

Ingestion of foreign bodies (FB)

Author: Miki Lazner in collaboration with P Das / K Iliadis / R Hallows
Approved by: Medicines Governance Group July 2021
Publication date: July 2021. Version 4
Review date: July 2023

See also: **foreign bodies, hand held metal detector protocol** on Brighton microguide

Background

- Most ingested foreign bodies are harmless and pass through the GI tract uneventfully
- Radio-opaque foreign bodies such as metal or some types of bone can be visualised on XR
- Most metal objects can be detected by a metal detector.
- Paper / wood / plastic objects may not be visualised

Hazardous objects such as

- Button batteries and other batteries
- Sharp objects, especially if long >6cm or wide >2cm
- Magnets e.g. fake tongue piercings / neodymium magnets
- Very large objects / filled balloons

Can cause **life-threatening injuries** such as:

1. Obstruction above the gastro-oesophageal junction, the narrowest part of the GI tract
2. Bowel perforation / rupture
3. Erosion from leaked battery contents or electrical currents discharged from button batteries leading to perforation or aorto-oesophageal fistula or trachea-oesophageal fistula.

Assessment

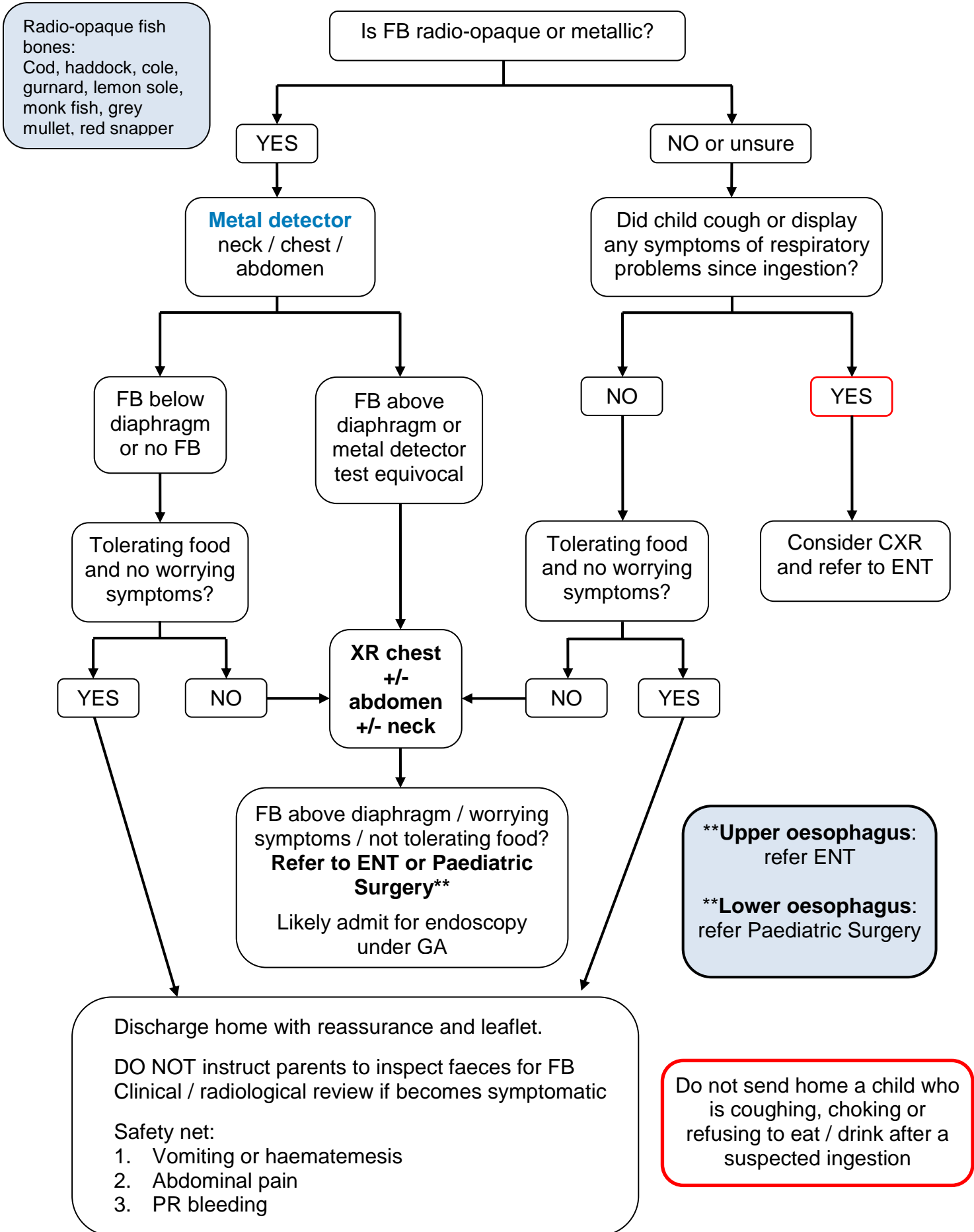
Symptoms and signs associated with FB in oesophagus:

- Dysphagia (difficulty swallowing)
- Food refusal
- Drooling / gagging
- Vomiting / haematemesis
- Sensation of FB / chest pain / sore throat
- Stridor / cough

Management

1. Non-hazardous, ingested foreign bodies
2. Hazardous, ingested foreign bodies

Non-hazardous ingested foreign bodies



Hazardous ingested foreign bodies

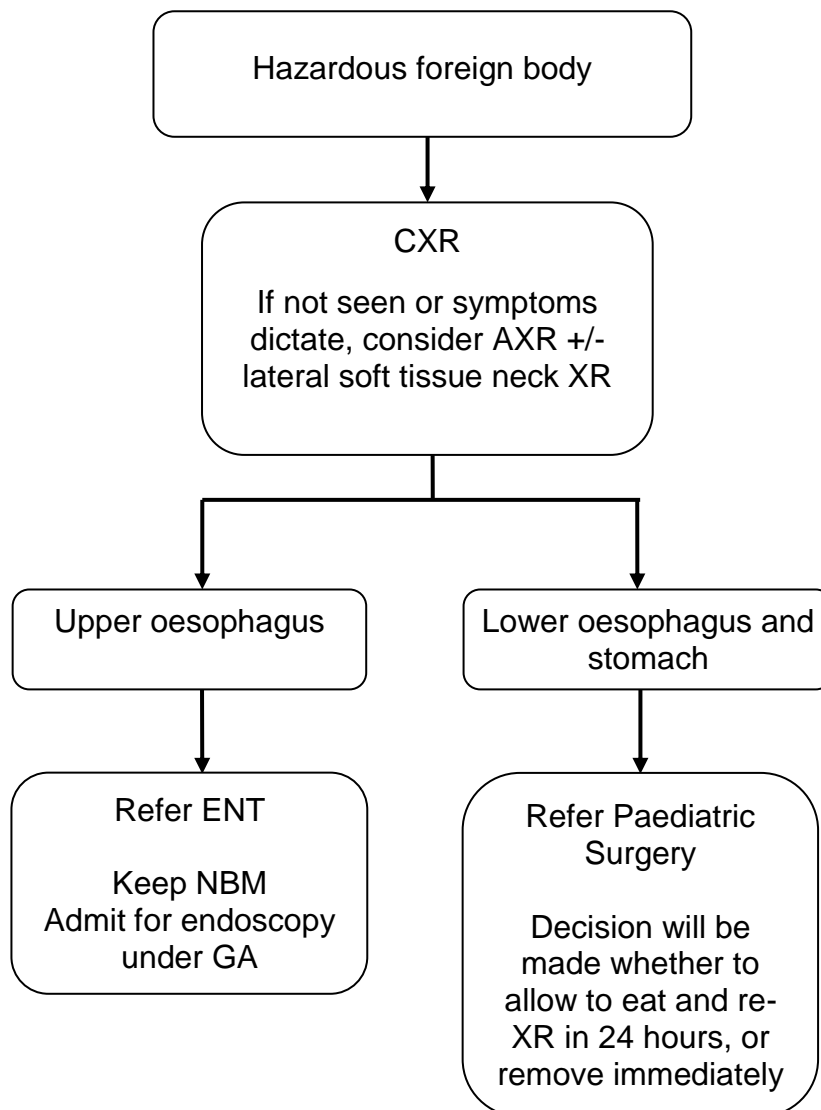
Do not use metal detector for hazardous FB – the child will usually require x-rays

Passage of hazardous FB into the stomach is NOT an indication that the child will not suffer any complications.

1. Hazardous foreign body (Not button battery or super strong magnet)

Management pathway

See separate pathways for Button batteries and super strong magnets



2. Button batteries

XR is needed for all battery ingestions as the battery may be missed on a metal detector test

- Ingestion of button batteries can cause serious harm and death.
- Severe tissue damage results from a build-up of sodium hydroxide as a result of the electrical current discharged from the battery (not leaking of contents as is often thought).

- Tissue burns, often in the oesophagus, can cause fistulisation into major blood vessels, resulting in catastrophic haemorrhage.
- Symptoms suggestive include haematemesis, haemoptysis, and respiratory difficulties.
- Can manifest up to 28 days after ingestion.

Urgent referral to ENT or Paediatric Surgery is mandated if button battery ingestion has occurred or **is suspected**. Consider this in all children presenting with haematemesis.

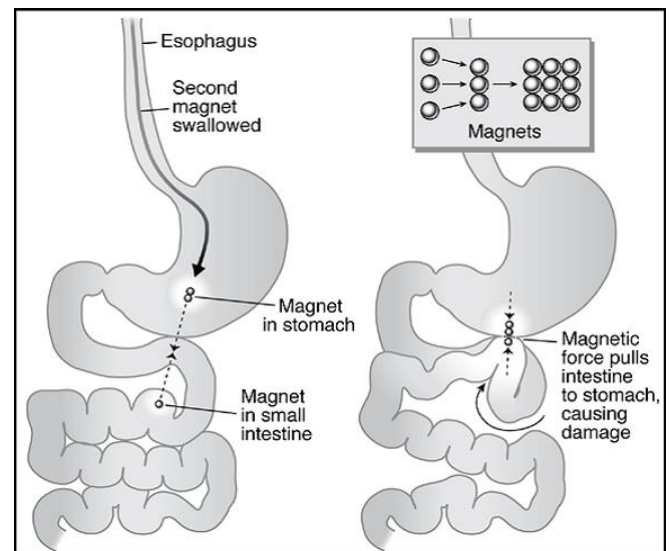
Other types of batteries are less dangerous than button batteries but may leak from dissolution of seal in gastric acid. They can also attach to intestinal mucosa and cause erosion and perforation.

3. Neodymium or ‘super strong’ rare earth magnets

Extremely powerful magnetic attractions, widely available as toys, decorative items or fake piercings.

- Usually small in size and round in shape. Brand names include BuckyBalls™ and Neocube™
- When more than one magnet, or a magnet with a metallic object is swallowed, the magnetic force can bring two pieces of intestine tightly together, leading to ischaemia and pressure necrosis, the consequence of which can include:

ulceration, necrosis, perforation, rupture, stricture, fistula, haemorrhage, mediastinitis, gastric outlet or bowel obstruction, volvulus, sepsis



URGENT assessment and treatment is vital as although abdominal symptoms may not manifest for weeks after ingestion of magnets, **intestinal injury can occur early**, within 8-24 hours following ingestion, **despite the child often remaining well**

Consider the possibility of rare earth magnet ingestion or aspiration in patients with:

- 🚩 stridor, wheezing or other noisy breathing;
- 🚩 drooling; difficulty swallowing;
- 🚩 coughing, choking or gagging when eating or drinking;
- 🚩 vomiting; chest pain or discomfort;
- 🚩 abdominal pain; decreased appetite or refusal to eat.

