Overall Competencies for the Pediatric Residency Training Program

EMERGENCY MEDICINE

Goals and Competencies

PC: Patient Care; MK: Medical Knowledge; PBLI: Practice-Based Learning & Improvement
IC: Interpersonal & Communication Skills; P: Professionalism; SBP: Systems-Based Practice

GOAL 1: Common Signs and Symptoms (ED): Understand how to evaluate and manage common signs and symptoms in infants, children, and adolescents presenting to the ED and urgent care center.

COMPETENCIES: (PC, MK, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
For the symptoms and signs listed below:				
A. Perform an appropriate problem-oriented history and physical examination.			1	2,3
B. Formulate a differential diagnosis, with appropriate prioritization, recognizing patients with possible life-threatening conditions.			1	2,3
C. Formulate and carry out a plan for assessment and management.			1,2	3
D. Describe indications for admissions to the ward or PICU or for transfer to another facility.			1,2	3
E. Arrange appropriate follow-up.				1,2,3
List of signs and symptoms which present emergently:				
1. **General:** Septic or ill-appearing infant/child, unexplained crying, fever, hypothermia, ATLE (acute life threatening event), sudden death, weight loss, disturbed child, dehydration, alleged or suspected child abuse or neglect.		1	2	3
2. **Allergy/Immunology:** Acute allergic reactions.		1		2,3
3. **Cardiorespiratory:** Apnea, respiratory distress, tachypnea, respiratory failure, cyanosis, tachycardia, bradycardia, cough, wheezing, chest pain, palpitations, stridor, foreign body aspiration, hypertension, hypotension.		1		2,3
4. **Dermatologic:** Skin rash, hair loss, itching.			1	2,3
5. **EENT:** Dizziness, nosebleed, sore throat, painful swallowing, earache, ear discharge, sudden hearing loss, red eye, abnormal pupils or eye movement, visual disturbances, eye pain.		1	2	3
6. **Endocrine:** Known diabetic with acute symptoms, polydipsia, polyphagia.		1	2	3
7. **GI:** Abdominal pain, distension, diarrhea, vomiting, constipation, foreign body ingestion, GI bleeding, jaundice, difficulty swallowing.		1	2	3
8. **GU/renal:** Edema, decreased or increased urination, bloody or discolored urine, dysuria, groin or scrotal mass or pain.		1	2	3
9. **GYN:** Menstrual problems, vaginal bleeding, vaginal discharge.		1	2	3
10. **Hematology/Oncology:** Abnormal bleeding, bruising, petechiae, masses, hepatosplenomegaly, lymphadenopathy, pallor, acute illness or fever in a neutropenic child/cancer patient.		1	2	3
11. **Musculoskeletal:** Limb pain, limp, arthralgia, joint swelling, inability to move an extremity, trauma to neck, back or extremities, back pain.		1	2	3
12. **Neurologic:** Ataxia, coma, lethargy, confusion, fainting spells, seizures, headache, weakness or paralysis, bulging fontanel, stiff neck, head injury, dizziness.		1	2	3
13. **Psychiatric:** Depression and thoughts of suicide, hysteria, anxiety.		1	2	3
14. **Surgery/trauma:** Traumal lacerations, burns, acute abdomen (Note: for major trauma, work with surgical trauma team).		1	2	3

GOAL 2: Common Conditions (ED): Understand how to manage common illnesses and injuries presenting emergently.

COMPETENCIES: (PC, MK, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
For the emergent conditions in the list below:				
A. Discuss the pathophysiologic basis of the disease or injury.			1	2,3
B. Discuss and implement initial rapid assessment and stabilizing treatment, including specialized examinations when indicated (e.g., pelvic, forensic exam).	1		2	3
C. Make a decision regarding discharge from the ED, admission, or transfer.		1		2,3
D. Discuss the appropriate use of consultants and the role of the generalist in management.		1	2	3
List of common diagnoses which present emergently:				

1. **Allergy/Immunology:** Asthma, anaphylaxis, angioedema, serum sickness, HIV/AIDS, acute illness in an immunocompromised child.	1		2	3
2. **Cardiovascular:** Acute hypertension, congestive heart failure, pericarditis, dysrhythmias (asystole, bradycardia, SVT, ventricular fibrillation and tachycardia, electromechanical dissociation), shock (hypovolemic, cardiogenic, spinal, septic), Kawasaki's disease, acute illness in a patient with congenital heart disease [less common but important to recognize: endocarditis, myocarditis, rheumatic fever].	1		2	3
3. **Dermatology:** Acute drug reactions, contact dermatitis, bacterial, viral, and fungal infections of skin and hair, scabies, pediculosis, cutaneous manifestation of systemic and/or contagious diseases.		1	2	3
4. **Endocrine:** Diabetes and ketoacidosis, hypoglycemia, hypocalcemia, hypo- and hypernatremia, diabetes insipidus, SIADH, acute illness in a child with underlying endocrine/metabolic disese [less common but important to recognize: thyroid storm, congenital adrenal hyperplasia, acute adrenal insufficiency, infant presenting with inborn error of metabolism].	1		2	3
5. **GI/Surgical:** Acute abdomen, peritonitis, bowel obstruction, ileus, appendicitis, malrotation, peptic ulcer disease, pyloric stenosis, intussusception, incarcerated hernia, gastroenteritis, hepatitis, gastroesophageal reflux, dehydration (oral/parenteral rehydration), constipation, biliary tract disease, inflammatory bowel disease, upper and lower GI bleeding, pancreatitis, foreign body in GI tract.	1		2	3
6. **GU/Renal:** Acute renal failure, hematuria, proteinuria, urinary tract infection, phimosis, balanitis, paraphimosis, testicular torsion, epididymitis, STD, edema, renal lithiasis, acute illness in a child on chronic dialysis or with transplanted kidney.	1		2	3
7. **GYN:** Dysfunctional vaginal bleeding, vaginal discharge, PID, pregnancy (intrauterine, ectopic, abortion).	1	2	3	
8. **Hematology/Oncology:** Sickle cell pain crisis, sequestration and chest syndrome, fever in a child with sickle cell disease or leukemia, anemia, thrombocytopenia, coagulopathy, hemophilia with acute trauma, possible tumor (masses).	1		2	3
9. **Infectious Disease:** Otitis media/externa, pharyngitis, cervical adenitis, peritonsillar/retropharyngeal abscess, cellulitis (especially facial/orbital), sinusitis, meningitis, encephalitis, sepsis/bacteremia, fever without source, infected wounds and bites.		1	2	3
10. **Neurologic:** Altered mental status, migraine and muscle contraction headache, febrile seizures, afebrile seizures, status epilepticus, paresis/ paralysis, ataxia, shunt malfunction/infection, increased intracranial pressure.	1		2	3
11. **Ophthalmologic:** Corneal abrasion, conjunctivitis, ocular foreign body, penetrating trauma to the globe, hyphema.	1	2	3	
12. **Orthopedic:** Gait disturbance, sprains, strains, fractures, arthritis, bone and joint infection, common dislocations, Osgood Slatter's Disease.	1		2	3
13. **Otolaryngology:** Epistaxis, foreign body aspiration, epiglottitis, croup, tracheitis.	1		2	3
14. **Respiratory:** Respiratory failure, pneumonia, asthma, status asthmaticus, pneumothorax, bronchiolitis, pleural effusion, smoke inhalation, acute illness in a child with cystic fibrosis, BPD, or severe asthma, SIDS.	1		2	3
15. **Trauma/Surgical:** Burns, closed head injury, skull fractures, soft tissue injury, including lacerations, abrasions and contusions, common dental injuries (with surgeon/trauma team: major trauma to head or face, neck or spine, chest, abdomen, urogenital, major vessels or organs).	1	2	3	
16. **Toxins/Environmental Injuries:** Ingestion/poisoning (unknown substance, and common poisons – acetaminophen, iron, hydrocarbons, tricyclic antidepressants, cough and cold medicines, street drugs, including cocaine), bite and sting injuries, submersion, electrical injury, heat and cold injury.	1	2	3	
17. **Psychiatric:** Depression, suicide attempt/ideation, combative patient, conversion reaction, panic attacks.	1		2	3
18. **Social:** Child abuse or neglect, sexual abuse, rape, substance abuse.	1	2		3

GOAL 3: Diagnostic Testing (ED): Understand how to use and interpret laboratory, imaging studies, and other commonly used diagnostic procedures in the emergency setting.

COMPETENCIES: (PC, MK, PBLI)	**<25%**	**25-50%**	**50-75%**	**75-100%**
For the following studies listed below:				
A. Explain the indications and limitations and be aware of age-appropriate normals.		1	2	3
B. Recognize cost utilization issues.		1,2	3	
C. Independently interpret the results in the context of the care of the specific patient.	1		2	3
Laboratory Studies (ED):				
1. CBC with differential count, platelets, indices.		1	2	3

2. Bacterial, viral, and fungal cultures and rapid screens.			1,2	3
3. Serologic tests for infection (e.g., monospot, VDRL, hepatitis).		1	2	3
4. Blood chemistries: electrolytes, calcium, magnesium, glucose.			1,2	3
5. Arterial, venous, and capillary blood gases.		1	2	3
6. Renal function tests.			1,2	3
7. Tests of hepatic function and damage.		1	2	3
8. Drug levels and toxic screens.		1,2		3
9. Gram stain, wet mount.		1	2	3
10. Urinalysis.			1,2	3
11. CSF studies.			1,2	3
12. Stool studies.			1,2	3
13. Coagulation studies.		1	2	3
14. Pregnancy test (urine, blood).				1,2,3
Imaging/Radiologic Studies (ED):				
15. Plain radiographs of chest, skull, extremity bones, abdomen.		1	2	3
16. Appropriate choice of more sophisticated, expensive or potentially harmful imaging techniques (CT, MRI, ultrasound, nuclear scans).		1	2	3
Other Screening and Diagnostic Studies (ED)				
17. Electrocardiogram		1	2	3
18. Vision screening				1,2,3

GOAL 4: Monitoring and Therapeutic Modalities (ED): Understand the application of physiologic monitoring and special technology and treatment in the ED setting.

COMPETENCIES: (PC, MK)	**<25%**	**25-50%**	**50-75%**	**75-100%**
For the monitoring techniques and special treatments in the list below:				
A. Discuss indications, contraindications, and complications.				
B. Demonstrate proper use of technique or treatment for children of varying ages (items marked with * do not require proficiency).				
C. Interpret results of monitoring based on method used, age, and clinical situation.				
Monitoring Techniques (ED):				
1. Physiologic monitoring of temperature, blood pressure, heart rate, respirations.			1	2,3
2. Pulse oximetry.			1	2,3
3. Capnometry/end tidal CO_2 (*)		1	2	3
Treatments and Techniques (ED):				
4. Universal precautions.				1,2,3
5. Gastrointestinal decontamination for poisoning.		1	2	3
6. Administration of nebulized medication.			1,2	3
7. Injury, wound, and burn care, including suturing and splinting.		1	2	3
8. Casting (*).		1	2	3
9. Oxygen delivering systems.		1	2	3
Anesthesia/Pain Management (ED):				
10. Methods for recognizing and evaluating pain.		1	2	3
11. Topical/local/regional anesthesia.		1	2	3
12. "Conscious" sedation (*).		1	2	3
13. Rapid sequence intubation (*).	1	2		3
14. Sedatives and narcotics.	1	2		3
15. Behavioral techniques and supportive care.	1		2	3

GOAL 5: Management and Decision-Making (ED): Develop a logical and efficient approach to the care of emergency patients, applying principles of decision-making and problem solving.

COMPETENCIES: (PC, MK, PBLI, IC, P, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Demonstrate ability to prioritize care needs.				
a. Provide care to multiple patients, with varying levels of acuity and severity of illness.	1		2	3
b. Use appropriate timing of diagnostic/therapeutic interventions.	1		2	3

c. Adjust pace to ED patient acuity, volume, flow.	1		2	3
2. Understand the limits of one's own knowledge, skills, and tolerance for stress; ask for help appropriately.	1		2	3
3. Apply principles of decision-making and problem solving appropriate to the emergency/urgent care setting, using available resources.	1		2	3
4. Consistently act responsibly and adhere to professional standards for ethical and legal behavior.			1	2,3
5. Be aware of quality control/quality improvement processes in the ED and when appropriate use the results to improve patient management.	1		2	3

GOAL 6: Teamwork and Consultation (ED): Understand how to function as part of an interdisciplinary team in the ED.

COMPETENCIES: (PBLI, IC, P, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Participate effectively in the patient care team (nurses, clerical staff, financial workers, attending physicians, trauma team/surgeons, residents, respiratory therapists, social workers, etc):				
a. Explain the skills and limitations each team member brings to the team care process in the ED.	1		2,3	
b. Work effectively with these various team members.			1	2,3
c. Demonstrate good communication skills, and appreciation and respect for the contribution of each team member to the care of ED patients.			1	2,3
d. Serve as a team member and leader in urgent situations.		1	2	3
2. Use consultants appropriately and communicate effectively with them.		1		2,3

GOAL 7: Patient Support and Advocacy (ED): Understand how to provide sensitive support acutely to patients and families of children and adolescents with acute illness and injury, and arrange for on-going support and/or preventive services if needed.

COMPETENCIES: (PC, MK, PBLI, IC, P, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Listen to concerns of patients and families; assign a team member to provide information and support in emergencies.	1		2	3
2. Deal with families of injured or seriously ill patients in a non-judgmental, culturally-sensitive manner which conveys a warm, caring attitude.		1		2,3
3. Identify problems and risk factors in the child and family, even outside the scope of this visit, and appropriately intervene or refer (e.g., need for preventive or social services, care for unrelated problems).	1		2	3
4. Be able to deal with the "difficult" parent and child.	1		2	3
5. Demonstrate sensitivity and skills in dealing with death and dying in the ED.		1	2	3
6. Explain and be sensitive to the role of the primary care physician in providing on-going support and continuing care; effectively communicate with both referring physicians and the child's regular doctor.		1		2,3
7. Enlist the parents' aid in the care of the child after discharge; teach them skills they will need.		1		2,3
8. Describe problems of indigent families seeking acute care including:				
a. Lack of true "medical home" for primary and continuity care.		1	2	3
b. Barriers affecting compliance with instructions (e.g., financial, education/understanding, language, transportation, child care).		1	2	3
9. Identify strategies that might prevent or reduce morbidity for common problems presenting to the ED in one's community.	1	2		3

GOAL 8: Financial Issues and Cost Control (ED): Understand key aspects of cost control, billing, and reimbursement in the ED setting.

COMPETENCIES: (PBLI, P, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. For diagnostic and therapeutic interventions in the ED, identify the general cost range, and utilize these interventions appropriately, with appreciation for how the expense impacts on the medical outcome, family, the service unit, and managed care providers.	1	2	3	
2. Select prescription medications with sensitivity to cost issues.	1		2	3
3. Practice appropriate utilization of consultants.		1	2	3
4. Participate in billing/managed care routines required of providers in the ED facility, showing attention to detail, accuracy, and appropriate documentation.	1	2		3

5. Describe general principles about typical insurance coverage for emergency care (e.g., types of services covered; required notification of managed care provider); discuss how coverage may differ for ED versus urgent care centers/sites.	1,2		3	
6. Be sensitive to the financial status of patients; be willing to refer to appropriate agencies if assistance is needed.	1		2	3
7. Discuss legal and ethical obligations to patients seen in the ED which impact on service, and thus cost of care.		1	2	3
8. Discuss cost implications of admission, extended observation in the ED, and admission to observation bed status.	1	2	3	

GOAL 9: Medical Records (ED): Understand how to maintain accurate, timely, and legally appropriate medical records in the ED and urgent care settings.

COMPETENCIES: (PC, MK, PBLI, IC, SBP)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Consistently maintain accurate, timely, and legally appropriate medical records, including:				
a. History & physical examination appropriate for the condition.			1	2,3
b. Problem list/working and final diagnoses.		1		2,3
c. Initial plan.		1		2,3
d. Detailed procedure notes for procedures done in the ED.		1		2,3
e. Accurate, timed record of all medications and fluids given.		1		2,3
f. Results of any diagnostic studies available at the time of discharge/transfer.		1		2,3
g. Condition on discharge or transfer from the ED.		1		2,3
h. Discharge instructions, with evidence of written instructions to the caretaker, in a form understandable to them.		1		2,3
2. Communicate effectively in writing and by phone with referring and primary physician as indicated.			1	2,3

GOAL 10: Resuscitation and Stabilization (ED) Understand how to rapidly assess, resuscitate, and stabilize a critically ill or injured child in the Emergency Department (ED) setting.

COMPETENCIES: (PC, MK)	**<25%**	**25-50%**	**50-75%**	**75-100%**
1. Rapidly assess urgent patients:				
a. Recognize respiratory failure and/or shock.	1		2	3
b. Formulate a diagnosis quickly, especially with respect to conditions which may need respiratory or cardiovascular support or an immediate intervention (e.g., tension pneumothorax, emergent cerebral edema, cardiac tamponade).	1		2	3
c. Assist in evaluating and stabilizing a child with multiple trauma.	1		2,3	
2. Identify priorities for vascular access, establish access, and perform fluid resuscitation.				
Demonstrate exposure to:				
a. Cannulation of peripheral veins.	1,2		3	
b. Intraosseous needle insertion.	1,2		3	
Explain indications and describe technique for:				
a. Central venous access.	1	2	3	
b. Arterial access.	1	2		3
3. Demonstrate proficiency at cardiopulmonary resuscitation:				
a. Obtain certification as a provider of Pediatric Advanced Life Support.				1,2,3
b. Direct resuscitation efforts in mock codes and in actual emergency situations.		1		2,3
c. Understand the pharmacology of the drugs used in resuscitation.			1	2,3