Pediatric Assessment and Emergencies

PAT, vital signs, airway infections, febrile seizures, dehydration, arrest, choking and abuse

PEDIATRIC ASSESSMENT TRIANGLE (PAT) AND VITAL SIGNS

PAT SIDE	LOOK FOR (HANDS OFF, FROM THE DOORWAY)
Appearance	Tone, interaction, consolability, gaze, cry (TICLS)
Work of breathing	Stridor, grunting, retractions, flaring, tripod
Circulation to skin	Pallor, mottling, cyanosis

EXAM TIP Breathing alone = respiratory distress; plus appearance = respiratory failure; circulation = shock; appearance alone = brain or metabolic; all three = cardiopulmonary failure.

HR and newborn to 1 yr RR: NASEMSO 2022 (from PALS 2020 and Fleming 2011). RR from 1 yr to 12 yr: First10EM PALS table, as on the growth sheet. Sources vary; trend.

AGE	HR AWAKE	RR
Newborn	100–205	30–60
1–12 mo	100–190	30–60
1–2 yr	100–190	20–30
2–3 yr	98–140	20–28
3–4 yr	80–140	20–26
4–6 yr	75–140	18–26
6–10 yr	75–140	16–24
10–12 yr	75–118	16–20
Over 12 yr	60–100	15–20

Hypotension: SBP <60 in the first month, <70 at 1–12 months, <70 + (2 × age in years) at 1–10 years, <90 over 10. Normal SBP with poor perfusion = compensated shock; hypotension = decompensated, a late sign.

RESPIRATORY DISTRESS VS FAILURE

- Distress: alert or anxious; retractions, flaring, grunting; fast heart rate
- Failure: listless; fewer retractions, fading breath sounds; pale, dusky or cyanotic; slowing heart rate

SAFETY Failure: BVM at 1 breath every 2–3 s. Heart rate below 60 with poor perfusion despite effective oxygenation and ventilation: start CPR.

CROUP, EPIGLOTTITIS, BRONCHIOLITIS

FEATURE	CROUP	EPIGLOTTITIS	BRONCHIOLITIS
Cause	Parainfluenza	Bacteria; Hib now rare	RSV mostly
Age	6 mo–3 yr	Any; now mostly adults	Under 2 yr
Hallmark	Barky cough, stridor; worse at night	Sudden; drooling, muffled voice, tripod	Wheeze, crackles after a cold
X-ray	Steeple sign	Thumb sign	—
Care	Dexamethasone; neb epi if stridor at rest	Upright, calm; expert airway	Gentle suction, O_2, fluids

- Croup, paramedic (NASEMSO): dexamethasone 0.6 mg/kg (max 16 mg); nebulized epinephrine 5 mg (5 mL of 1 mg/mL), may repeat in 20 min, per protocol
- Ask about choking: a foreign body can mimic croup
- Bronchiolitis: no routine albuterol or steroids

SAFETY Epiglottitis: no throat exam, IV attempt or lying flat. Keep the child upright and calm, give O_2 gently, be ready for a difficult airway.

FEBRILE SEIZURES AND DEHYDRATION

- Age 6–60 months, ≥38 °C (100.4 °F), no CNS infection
- Simple: generalized, under 15 min, once in 24 hr. Complex: focal, 15 min or longer, or repeats within 24 hr
- About 30% recur; antipyretics only comfort and do not prevent seizures; no NSAIDs under 6 months
- Over 5 min or seizing on arrival: airway, O_2, glucose, benzodiazepine (paramedic: midazolam 0.2 mg/kg IM/IN, max 10 mg, per protocol)

SAFETY Under 6 months or over 5 years, or meningeal signs: not a simple febrile seizure; look for meningitis or another cause.

CDC 2003; per protocol. Infants: sunken fontanelle.

DEGREE	SIGNS	FLUIDS
Mild–moderate (3–9%)	Fast pulse, thirst, dry mouth, fewer wet diapers	Oral rehydration 50–100 mL/kg over 2–4 hr
Severe (over 9%)	Lethargy, weak pulses, slow refill, little urine	20 mL/kg LR or NS IV, repeat until perfusion recovers

CARDIAC ARREST AND CHOKING (2025)

Exam-study doses; never above the adult dose. Follow your institution's or agency's protocols.

ITEM	INFANT AND CHILD
Child age	1 yr to puberty (breasts, axillary hair); then adult BLS
Depth, rate	≥⅓ of the chest: about 1.5 in (4 cm) infant, 2 in (5 cm) child; 100–120/min, full recoil
Ratio	30:2 alone; 15:2 with 2 rescuers before puberty; advanced airway: continuous compressions, 1 breath every 2–3 s
Infant hands	Heel of 1 hand or 2 thumbs encircling; no 2-finger
Defibrillator	Manual if trained; else AED with pediatric attenuator (under 8 yr); else standard AED
Shocks	2 J/kg, then 4; later ≥4, max 10 J/kg or adult dose
Epinephrine	0.01 mg/kg IV/IO (0.1 mL/kg of 0.1 mg/mL), max 1 mg, every 3–5 min
Antiarrhythmic	Amiodarone 5 mg/kg (max 300 mg; up to 3 doses, repeats max 150 mg) or lidocaine 1 mg/kg

EXAM TIP Epinephrine: nonshockable, as early as possible; shockable, after the second shock unless defibrillation is delayed.

- Severe choking: infant, 5 back blows then 5 chest thrusts (no abdominal thrusts); child, 5 back blows then 5 abdominal thrusts
- Unresponsive: start CPR (no pulse check); remove only a visible object, no blind finger sweeps

CHILD ABUSE AND MANDATORY REPORTING

- Story that changes or does not fit; delayed care
- Under 4 yr: bruises on torso, ears, neck, frenulum, jaw angle, cheeks, eyelids or eye whites, or patterned; any bruise ≤4.99 months (TEN-4-FACESp)
- Immersion (stocking, glove) or cigarette burns; injuries of different ages
- Posterior or lateral rib or metaphyseal corner fractures; any fracture before walking
- Unexplained infant vomiting, lethargy, seizures, apnea or BRUE: think abusive head trauma
- Nurses must report in every state; EMS duties follow state law
- Suspicion is enough; do not investigate or ask leading questions
- Report to child protective services or police; a supervisor alone may not suffice
- Good-faith reports carry legal immunity
- Document findings and the child's own words

SAFETY Never confront a suspected abuser; get the child to safety and tell the receiving team.

Sources (20) are listed with links at icubasics.com/sheets/pediatric-emergencies.html. For education and exam preparation only. Not medical advice; follow current guidelines and your institution's protocols. ICU Basics is an independent study aid not affiliated with any certifying body.