

گروه آموزشی طب اورژانس

دانشگاه علوم پزشکی تبریز

Tabriz University of Medical Sciences Emergency Medicine Department

Pediatric Emergency Medicine (PEM) Training Program



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Program Overview

The Division of Pediatric Emergency Medicine at Tabriz Children's Hospital offers a five month Pediatric Emergency Medicine (PEM) training program for Emergency Medicine (EM) residents.

The goal of our PEM Training Program is to train EM residents who will become leaders in their field. Therefore, learning to perform high quality research is a critical component of the program. While our EM residents do learn clinical medicine, direct patient care and managing patients is the responsibility of the resident physicians.

We emphasize the importance of the EM specialist's involvement like to Pediatric specialist's in the clinical care of children in the Pediatric Emergency Division (PED), in clinical investigation to advance knowledge in the field, and in advocating for the special needs of acutely ill children at every level of the pediatric emergency continuum from prevention and prehospital care to the PED and beyond.

Our PEM training program curriculum is designed to provide our graduates with exceptional clinical skills, administrative expertise in the management of a PED and experience in the education of health care providers at all levels and, research experience that promotes future involvement and success in clinical research.

This program offers by Tabriz University of Medical sciences Departments of Pediatrics and EM together.

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Curriculum

The PEM training program curriculum is designed according to agreement of Tabriz University of Medical sciences Departments of Pediatrics and EM.

The curriculum is designed to ensure that the graduating EM resident demonstrates competency in the 6 Core Competency areas as they relate to the field of general emergency medicine.

These include competency in:

Patient Care.

The EM resident will learn to provide family centered patient care in the emergency setting that is developmentally and age appropriate, compassionate, and effective for the treatment of health problems and the promotion of health.

Medical Knowledge.

The EM resident will understand the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge in the field of Pediatric Emergency Medicine; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care.

Interpersonal and Communication Skills.

The EM resident will demonstrate interpersonal and communication skills that result in successful information exchange and partnering with patients, their families in the stressful pediatric emergency ward environment and with professional associates in the Emergency setting.

Practice-based Learning and Improvement.

The EM resident will demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate, and improve one's patient care practice in the pediatric emergency setting.

Professionalism.

The EM resident will demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles in medical practice in general and in the pediatric emergency ward specifically, and sensitivity to diversity.

Systems-Based Practice.

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The EM resident will understand how to practice high quality Pediatric Emergency Medicine and advocate for patients within the context of the health care system.

Clinical Experience

The clinical training component of the EM resident is based in the PED at Tabriz Children's Hospital/ University Hospitals, of Tabriz Medical Sciences, and serves both the children of Tabriz neighborhoods as well as acutely ill children throughout East Azerbaijan and beyond. Our dedicated team of board-certified pediatrics physicians, pediatric residents from the highly regarded pediatric residency at Tabriz Children's Hospital, pediatric emergency nurses and respiratory therapists are committed to providing the best pediatric emergency care to our patients. The Pediatric Emergency Division is a good part of the clinical services offered at Tabriz Children's Hospital, with an annual patient volume of 25,000 visits, accounting for nearly 50% of hospital admissions. The emergency care provided in the PED is supported by our 200 bed children's hospital that includes a 8-bed PICU and 6-bed NICU staffed by pediatric critical care and pulmonology specialist, as well as medical and surgical specialists representing every pediatric subspecialty. Tabriz Children's Hospital is an accredited Pediatric Surgery Center.

An Emergency Medicine resident spend approximately 216 clinical hours in the PED block months developing and refining the diagnostic, therapeutic and procedural skills necessary to provide exceptional care to acutely ill children in the PED setting. During PICU, Pediatric Neurology, Neonatology, Pediatric Infectious Disease and Research months, the PED clinical time will be limited to 144 hours. There will be no clinical time in the morning during PICU, Pediatric Neurology, Neonatology, Pediatric Infectious Disease and Research months, so that the Emergency resident is fully integrated into the clinical schedules of these disciplines.

Training goals and objectives for EM residents during PEM program based on their important are designed in appendix.

All of the EM residents during PEM training program should attend completely and actively in below weekly rounds and conferences.

The proposed Emergency Resident schedule is outlined as follows:

- 1.5 months PED
- 1 month PICU
- 2 weeks Neonatology
- 2 weeks Pediatric Neurology
- 2 weeks Pediatric Infectious Disease
- 2 weeks Pediatric Surgery
- 2 weeks Research

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Weekly Rounds & conferences

Lecture Based Conferences

Intern and Junior Core Lectures (Abshari Classes)

Curriculum for new interns designed to cover essential topics in pediatric medicine

Every day at noon

Offers an excellent jumpstart to intern year

Critical Care Lecture Series

PICU block rotations include several lectures a week

Covers core issues relevant to care of critically ill neonates and children

Every day except Saturday and Thursday at 10:00 AM

Attending Lecture Series

Pediatrics topics

Wednesdays at 11:45 AM

Interactive Case-based Sessions

Senior Rounds (PICU teaching Rounds)

Meeting of Externs, Interns, Seniors, Chief Residents, Program Director and PICU Attending to discuss interesting patient management issues and overnight admissions in PICU

Emphasis on evidence-based approach to patient care

Every morning at 7:00AM

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Morning Report

Conference modeled after Intern report to discuss overnight admissions or interesting inpatients

Everyday mornings except Monday at 8:00AM

Tabriz Children's Hospital Rounds (Internal Ward A Rounds)

Case-based, interactive resident conference focusing on history, differential diagnosis, and diagnostic workup

Presented by Chief Residents or Senior Residents

Every Thursday at 11:00 AM

Pediatric Emergency Medicine Management Conference

Interactive, case-based multidisciplinary conference focusing on diagnostic and management issues

Twice monthly on Saturday at 11:00 AM

Clinicopathology Conference

An interactive systems-based review of cases with unexpected or adverse patient outcomes

Every Tuesday at 11:45 AM

Mortality and Morbidity Conference

An interactive systems-based review of cases with unexplained death.

Every Sunday at 11:45 AM

Evidence-Base Medicine Journal Club

Interactive conference reviewing recent publications from the pediatric literature

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Focuses on the fundamentals of how to use the medical literature to answer patient care questions

Every Mondays at 11:45 AM

Pediatric Surgery Morning Report

Conference modeled after Intern report to discuss overnight admissions or interesting inpatients at Division of Pediatric Surgery

Everyday Monday at 8:00AM

Research Program

EM residents at Tabriz Children's Hospital have a variety of research opportunities during PEM training program. In during program with the guidance of the faculty, the EM residents identify areas of interest based on the patients they encounter in the PED. Then throughout the research period of program, with the help of the Program Director, they progress the research process.

The EM residents are encouraged to present their project to both their Tabriz children hospital research team as well as at a regional or national meeting, such as the Iranian pediatric emergency congress in the winter.

Current research projects in the PED include pediatrics triage, shock state, status epilepticus, and pediatric basic and advanced life support.

Evaluation of EM resident

Evaluation of EM resident at the end of PEM training program will be done by standard examination that accredited by EM and Pediatrics Departments of Tabriz Faculty of Medicine, University of Medical Sciences and identifying of progress in research proposal.

These evaluations are outlined as follow:

OSCE

This examination is done twice in year by Pediatrics Department of Tabriz Faculty of Medicine at the month of DEY and MORDAD.

Every EM resident should enter in one of them, and should acquire defined at least score.

MCQ

This examination is arranged once in year by EM Department of Tabriz Faculty of Medicine at the month of MORDAD.

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EM resident should enter in this exam and should acquire defined at least score.

Progress in research proposal

The research is proposed by EM resident, as work of progression defined by PEM training program director and research assistant of EM Department.

Progress in research proposal is identified as acceptable and or no acceptable.

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Appendix:

Goals:

1. Develop skill in infant/pediatric resuscitation.
2. Develop skill in performance of appropriate pediatric history and physical exam, including general growth and development, assessment and knowledge of current immunization requirements.
3. Learn the etiologies, significance, and treatment of fever and infection in the child.
4. Learn the manifestations and significance of abdominal related complaints in the child.
5. Learn the etiologies and treatment of neurologic emergencies in the child.
6. Learn the physiology and derangements of fluid and electrolyte management in children.
7. Learn the indications of social and/or psychological disturbances.
8. Learn the specific problems of pediatric trauma victims.
9. Learn the manifestations and treatment of pediatric cardiac abnormalities.
10. Learn the pathophysiology, etiologies, and treatment of respiratory disorders of children.
11. Learn the pathophysiology, etiologies, and treatment of common serious endocrine and hematologic disorders of children.
12. Learn the pathophysiology, etiologies, and treatment of common serious gynecologic and urologic conditions of children.
13. Learn to recognize and provide appropriate treatment for orthopedic and soft tissue problems of childhood.
14. Learn the common dermatologic diseases and dermatologic manifestations of systemic diseases in children.
15. Learn to recognize and treat children with common and/or serious problems of the head and neck.

Objectives

1. Demonstrate correct airway management including pediatric endotracheal intubation. (1)
2. Demonstrate ability to obtain and utilize intravenous access including venipuncture, intraosseous needle placement, and administration of appropriate dose of emergency medications. (1)
3. Demonstrate knowledge of the significance of fever in children of various ages, and the ability to perform an "optimal resuscitation" including Yale Observation Score of the febrile child. (1)

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4. Demonstrate knowledge of common infectious diseases of childhood, including appropriate work-up and treatment of meningitis, sepsis, pneumonia, urinary tract infection, and bacteremia. (1)
5. Demonstrate ability to properly perform a pediatric lumbar puncture. (1)
6. Demonstrate knowledge of the pathophysiology and manifestations of common and/or serious diseases of the gastrointestinal tract and abdominal cavity of children, including gastroenteritis, intussusception, volvulus, Meckel's, anaphylactoid purpura, and appendicitis. (1)
7. Discuss the differential and preliminary work-up of abdominal masses found in the pediatric patient. (3)
8. State the appropriate management of children with seizures, both febrile and afebrile. (3)
9. Demonstrate familiarity with the diagnosis and management of Reye's syndrome. (3)
10. Demonstrate knowledge of hydrocephalus, its differential, treatment and the management of neurologic shunt problems. (2)
11. Calculate fluid and electrolyte requirements of a dehydrated child. (2)
12. Discuss the diagnostic work-up and disposition when child abuse and/or neglect is suspected. (1)
13. Demonstrate ability to perform a history and physical exam of an alleged victim of sexual abuse. (1)
14. Demonstrate ability to direct a pediatric trauma resuscitation. (1)
15. Demonstrate knowledge of the significance and correct treatment of various patterns of burns in pediatric patients. (1)
16. Interpret a series of pediatric EKG's, showing awareness of the normal physiologic differences from adult EKG's. (2)
17. Discuss the common pediatric dysrhythmias, their diagnosis and treatment. (1)
18. Discuss the types of congenital cyanotic and noncyanotic heart disease, their complications and treatment. (2)
19. Demonstrate ability to read pediatric chest x-rays. (1)
20. Demonstrate ability to identify a patient who needs prophylaxis for rheumatic fever or subacute bacterial endocarditis. (2)
21. Discuss the differential diagnosis of chest pain in children and adolescents, noting differences from adults, and demonstrating knowledge of proper work-up and treatment. (2)
22. Discuss the differential of congestive failure in the pediatric patient and demonstrate knowledge of appropriate treatment. (2)
23. Discuss the anatomy and physiology of the respiratory tract in children. (2)
24. Demonstrate correct performance of peak expiratory flow measurement, pulse oxymetry and end-tidal CO₂. (1)
25. Demonstrate management of patients with upper airway infection suspected of having epiglottitis. (1)
26. Correctly interpret soft tissue lateral neck x-rays in children. (1)

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27. Discuss the etiologies and demonstrate correct management of children with lower and upper airway diseases including asthma, bronchiolitis, cystic fibrosis, pneumonia. (1)
28. Demonstrate correct management of foreign bodies of the upper airway and ability to diagnose and arrange disposition for patients with lower airway foreign bodies. (1)
29. Demonstrate correct management of the pediatric patient with diabetes and/or diabetic ketoacidosis. (1)
30. Demonstrate knowledge of the etiologies of anemia in children and the appropriate diagnostic evaluation. (3)
31. Demonstrate knowledge of the differential diagnosis and work-up of the jaundiced child. (2)
32. Discuss the differential diagnosis and work-up of the child with evidence of a bleeding disorder. (2)
33. Demonstrate correct evaluation and treatment of a child with dysuria or a suspected urinary tract infection. (1)
34. Demonstrate knowledge of the evaluation and treatment for phimosis, paraphimosis, balanitis. (2)
34. Demonstrate knowledge of the evaluation and treatment of testicular disorders including torsion and epididymis (sp). (1)
36. Discuss the differential and required workup for a pediatric patient with a limp. (1)
37. Demonstrate x-ray interpretation and perform proper splinting for a variety of pediatric fractures, distal radius and ulna, and distal tibia and fibula. (1)
38. Demonstrate ability to perform and interpret the results of an arthrocentesis. (2)
39. Discuss the findings and disposition of a patient with a suspected autoimmune syndrome such as juvenile arthritis, lupus, or dermatomyositis. (3)
40. Demonstrate ability to perform reduction of a dislocated joint. (1)
41. Discuss the etiology and treatment of acute soft tissue infections and perform an incision and drainage. (1)
42. Correctly diagnose common pediatric exanthemas including varicella, measles, monilia, roseola, rubella, pityriasis, scabies, and erythema infectiosum. (2)
43. Demonstrate knowledge of the differential diagnosis and evaluation of children with petechiae. (1)
44. Demonstrate ability to correctly perform and interpret the exam of the ears, nose and throat. (1)
45. Demonstrate knowledge of pediatric facial and orbital infections and their treatment. (1)
46. Discuss the causes of neonatal shock and demonstrate the ability to perform and infant resuscitation, including endotracheal intubation and insertion of an umbilical venous catheter. (1)
47. Demonstrate proper performance of a suprapubic bladder aspiration. (2)

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48. Discuss the findings and differential of sudden infant death syndrome, and demonstrate knowledge of the proper legal steps and ability to support the family. (1)
49. Discuss the differential diagnosis and acute treatment of the weak infant and child, including polio, botulism and the Landry-Guillain-Barre syndrome. (3)
50. Demonstrate knowledge of the evaluation and treatment of children with diarrheal illness. (1)
51. Demonstrate knowledge of the common poisonings of childhood and their treatments. (1)
52. Manage the care of a child with immersion/drowning. (1)
53. Manage the care of a child with a foreign body ingestion, discussing the complications, diagnostic steps and treatment. (2)
54. State the differential diagnosis of a child with upper or lower GI bleeding, and discuss the evaluation and treatment. (2)
55. Discuss the differential diagnosis and work-up of renal failure or anuria in children. (2)
56. Demonstrate ability to evaluate children with syncope and discuss its differential diagnosis. (2)
57. Discuss the signs, symptoms, treatment and complications of Kawasaki disease. (2)
58. Discuss the risk factors associated with teenage suicide. (1)
59. Discuss the differential of abnormal vaginal bleeding in childhood and demonstrate ability to perform a complete genital exam on children of various ages. (2)
61. Demonstrate ability to evaluate and treat a child with altered mental status and interpret a pediatric cranial CT scan. (1)
62. Discuss the technique for reducing an incarcerated inguinal hernia. (2)
63. Discuss the common pediatric malignant tumors. (3)
64. Differentiate between the presentation, diagnostic test results and treatment of transient synovitis and septic joint. (2)