# Management of ingested foreign bodies in the ED

Background

Foreign body ingestion is a common paediatric presentation to the ED and can also occur in adults with learning difficulties or psychiatric illnesses.
In the majority of cases the FB will pass through the GI tract causing no harm. Patients with FB impaction in the oesophagus must be referred to ENT (high FBs) or general surgeons (low FBs) for removal under GA to avoid oesophageal erosion, ulceration or perforation and possible subsequent mediastinitis.

Metal detectors have been shown to be both sensitive and specific in confirming the presence of ingested coins, and importantly being able to localise them to above or below the diaphragm.

- **Radiolucent FB** asymptomatic with a normal examination, reassure and advise to return if significant symptoms develop
- **Symptomatic FB ingestion of any kind** (ie drooling, FB sensation, dysphagia) refer to the Paediatric Surgeons at RHSC (#6647 or 0141 201 0000) after using metal detector or CXR.
  **If any signs of airway compromise involve senior EM staff and call ITU immediately**
- **Metallic FB** see flowchart. While good evidence exists for location of coins with a metal detector, the evidence for non-coin metallic FBs is not as strong. For this reason if metal detection is negative, confirmation still requires a CXR.
- If metal detector is positive above the diaphragm but not visible on CXR, retry with metal detector and consider aluminium FB (ie radiolucent).
- **Batteries**
  - All children with a history of battery ingestion should have a CXR
  - If there is oesophageal impaction the surgical referral should be urgent as the risk of perforation is much higher and can occur within a few hours if the battery is leaking.
  - If the battery is below the diaphragm initially and the child asymptomatic, arrange an ED review in 2 days for repeat AXR.
  - If the battery has not moved beyond the pylorus, refer to the Paediatric Surgeons at RHSC (#6647 or 0141 201 0000).
  - If the battery is beyond the pylorus then the patient can be discharged with advice to return immediately if any symptoms develop.
- **Multiple magnets** should be discussed with the Paediatric Surgeons at RHSC (#6647 or 0141 201 0000) as these can be attracted to each other through the bowel wall and cause necrosis and perforation.
- **Sharp objects** should be treated the same as other ingested metallic FBs, although it is recognised that the complication rate is increased.

Figure 1
Key to metal detector parts


Speaker
(audible beep when metal detected)

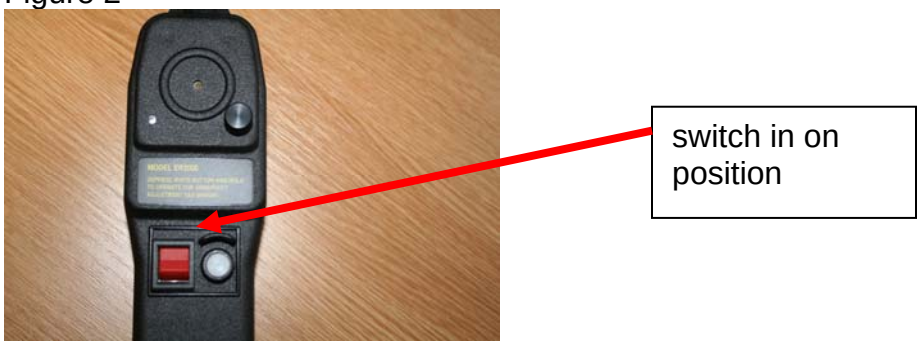
sensor light, lights up red when metal detected

sensitivity setting switches DO NOT TOUCH!!

on/ off switch

low battery warning light
(flashes when battery level low)

Figure 2




How to use

1. turn on metal detector by turning the red switch to 'ON' position (see figure 2) and check working by testing against visible metallic object eg stethoscope. (Do not use the white switch or black metal dial). If metal is detected you will hear a beep and the red light at the top of the detector will light up.

2. remove metal name badge/ stethoscope/ metallic objects etc from your pocket

3. remove any metallic objects from the child (eg belts with metal buckles, coins in pockets etc)

4. stand child in the middle of the examination room (ie away from metal parts on trolley/ furniture etc)

5. run metal detector from the front of the child's head to bottom of their torso

6. if negative repeat no. 5 from back of the child

7. see flow chart for action

references


1. T Litovitz and BF Schmitz, **Ingestion of cylindrical and button batteries: an analysis of 2382 cases,** *Pediatrics* **89** (1992), pp. 747–757.

2. J B Lee, S Ahmad, and C P Gale
**Detection of coins ingested by children using a handheld metal detector: a systematic review**
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3. **BEST EVIDENCE TOPIC REPORTS:** V Choudhery and S. Maurice
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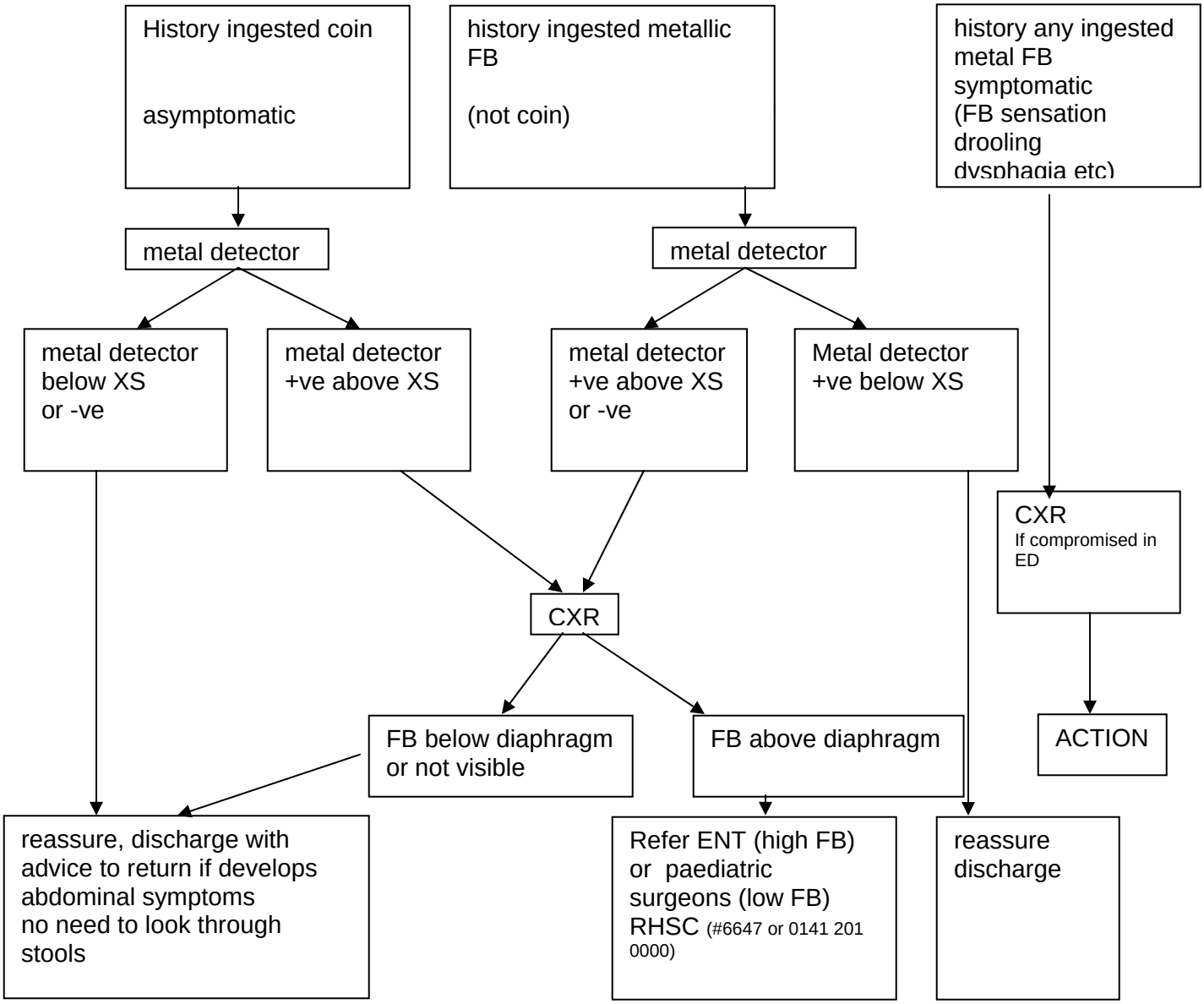


XS=xiphisternum
FB=foreign body