NGN NCLEX 2026 · PEDIATRIC NURSING · HIGH-YIELD REVIEW

Foreign Body *in the Pediatric Patient.*

VOL. 14
Airway · GI · ENT · Eye
Clinical Judgment Edition
Toddlers most affected

RIGHT MAINSTEM BRONCHUS | BUTTON BATTERY = CODE RED | AGE < 4 YRS HIGHEST RISK | BRONCHOSCOPY = GOLD STANDARD | NGN 6-STEP JUDGMENT

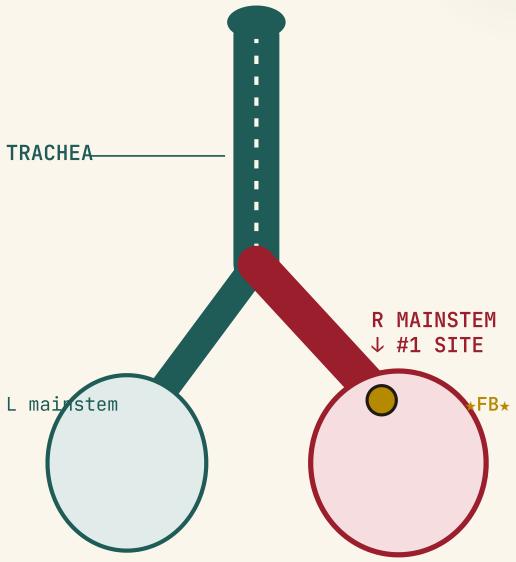
01 Foreign Body Aspiration — The Airway Emergency

A · AIRWAY

Most-feared event in toddlers *(6 mo – 3 yrs)*

Anatomy drives outcome: a child's **right mainstem bronchus** is more vertical and wider — that's where most aspirated objects lodge. Sudden, witnessed choking with cough is the classic story.

- **Classic triad:** sudden cough · unilateral wheeze · diminished breath sounds
- **#1 site:** Right mainstem bronchus > larynx > trachea
- **Top offenders:** hot dogs, peanuts, grapes, popcorn, hard candy, balloons, coins, small toys
- **Imaging:** Inspiratory + expiratory CXR · lateral decubitus (uncooperative child) shows air-trapping
- **Definitive Tx:** Rigid **bronchoscopy** under general anesthesia — gold standard



▸ RECOGNIZE CUES — SEVERITY CLASSIFICATION

1 Partial Obstruction

- **Air moving** · forceful cough
- Audible stridor / wheeze
- Talking, crying possible
- Pink, anxious but alert
- **Action:** ENCOURAGE COUGH · do *not* intervene · call for help · O_2 as tolerated

2 Complete Obstruction

- **No air movement**
- Silent / weak cough
- Cannot speak or cry
- Cyanosis · drooling · clutching neck
- **Action:** BEGIN BLS by age *(see §2)* · activate code · prep for bronch

3 Late / Missed

- Days–weeks post-event
- Persistent cough · recurrent PNA
- Localized wheeze / atelectasis
- Failure to respond to abx
- **Action:** high suspicion → CXR + **bronchoscopy**

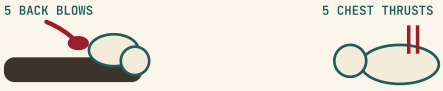
02 Choking BLS — Age-Based Algorithm

B · BLS

Infant — Choking

< 1 YEAR

1. **Position**
   Support head/jaw, head LOWER than trunk, prone on forearm
2. **5 Back Blows**
   Heel of hand, between scapulae, firm
3. **Flip + 5 Chest Thrusts**
   2 fingers on lower sternum (CPR landmark), 1 per second
4. **Repeat**
   Alternate until object expelled OR infant becomes unresponsive → CPR
5. **If unresponsive**
   Begin CPR (30:2 lone rescuer / 15:2 two rescuers); look in mouth before breaths, remove only if visible



NEVER: abdominal thrusts in infants (organ injury risk) · blind finger sweep · liquids/back-slaps in supine

Child & Adolescent

≥ 1 YEAR

1. **Assess**
   "Are you choking?" — universal sign = hands at throat
2. **Stand or kneel behind**
   Make a fist, thumb side in, just above umbilicus, well below xiphoid
3. **Abdominal Thrusts (Heimlich)**
   Quick inward + upward thrusts; smaller force in young child
4. **Repeat**
   Until object expelled or child loses consciousness
5. **If unresponsive**
   Lower to ground · CPR (30:2) · look in mouth before each set of breaths · remove visible object only

NEVER: blind finger sweep at any age · abdominal thrusts on infants or pregnant pts · push object further

03 Foreign Body Ingestion — The GI Tract

G · GI

The Rule of Pylorus

If a smooth, blunt object reaches the **stomach**, >90% pass spontaneously within 4–6 days. **Esophageal lodging** = removal needed. The two great exceptions — *button batteries* and *magnets* — override that rule everywhere they are.

- **Coins** = #1 ingested object (esp. quarters & pennies)
- **Esophageal sites:** cricopharyngeus (most common) · aortic arch · LES
- **Symptoms:** drooling, dysphagia, refusal to eat, retrosternal pain, vomiting; airway sx if compressing trachea
- **Imaging:** AP & lateral neck/chest/abdomen X-ray (radiopaque); endoscopy for confirmation
- **NPO immediately** — possible OR/endoscopy

Object → Action Decision Table

OBJECT	WHERE	URGENCY	ACTION
Button battery	Esophagus	≤ 2 HR	Endoscopic removal STAT — burns mucosa
Multiple magnets	Anywhere	EMERGENT	Endoscopy/surgery — bowel necrosis, fistula
Sharp object	Esoph/stomach	EMERGENT	Endoscopic removal — perforation risk
Coin	Esophagus	< 24 HR	Endoscopy if symptomatic / not advancing
Coin	Stomach	WATCHFUL	Repeat XR in 1–2 wk; stool checks
Long object >5 cm	Stomach	URGENT	Removal — won't pass duodenum
Smooth, <2 cm	Past pylorus	ROUTINE	Diet as tolerated · stool monitoring

! Code Red — *The Three Killers You Cannot Miss*

Button Battery

≤ 2 HOURS

Mechanism: generates hydroxide, liquefactive necrosis of esophageal mucosa within hours. Risk: tracheoesophageal fistula, aortoesophageal fistula → exsanguination.

Cue: drooling, refusal of solids, hematemesis, stridor.

Action: NPO · STAT XR (halo / double-ring sign) · **honey 10 mL q10 min ×6** if >12 mo & ingestion <12 hr (pre-hospital) · emergent endoscopic removal.

Multiple Magnets

EMERGENT

Mechanism: magnets in different bowel loops attract across walls → pressure necrosis, fistula, perforation, volvulus.

Cue: abdominal pain, vomiting, distension; may be insidious.

Action: NPO · serial XRs · GI / surgery consult · endoscopic or surgical removal — NEVER watchful waiting for >1 magnet.

Complete Airway Obstruction

SECONDS

Mechanism: total occlusion → hypoxia → arrest in 4–6 min.

Cue: silent cough, cyanosis, universal choking sign, LOC drop.

Action: Age-appropriate BLS NOW · activate code · prep rigid bronchoscopy. **NEVER** blind finger sweep — drives object distal.

04 ENT Foreign Bodies — Ear & Nose

E · ENT

👂 Ear Canal

Beads, food fragments, small toys; **insects** are a special case — they buzz and panic the child.

REMOVAL PRINCIPLES

- Living insect → instill **mineral oil or 2% lidocaine** first to kill/immobilize, then irrigate
- Inorganic, non-battery → warm-water irrigation OR alligator forceps
- **NEVER irrigate** if: organic matter (will swell), suspected TM perforation, button battery
- Refer to ENT if: deeply lodged, sharp, button battery, prior failed attempt

> *Red flag:* persistent unilateral otorrhea or pain in toddler — assume retained FB until proven otherwise.

👃 Nasal Cavity

Beads, paper, food, foam — toddlers are notorious self-inserters.

PATHOGNOMONIC SIGN

- **Unilateral**, **foul-smelling**, often **bloody-purulent** nasal discharge in a child = FB until proven otherwise
- Removal: positive-pressure "**mother's kiss**" — occlude unaffected nostril, parent breathes into mouth
- Forceps, suction, or balloon catheter for cooperative child
- Button battery in nose → ENT emergency: septal perforation in < 4 hr

> *Red flag:* bilateral choanal atresia presents at birth with cyanosis relieved by crying — different dx but same "obligate nose-breather" theme in neonates.

05 Ocular Foreign Body — Quick Triage

0 · OCULAR

Eye Foreign Body

Most are conjunctival (sand, lash, dust). Ferromagnetic, sharp, or high-velocity = **ophtho referral**. Suspect **globe penetration** if hyphema, irregular pupil, or eye pain after high-speed projectile.

DO

- Irrigate copiously with sterile saline / LR
- Evert upper eyelid & sweep with moist swab
- Fluorescein stain → look for corneal abrasion
- Topical antibiotic if abrasion present
- Update tetanus if penetrating

DON'T

- Rub the eye
- Apply pressure if globe penetration suspected
- Remove a protruding object — shield with fox/cup
- Use steroids without ophtho
- Patch a contaminated abrasion

REFER ASAP

- Suspected globe rupture / hyphema
- Vision change, photophobia, diplopia
- Embedded metallic / organic FB
- FB not removed after 1–2 attempts
- Persistent pain after irrigation

📌 Mnemonics That Stick

"CHOKE" — Recognize the Aspirating Child

> **C**ough (sudden, witnessed) · **H**oarseness / stridor · **O**bstruction signs (clutching neck) · **K**id ≤ 4 yrs at meals/play · **E**xpiratory wheeze (unilateral)

"3 B's of Lethal Ingestion"

> **B**utton battery · **B**alls of magnets · **B**laring sharp objects (esp. esophageal)

"5 Killer Foods" (avoid < 4 yrs)

> **H**ot dogs (cylindrical) · **N**uts & seeds · **P**opcorn · **G**rapes (whole) · **H**ard candy / chunks of meat / cheese

Honey for Battery — "10 / 10 / 12 / 12"

> **10** mL honey · every **10** min · up to **12** doses · if age > **12** mo & < 12 hr post-ingest

Anticipatory Guidance — Prevention

HAZARDOUS FOODS (< 4 YRS)

- whole grapes
- hot dogs
- nuts
- popcorn
- hard candy
- raw carrots
- marshmallows
- peanut butter (lump)

SAFE PRACTICES

- ✓ Cut grapes & hot dogs lengthwise into quarters
- ✓ Child sits upright while eating · no eating in car
- ✓ Adult supervision at every meal & snack
- ✓ Smooth peanut butter only, thin layer

CHOKING-HAZARD TOYS

- ✓ Toy "small parts" rule: must NOT pass through 1¼″ × 2¼″ tube (toilet-paper roll test)
- ✓ No latex balloons < 8 yrs (#1 toy choking death)
- ✓ Magnets (> 1) and high-power magnet sets — banned for kids
- ✓ Inspect toys for loose parts, cracked plastic

HOUSEHOLD HAZARDS

- ✓ Button batteries: locked & away · check remotes, watches, toys, hearing aids, fairy lights
- ✓ Coins, beads, pen caps, refrigerator magnets out of reach
- ✓ CPR / Heimlich training for all caregivers
- ✓ Pediatric BLS / Red Cross course recommendation at well visits

NGN · 6-STEP CLINICAL JUDGMENT

Case Vignette — The 18-Month-Old at Lunch

> *18-month-old male, previously well, brought to ED by mother. Was eating grapes when he suddenly began coughing, then turned dusky around the lips. Mother performed 5 back blows; child resumed crying but now has a persistent cough, intermittent wheeze on the right, and is using accessory muscles. Vitals: HR 168, RR 48, SpO_2 88% RA, T 37.0 °C. Lungs: decreased breath sounds R lower lobe.*

1 · RECOGNIZE CUES

Hypoxia + unilateral findings

SpO_2 88%, R-sided wheeze, ↓ breath sounds R lower lobe, accessory muscle use, tachypnea — partial obstruction in right mainstem.

2 · ANALYZE CUES

Witnessed grape aspiration

Classic age, classic food, classic anatomy (R mainstem). Air still moving but compromised — partial → could become complete.

3 · PRIORITIZE HYPOTHESES

Foreign body aspiration #1

Differentiate from: croup (barky cough, no witnessed event), asthma (bilateral wheeze, hx), pneumonia (fever, gradual).

4 · GENERATE SOLUTIONS

Stabilize → confirm → remove

Position of comfort · O_2 to maintain SpO_2 > 94% · IV access · NPO · CXR (insp/exp) · OR consult for rigid bronchoscopy · do NOT agitate.

5 · TAKE ACTION

Don't push to crisis

Allow parent to hold child upright · blow-by O_2 · continuous SpO_2/cardiac monitor · prep OR · keep code cart bedside · IV access — no oral intake.

6 · EVALUATE OUTCOMES

Patent airway, FB removed

Post-bronch: bilateral breath sounds, SpO_2 > 95% RA, no stridor, eats & drinks PO without distress, parent demonstrates choking prevention.