

FOREIGN BODIES OF THE EAR AND NOSE IN CHILDREN

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Background Information

Definitions of levels of care (in this guideline)

- Level 1: Community healthcare worker/non-doctor
- Level 2: Medical doctor
- Level 3: ENT Surgeon

Foreign bodies involving the ear and nose are a common presentation to the emergency room – the majority of which occur in children. Diagnosis is often delayed. In some instances. It is important for the first clinician who encounters the child to make a good assessment and if possible, attempt removal in the most effective way to avoid multiple failed attempts and further complications.

Patients may present with the following complaints:

Foreign bodies in the ear:

- A history of witnessed foreign body insertion
- Ear discomfort; the caregiver may have noticed the child tugging at their ear
- Less commonly:
 - Bleeding
 - Purulent discharge
 - Hearing loss
 - Dizziness
 - Watery ear discharge (CSF otorrhoea)
 - Facial paralysis
- There may be no history or symptoms at all (an incidental finding)

Foreign bodies in the nose:

- A history of witnessed foreign body insertion
- One-sided nasal discharge; this is rarely blood-stained
- An offensive smell from the nose
- Nasal bleeding (rare)
- Mid-facial swelling due to infection or inflammation created by the foreign body

History

Important questions to ask include:

- Does the caregiver know what kind of foreign body is in the ear or nose? It is very important to know if it could be a lithium ('button') battery. This has important management implications
- When was the foreign body inserted?
- Does the child have a history of previous ear problems? Sometimes a foreign body is inserted as a reaction to ear discomfort.

Examination and Investigations

General:

- Patients are generally well looking
- Younger children or those with learning difficulties may be emotionally distressed and unco-operative even for a simple inspection of the ear or nose.
- In the absence of an otoscope, shine a light into the ear or nose. A head light is ideal.
- Active bleeding, blood clots or old blood may be observed
- Pus or discharge may be present with longstanding foreign bodies
- Assess the level of cooperation. Will it be possible to remove the foreign body without excessive restraint? Will a general anaesthetic be needed?
- Always look again after removing a foreign body. Has there been related trauma? Is there more than one foreign body?

Positioning is key for both examination and removal of foreign bodies:

- Younger children are best held on the lap of the caregiver.
- For gentle restraint:

EAR: wrap the child in a sheet and sit them sideways on the caregiver's lap. One of the parent's arms holds across the chest and the other firmly holds the child's head so that the ear is facing you.

NOSE: wrap the child in a sheet and sit them upright, facing you. The child's legs are restrained between the caregiver's legs. One of the caregiver's arms holds across the chest and the other firmly holds the child's head.

Level 1:

EAR

- Perform otoscopy by gently manipulating the ear canal to get a view of the full extent of the foreign body.
- Assess the ear canal for swelling or bruising. In this case, it could be difficult to identify the nature of the foreign body.
- Note any foreign body, discharge or other abnormality, such as an eardrum perforation

NOSE

- Perform anterior rhinoscopy by gently lifting the tip of the nose to get a view of both nasal cavities.
- An otoscope is also useful for anterior rhinoscopy
- Note any foreign body, discharge or other abnormality, such as septal perforation.

Level 2:

EAR

- Assess the depth and site of the foreign body - is it up against the tympanic membrane or is it lying in the lateral part of the ear canal? This will help you to judge the depth of your instrumentation and avoid injury to the eardrum. It may help you decide which method you use to retrieve the foreign body.

NOSE

- Assess the depth and site of the foreign body. This will help you to judge the depth of your instrumentation and may help you decide which method to retrieve the foreign body.

Management

General:

- If a lithium (button) battery is identified, emergent/immediate removal is required and if you cannot remove it, this needs immediate referral.

EAR:

- If the foreign body is identified as being inorganic (plastic) then syringing can be a good option. Using lukewarm water, gently straighten the ear canal by pulling on the pinna and irrigate the ear canal, taking care not to direct the jet of water directly at the eardrum. This can be attempted a few times.
- If the foreign body is organic matter (e.g. corn or a kidney bean), it is best to avoid syringing as the foreign body could swell.
- If the foreign object is an insect, tilt the patient's head so that the ear with the insect is upward. Try to float the insect out by pouring mineral oil, olive oil or baby oil into the ear. The oil should be warm, but not hot. Don't use oil to remove an object other than an insect. Don't use this method if you think the eardrum may be perforated.

NOSE:

- Encourage the child to blow the nose. This will be most effective if the contralateral nostril is occluded.
- Some advise the "mother's or parent's kiss", particularly in young children. The procedure should be fully explained to the mother (or other trusted adult) and the child told they will be given a 'big kiss'. In order to expel the foreign body, the mother (or other trusted adult) then:

- places their mouth over the child's open mouth, forming a firm seal as if performing mouth-to-mouth resuscitation
- occludes the unaffected nostril with a finger and blows until they feel resistance caused by the closure of the child's glottis
- gives a sharp exhalation to deliver a short puff of air into the child's mouth (which passes through the nasopharynx and out through the unoccluded nostril).

Level 1:

- Achieve best positioning and gentle restraint.
- Use a good light source; a head light is ideal.
- For organic foreign bodies, in a setting where micro instruments are readily available, use a wax hook to get beyond the foreign body and gently drag it out of the ear canal or nose. This too can be attempted a few times if done gently. This is particularly useful for harder or spherical foreign bodies such as beads and seeds.
- For textile, sponge or paper fragments a small forceps can be used to grasp and gently pull the foreign body out. A small crocodile forceps is ideal.

Level 2:

EAR

- In instances where the ear canal is already bruised , or bleeding profusely, avoid further attempts and consider referral to a facility where the foreign body may be removed using a microscope or endoscope with a wider range of microinstruments. The patient may also need to have the foreign body removed under general anesthetic. It is not advisable to risk damaging the eardrum, or to risk causing a permanent hearing loss in an attempt to remove a foreign body.
- Sedation and local anaesthetic can be considered if staff are trained in their safe use



Figure 1: ear syringing (left - manual equipment, right - example of a mechanical apparatus)



Figure 2: ear syringing in a child

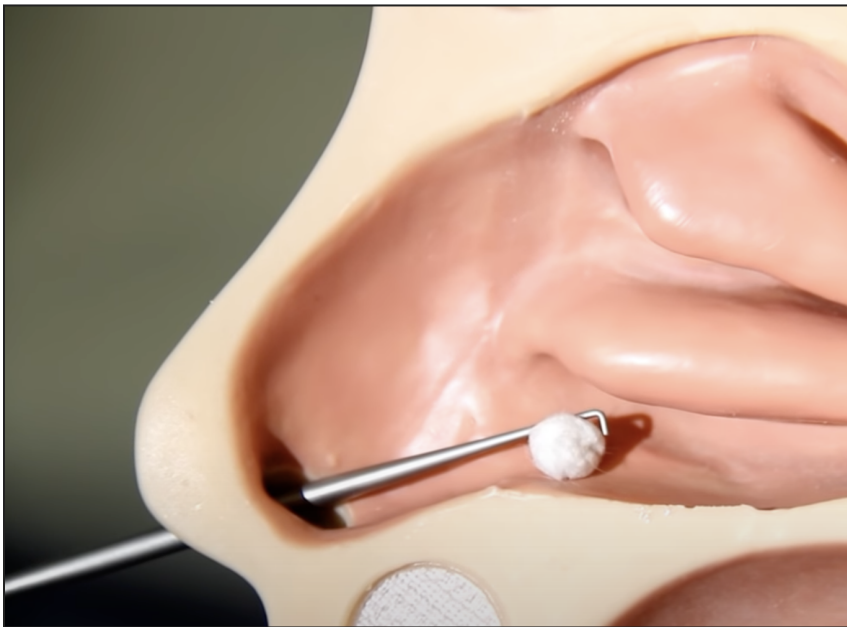


Figure 3: nasal foreign body removal technique using a right-angled hook

Level 3:

- Remove the foreign body using the most appropriate method for the foreign body type (ears: syringing, microsuction, microinstrumentation / nose: suction, instrumentation). This may need to be under general anaesthetic.
- It may be necessary to suction secretions to better visualise a foreign body.
- If a foreign body in the nose is strongly suspected but cannot be visualised in the clinic, an examination under general anaesthetic is recommended; endoscopy can assist this.

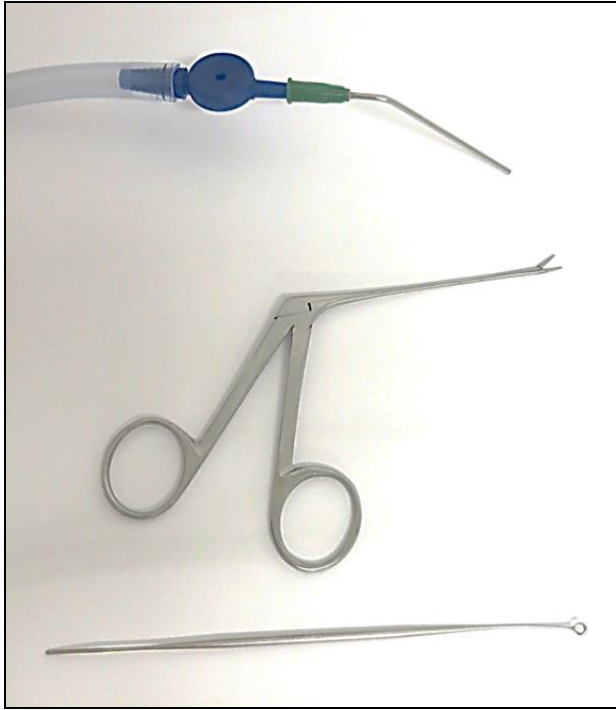


Figure 4: Examples of instrumental removal equipment (top to bottom): a suction tip, crocodile forceps, Jobson-Horne probe

Further Reading

1. *Ear wax removal technique*. Open access guide to audiology and hearing aids for otolaryngologists. [Ear Wax Removal Technique | Vula](#). This contains details of how to syringe an ear, perform microsuction and instrumental removal of a foreign body or wax.
2. *Foreign Bodies in the Ear, Nose, and Throat*.
<https://www.aafp.org/dam/brand/aafp/pubs/afp/issues/2007/1015/p1185.pdf>