

Introduction to Pediatric Emergency Medicine

Introduction to Pediatric Emergency Medicine
(A concise, organized overview for students and clinicians)

1. Scope & Definition

- Pediatric Emergency Medicine (PEM):** A subspecialty focused on the rapid assessment, diagnosis, and treatment of acute illness and injury in patients from birth through adolescence (0-21 years).
- Key Goals**
 - Preserve life and prevent disability.
 - Provide age-appropriate, family-centered care.
 - Coordinate seamless transition to inpatient or outpatient services.

2. Epidemiology & Common Presentations

Age Group	Most Frequent Complaints	Typical Causes
Neonates (0-28 days)	Fever, poor feeding, respiratory distress	Sepsis, meningitis, congenital anomalies
Infants (1-12 mo)	Fever, vomiting, bronchiolitis, otitis media	Viral infections, gastroenteritis, obstructive airway disease
Toddlers (1-3 yr)	Trauma, fever, febrile seizures, asthma exacerbation	Falls, burns, viral URIs, wheeze
Preschool (3-5 yr)	Croup, foreign body ingestion, constipation	Parainfluenza, accidental ingestion, diet
School-age (6-12 yr)	Sports injuries, abdominal pain, headache	Fractures, appendicitis, migraine
Adolescents (13-21 yr)	Substance use, mental health crises, trauma	Alcohol/drug intoxication, self-harm, MVCs

Note: Trauma accounts for ~30% of pediatric ED visits; respiratory illness ~25%.

Introduction to Pediatric Emergency

3. Principles of Pediatric Assessment Medicine

1. Primary Survey (ABCs)

- **Airway:** Look for obstruction (foreign body, edema); assess voice, stridor.
- **Breathing:** Observe work of breathing, pulse oximetry, capnography if needed.
- **Circulation:** Pulse quality, capillary refill, blood pressure (age-specific norms), mental status.

2. Secondary Survey

- Full history (HPI, past medical, medications, allergies, immunizations, family/social).
- Focused physical exam (head-to-toe) with age-appropriate techniques.

3. Resuscitation Adjuncts

- Rapid sequence intubation (RSI) adapted for size/airway anatomy.
- Intraosseous (IO) access preferred when IV access is difficult.
- Pediatric Advanced Life Support (PALS) algorithms guide cardiac arrest and shock management.

4. Age-Specific Physiologic Norms (Quick Reference)

Parameter	Newborn (0-28d)	Infant (1-12 mo)	Toddler (1-3 yr)	Child (4-12 yr)	Adolescent (13-21 yr)
Heart Rate (HR)	120-160 bpm	100-160 bpm	90-150 bpm	80-120 bpm	60-100 bpm (rest)
Respiratory Rate (RR)	30-60 /min	30-50 /min	24-40 /min	20-30 /min	12-20 /min
Systolic BP	60-80 mmHg	70-100 mmHg	80-		