Foreign Body Ingestion

- Foreign body ingestions (FBIs) occur across all ages
  - 75% occur at ≤ 5 years
  - Most common between **6 months – 3 years**
- 98% are **accidental**
- Most commonly **unwitnessed**
- Most common FBs include:
  - **Coins**
  - Button batteries
  - Food boluses
  - Magnets
  - Toys

High Risk Foreign Bodies

- **Button batteries**
  - Can cause mucosal burn + erosion into surrounding structures (e.g. aortoesophageal fistula → life-threatening hemorrhage, esophageal stricture, tracheoesophageal fistula)
  - Continue to cause injury even after removed
- **Multiple magnets (OR single magnet + metallic object)**
  - Attraction across bowel loops → erosion + perforation
- **Large objects (> 6cm x >2.5cm)**
  - High risk of pyloric, duodenal, or ileocecal entrapment
- **Toxic objects**
  - May cause systemic toxicity (e.g. lead)

PRESENTATION

- **Esophageal FB**
  - Drooling
  - Coughing
  - Feeding refusal
  - Dysphagia
  - Neck/chest pain
  - Irritability
  - Bleeding

Hemodynamic instability → aortoesophageal fistula or perforation

- **Gastric/Intestinal FB**
  - Abdominal pain
  - Vomiting
  - GI bleeding

HISTORY

- Witnessed or unwitnessed
- Clarify object, size, ingestion timing
- If food bolus → ask about Hx of atopy + EoE Sx (dysphagia, food sticking)
- Last meal/current NPO status

PHYSICAL EXAM

- First ensure airway stability → **consider FB inhalation**
  - Stridor, tachypnea, work of breathing
- Excessive drooling, oral abrasions/lacerations
- Abdominal tenderness +/- signs of obstruction/peritonitis

DIAGNOSIS

Chest XR → determine type, size, anatomical location of FB

- ❑ **2 views** (AP + lateral) to distinguish coin vs button battery
  - ❑ **Halo Sign:** visible outer ring on AP view → button battery
  - ❑ **Step-Off Sign:** "step" on lateral view → button battery
- ❑ Must include neck to r/o oropharyngeal FB
- ❑ Only radio-opaque FBs visible!

Abdominal XR → as above

Must still XR, even if witnessed ingestion, as child may have ingested another FB before

MANAGEMENT

Button Batteries

- Call Pediatric GI + reference provincial BB guideline
- Honey to prevent mucosal ulceration en route
- **Esophageal** → STAT endoscopic removal
- **Gastric/SB** → need to remove depends on age, Sx, size

Other High Risk FBs

- e.g. Esophageal Coins
- **Esophageal/Gastric** → urgent endoscopic removal
- **Intestinal** → joint decision by Pediatric GI + Surgery

Sharp objects rarely penetrate the GI tract → may not be not considered high risk

Low Risk FBs

- e.g. Gastric Coins
- Discharge w/ guidance to monitor for passage IF:
  - Looks well
  - Pain-free
  - No respiratory distress
  - Tolerates PO intake
- Consider repeat XR in 2-4wks if FB has not passed in stool

May 2022

Summer Hudson (Medical Student, University of Alberta), Dr. Hien Huynh (Pediatric Gastroenterologist, University of Alberta), & Dr. Alex Hudson (Pediatric GI Fellow, University of Alberta) for www.pedscases.com