CEN Pediatric Emergencies: Ingestions, GI, Head Injury and Fractures

Febrile and jaundiced neonates, toddler ethanol and cannabis ingestions, swallowed coins, magnets and sharp objects, intussusception, volvulus, Hirschsprung enterocolitis, PECARN and return to play, stridor that is not croup, sickle cell fever, SCFE, growth-plate and toddler fractures

ICU Basics
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WHO GOES FIRST

PICTURE	THINK	FIRST MOVE
Neonate vomiting green, even if well and soft	Malrotation with midgut volvulus	NPO, surgeon, emergent upper GI series
Late meconium, now fever, distension, explosive stools	Hirschsprung enterocolitis	NPO, fluid bolus, decompression, IV antibiotics
Febrile young infant, lethargic or mottled	Sepsis or meningitis	Blood, catheter urine, LP, IV antibiotics; admit
Sickle cell disease, fever 38.5 C or more, looks well	Bacteremia (no working spleen)	High risk; IV antibiotics within 60 min of triage
Several magnets on the film	Bowel trapped between magnets	NPO, endoscopy while still in the stomach
Infant with spells of pallor, limpness, sleep	Intussusception without pain	Abdominal ultrasound

FEBRILE AND JAUNDICED INFANTS

- AAP 2021 staged work-up covers only well-appearing term infants 8 to 60 days old with 38.0 C or more. Ill-appearing: full work-up (blood culture, catheter urine, LP) and parenteral antibiotics now (Merck).
- A bulging fontanelle or neck stiffness is present in only about 20% of neonatal meningitis; often only the signs of neonatal sepsis show, and lethargy, seizures, vomiting and irritability are more specific (Merck).
- Neonatal empiric drugs: ampicillin plus gentamicin, with cefotaxime added for suspected gram-negative meningitis (Merck).
- Ceftriaxone label: not for hyperbilirubinemic neonates (displaces bilirubin), premature neonates up to 41 weeks postmenstrual age, or neonates 28 days or younger who need IV calcium. Question the order; never delay antibiotics.

TODDLER INGESTIONS

EXPOSURE	DANGER	PLAN
Ethanol (mouthwash, sanitizer)	Hypoglycemia: ethanol blocks gluconeogenesis, small glycogen stores	Fingerstick glucose, dextrose if low, repeat checks while symptomatic; no fomepizole
Cannabis edible	Drowsiness, ataxia, bradypnea; THC over 5 mg/kg under age 5 linked to respiratory depression	Continuous SpO2 and respiratory monitoring, airway ready; supportive

- Ethanol peaks 30 to 90 min after ingestion on an empty stomach, and disposition follows the clinical response, not a level (Merck). One normal glucose does not end the observation (the page's inference).
- Kaczor 2021: children under 10 had bradypnea in 83% and needed respiratory support in 33% (5% in teens). A urine screen confirms THC but not the dose.

SWALLOWED OBJECTS

OBJECT	PLAN
Coin in the stomach, well child	Home, normal diet, watch stools; films every 48-72 h then weekly if unseen
Single magnet	Usually passes
Several magnets, or magnet plus metal	Remove: NPO, urgent endoscopy within 24 h while in the stomach
Button battery	Esophagus: emergent removal. Stomach: urgent (ESGE, adults); endoscopic removal advised (Au and Goldman)
Sharp-pointed (toothpick, bone)	Stomach: urgent endoscopy within 24 h, even with normal films

- Wood, plastic, glass, thin metal and fish bones are hard to see on plain films; CT if suspicion stays.
- No barium swallow (aspiration, worse endoscopic view). Magnets are removed while in reach, not hurried along.

INFANT BOWEL EMERGENCIES

CONDITION	CLUES	PLAN
Intussusception (6 mo to 3 y)	Colicky pain, vomiting; 15% only lethargic; currant-jelly stool is late	Ultrasound (target sign), air enema; peritonitis: fluids, antibiotics, surgery
Malrotation, midgut volvulus	Bilious vomiting; 40% present in the first month	NPO, NG, upper GI series, Ladd procedure
Hirschsprung enterocolitis	No meconium by 48 h; fever, distension, explosive or bloody diarrhea	Bowel rest, fluids, NG and rectal tube, antibiotics with anaerobic cover

SAFETY No contrast enema in suspected enterocolitis (perforation). Explosive stools in HAEC are not relief.

HEAD INJURY AND CONCUSSION

- PECARN, 2 years and older: no CT when all six hold: normal mental status, no loss of consciousness, no vomiting, non-severe mechanism, no basilar skull fracture signs, no severe headache (NPV 99.95%). Teach return signs.
- GCS 14, altered mental status or basilar skull fracture signs: CT. Other risk factors: observation or CT by shared decision. Under 2 years: Pediatric Emergencies.
- Return now for seizures, repeated vomiting, worsening headache, growing drowsiness or confusion, unequal pupils, weakness.
- Suspected concussion: out of play the same day. CDC six steps, each usually at least 24 h, with provider approval; symptoms back means stop and restart one step lower.

STRIDOR AND SICKLE CELL FEVER

- Croup is a disease of 6 months to 3 years. Onset under 6 months, or recurrent barking cough and stridor: think hemangioma or a fixed airway lesion; airway endoscopy (AAFP).
- Sickle cell disease with fever: fever may be the only sign of infection (CDC). Parenteral broad-spectrum antibiotics within 60 min of triage (quality indicator); do not let the patient wait.

LIMPS AND FRACTURES

PICTURE	THINK	PLAN
Heavy adolescent, knee or thigh pain, limited hip internal rotation	SCFE	No weight on the hip; films of pelvis and hip from two angles; surgery
Tender over the growth plate after a fall, normal film	Salter-Harris I	Splint as a fracture, re-examine in days
Walking toddler, twist, spiral distal tibia, intact fibula	Toddler's fracture	Cast, follow-up; no survey or report without other concerns

- Survey and report when: inconsistent or absent history, delay over 24 h with a child in distress, other bruises or burns, a child not yet walking.

Sources (29) are listed with links at icubasics.com/sheets/cen-pediatric-gaps.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.