberculosis
- Management of needle stick injury
- Tetanus
- Rabies
- Diphtheria/Pertussis
- Cholera
- Food poisoning
- Polio

- Toxic shock syndrome
- Gas gangrene and other anaerobic infections
- Sexually transmitted diseases
- Influenza
- Fever
- Immunization
- Sepsis and septic shock

10. Gynecological and Obstetrics emergencies

- Ectopic pregnancy
- Lower abdominal pain
- Vaginal bleeding
- Abortion
- Pre-eclampsia/Eclampsia
- Conduct of delivery
- Emergency contraception
- Rape victim
- Amniotic fluid embolism

11. Toxicology, poisoning and envenomation

- Initial management
- Recognition of toxidromes
- Antidotes
- Insecticides and pesticides
- Drug overdose
- Snake bites, scorpion stings and insect bites
- Plant poisoning
- Kerosene oil poisoning
- Ethyl alcohol poisoning and withdrawal
- Other alcohols (Methyl alcohol, ethylene glycol)
- Methaemoglobinemia
- Hyperthermias
- Substance abuse
- Hazardous chemicals
- Metal poisoning
- CBRN disasters
- Poison control centers

12. Environmental emergencies

- Burns
- Smoke inhalation
- Lightening
- Electric burns
- High altitude sickness
- Diving emergencies
- Cold induced injuries
- Heat induced injuries
- Near-drowning
- Animal and human bites

13. Geriatric emergencies

- Psycho-social assessment
- Mobility assessment
- Drug pharmacology
- Geriatric abuse

14. Pediatric emergencies

- Advanced pediatric life support
- Care of new born
- Croup/epiglottitis
- Asthma
- Fever (neonate, infant, toddler and child)
- Septicemia
- Meningitis
- Seizures
- Congenital diseases (including cardiac diseases)
- Pain relief
- Dehydration
- Care of pre-term baby
- Drug therapy in newborns, infants and children
- Child abuse

15. Psychiatric emergencies

- Thought and mood disorders
- Anxiety and somatiform disorders
- Self-harm
- Delirium, dementia and psychosis
- Suicide and homicide

- Alcohol and substance abuse
- IV drug abuse
- Sexual assault and child abuse
- Domestic violence and elder abuse
- Violence in ED

16. Ocular emergencies

- Red eye
    - Conjunctivitis
    - Acute glaucoma
    - Uveitis
- Trauma
    - Foreign body
    - Corneal abrasion
    - Hyphaema
    - Blow-out fracture
    - Chemical burns
- Visual loss
- Orbital cellulitis

17. Ear, Nose, Throat, emergencies

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

18. Trauma

- Trauma resuscitation
    - Primary survey
    - Secondary survey
    - Advanced trauma life support
    - Transfer arrangements
- Wound management
    - Lacerations
    - Abrasions
    - Contusion

- Puncture wounds
- Principles of management
- Control of local bleeding
- Suturing
  - General
  - Specific sites
- Local anaesthesia

- Head and facial trauma
  - Head injury
  - Fractures of bones of face
  - Facial injuries
  - Dental injuries
  - Nasal injuries
  - Ear injuries
  - Oral cavity injuries
  - Temporomandibular joint dislocation
- Spinal trauma
  - Immobilization
  - Examination
  - Cervical
  - Dorsal
  - Lumbar
- Chest trauma
  - Blunt/Penetrating
  - Tension pneumothorax
  - Cardiac tamponade
  - Massive haemothorax
  - Open chest wound
  - Ruptured aorta
  - Flail chest
  - Contusion lung
  - Emphysema
- Abdominal trauma
  - Blunt/penetrating trauma
  - FAST
  - Diagnostic peritoneal lavage
  - Ultrasound and CT
  - Pelvic trauma

    - Genitourinary trauma
- Pelvic fracture
- Extremity trauma
    - Skeletal trauma
    - Dislocation
    - Vascular trauma
    - Soft tissue trauma (Strains and sprains)
    - Hand trauma
    - Compartment syndrome
    - Degloving injuries
    - Amputation/reimplantation
    - Fat embolism
- Trauma in children, elderly, pregnant women.
- Blast injuries
- Mass casualties and injury care
-

19. Non-traumatic orthopedic emergencies

- Orthopedic and neurovascular examination of extremities
- Acute osteomyelitis
- Acute arthritis
- Acute gout
- Prosthesis related emergencies
- Acute back pain
- Acute neck pain
- Acute shoulder pain
- Hand and foot infections
- Joint infections and inflammations
- Muscle and tendon infections and inflammations

20. Disaster Medicine

- Definitions
- Disaster planning
- Medical response to terrorist incidents

21. Rheumatological emergencies

- Acute vasculitis
- Anti-phospholipid antibody syndrome
- Rheumatologic disorders involving vital organs

- Kawasaki's syndrome

22. Dermatological emergencies

- Exfoliative dermatitis
- Steven Johnson Syndrome
- Toxic epidermal necrolysis
- Skin infections, inflammation and allergies

23. Microbiology

- Blood and other site specific bacterial, viral and fungal sample collection
- Microbial surveillance
- Biohazards and waste disposal
- Infection control measures
- Antibiogram
- Antibiotic and antifungal stewardship

24. Transfusion

- Transfusion reactions
- Blood component therapies

25. Miscellaneous

- Pre-hospital care
- Forensic aspects
    - Medico-legal examination
    - Examination of rape accused
    - Wound examination
    - Bullet wounds
    - Types of injuries (simple, grievous, dangerous)
    - Signs of death
- Biostatistics
- Research methodology
- Imaging techniques
    - Plain X-rays
    - Ultrasonography and echocardiography
    - CT
    - MRI
    - Angiography
    - Interventional techniques

- Nuclear medicine in emergencies
- Pharmacology, PK/PD, and drug interactions
- Inflammation and anti-inflammatory agents
- Multi-system disorders (including multi-organ dysfunction syndrome)
- Sepsis and systemic inflammatory response syndrome (SIRS)
- Management of an organ donor patient
- Ethical issues

(B) Competency in Emergency Interventions and Procedures

The ED physician must be able to perform the following skills independently both in adults and children. However, this experience is desirable but not mandatory in the following areas:

1. **Airway management and C-spine control**
    a. Basic airway management (opening airway by various methods)
    b. Bag mask ventilation
    c. Advanced airway management
        i. Tracheal intubation
        ii. Alternative procedures (non-surgical and surgical)
    d. Pediatric airway management
    e. Neonatal airway management

2. **Cardiopulmonary resuscitation**
    a. Basic
    b. Advanced

3. **Electric therapy**
    a. Cardioversion/Defibrillation
    b. Cardiac pacing

4. **ECG interpretation**

5. **Ventilator management**

6. **Basic trauma management and Advanced Trauma Life Support (non-orthopedics)**
    a. Intercostal chest tube
    b. Needle thoracocentesis
    c. Surgical and needle Cricothyroidotomy

d. Suprapubic catheterization
e. Central venous access
f. Arterial puncture
g. Nasal packing
h. Foreign body removal
i. Foley's catheterization

7. Needle and tube thoracotomy (in penetrating chest injuries) and aortic clamping

8. Pulmonary procedures

a. Invasive ventilation principles
b. Thoracocentesis
c. Needle/Tube thoracostomy

9. Circulation procedures

a. Cardiac compression
b. Central venous access
    i. Subclavian
    ii. Jugular vein
    iii. Femoral vein
c. Arterial access
d. Cut down techniques
e. Intra-osseous access
f. CVP monitoring
g. Pericardiocentesis
h. Monitoring

10. Decontamination procedures

a. Gastric lavage
b. Skin/Eye decontamination

11. Paracentesis

12. Wound management

a. Wound preparation
b. Wound closure techniques
c. Debridement
d. Dressing techniques

e. Removal of foreign bodies
f. Tendon repair

13. Orthopedic emergency procedures

a. Splinting/immobilization
    i. Spinal immobilization
    ii. Limb splinting
    iii. Logrolling
b. Fasciotomy
c. Reduction of dislocations
d. Traction splints
e. Plaster techniques for various fractures
f. Joint aspiration
g. Cervical collar application
h. Pelvic stabilization techniques

14. Local and regional anaesthesia

15. Conscious sedation and analgesia

16. Ear, nose and throat procedures

a. Indirect laryngoscopy
b. Nasal packing
c. Removal of foreign bodies

17. Maxillo-fascial techniques

a. Dental anaesthesia
b. Dental socket suture

18. Ocular techniques

a. Slit lamp
b. Foreign body removal

19. Gynaecological and Obstetrics

a. Delivery
b. Speculum examination

20. Neurological

a. Lumbar puncture

b. Burr hole

21. Others

a. Reducing paraphimosis
b. Nasogastric tube insertion
c. Incision and drainage of abscess
d. Nerve blocks
e. Detorsion of torsion of testis

22. Transportation of patients

a. Intra-hospital
b. Inter-hospital

23. Communication skills

a. Patients and relatives
b. Colleagues and other personnel
c. Bereavement

24. Point of Care Ultrasonography and Echocardiography (Diagnostic and Therapeutic)

25. Designing a research study

26. Major incident planning

27. Interpretation of laboratory investigations/Plain X-rays/CT/MRI

28. Others

a. Implementation of intravenous fluid therapy
b. Enteral and parenteral therapy
c. Renal replacement therapies including peritoneal dialysis
d. Placement of Sengstaken Tube
e. Measurement of severity of illness and outcome assessment
f. Correction of hemostatic and coagulation disorders
g. Interpretation of coagulation profile including thromboelastograph
h. Implementation of thrombolysis

(D) Log book

The candidates would maintain logbooks of procedures performed /assisted which would be countersigned by the departmental faculty members.

(E) Research project and audit

One aspect of medical audit, allotted to each candidate, would be mandatory, and he/she would compile the same.

Each candidate would be allotted one of the departmental projects, depending on the ability of the candidate and the availability of project, in which he/she would assist.

Final Eligibility Assessment for Awarding the PDCC in Resuscitative Emergency Medicine

Exit examination vs Internal Assessment

The options available are as below:

Internal assessment:

Assessor: Faculty members of the department of Emergency Medicine

Periodicity: 03 monthly

Assessment: By grading system (A ++, A+, A, B, B-, B--)

(Pass = > 50 % assessments above A)

Exit exam:

As per the prevailing norms of the Institute at that time.

Course content:

Lectures 2/month

Seminars 2/month

Journal clubs 3/month

Case discussions 2/week