CLINICAL PRACTICE GUIDELINE: Emergency Department

Foreign Body in the External Auditory Canal

Disclaimer: This Clinical Practice Guideline ('CPG') was written for use in The Royal Victorian Eye and Ear Hospital Emergency Department. It should be used under the guidance of an ENT registrar. If clinical advice is required, please contact the Eye and Ear Admitting Officer for assistance: EYE: +61 3 9929 8033; ENT: +61 3 9929 8032. Links to internal Eye and Ear documents cannot be accessed from the website CPG.

(See also: Bacterial otitis externa)

Description: A foreign body is material lodged in the external auditory canal.

Red Flags:

- Presence of button battery
- Suspect tympanic membrane or ossicular chain damage if vertigo and persistent hearing loss after foreign body removal
- Consider foreign body in other sites (nasal/ oral) in paediatric patients

How to Assess:

History:

- Type of foreign body (if known)
- Suspected or witnessed foreign body insertion in paediatric group
- Otalgia/ itch
- Otorrhoea
- Decreased hearing
- Risk factors for additional foreign body in other sites: paediatric group, autism spectrum disorder, cognitive impairment
- Number of recent extraction attempts

Examination:

- Analgesia (topical lignocaine 10% or amethocaine 4%) prior to examination if patient is in pain. If button buttery suspected, don't apply any liquid as it causes tissue burn.
- Assess uninvolved ear to gauge anatomy of the ear canal
- Foreign body details: Type and shape
- Location: outer one-third (readily removed) or inner two-thirds (more painful)
- Space for inserting instrument around/ behind foreign body
    - If narrow space, patient may require topical or infiltrative local analgesia (canal block) prior to removal

Acute Management:

- Minimise attempts at removal. If not removed with one attempt, seek senior input
- Early involvement of ENT registrar if following risk factors present (which may predict difficult removal)
    - Numerous removal attempts prior to ED presentation
    - Traumatised ear canal (presence of oedema and blood)
    - Foreign body deep in canal

- The nature of the foreign body in the ear will dictate the choice of the instrument for removal
    - Soft, graspable objects (e.g. cotton wool, hearing aid tip, ear plug): Hartman forceps or alligator forceps
    - Round, smooth objects (e.g. bead, popcorn kernel): L-shaped hook
    - Soft, friable objects: micro-suction
        - For insects: if alive, drown first with olive oil or hydrogen peroxide 3%
    - Soft, sticky objects (e.g. ear putty/ plasticine): wax curette/ micro-suction
    - Silicon ear plug are notoriously difficult to remove. ENT assistance with microscope and or GA may be needed
- If unable to tolerate foreign body removal:
    - For children:
        - Consider removal under GA at RVEEH discussing with ENT consultant on call regarding the indication and timing.
        - In some cases, RCH referral is more appropriate. Discuss with RCH Emergency Department Admitting Officer
    - For adult:
        - Attempt local anesthesia with post-auricular and auriculotemporal block
        - Consider removal under GA
- If button battery and unable to remove: urgent ENT opinion for removal
- After removal of foreign body, assess tympanic membrane (TM) for
    - Trauma: erythema/ haematoma
    - Perforation: document size of involvement by percentage, location of involvement by quadrant
    - Mobility (if intact)
- If ear canal abrasion and/or oedema present, treat with topical antibiotics
    - If TM intact: Sofradex® 3 drops TDS for 5 days → GP follow-up in one week
    - If TM perforation: Ciproxin HC® or ciprofloxacin ear drops 3 drops BD for 5 days → AENT follow-up in 1-2 weeks
- If persistent or disproportionate hearing loss after removal of the foreign body
    - Assess with tuning forks → if abnormal, urgent or next available audiogram
- Screen for nasal foreign bodies in paediatric group

Follow up:

If tympanic membrane perforation or persistent hearing loss, see in 6 weeks in AENT with an audiogram

Discharge instructions:

- Advise against cotton bud/ hair pin/ instrumentation use
- If prescribed topical antibiotics, advise patients to keep ear dry and avoid swimming
    - Give patient copy of Otitis Externa Factsheet and Keeping Ear Dry Factsheet

Evidence Table

Author(s)	Title	Source	Level of Evidence (I – VII)
Ng TT , Lim JWJ	A 5- year review of aural foreign body removal in a Major Victorian Hospital	Aust J Otolaryngol 2018;1:25	IV
Prasad N , Harley E	The aural foreign body space: a review of pediatric ear foreign bodies and a management paradigm	Int J Pediatr Otorhinolaryngol 2020 Jan	IV
Ng TT	Aural foreign body removal: there is no one-size-fits-all method	Open Access Emerg Med 2018: 10	V
Svider P.F, Vong A, Sheyn A. et al.	What are we putting in our ears? A consumer product analysis of aural foreign bodies	Laryngoscope 2015 Mar; 125(3)	IV
Mingo K, Eleff D, Anne S et al.	Pediatric ear foreign body retrieval: A comparison across specialties	Am J Otolaryngol 2020 Mar-Apr	IV

The Hierarchy of Evidence

The Hierarchy of evidence is based on summaries from the National Health and Medical Research Council (2009), the Oxford Centre for Evidence-based Medicine Levels of Evidence (2011) and Melynk and Fineout-Overholt (2011).

I) Evidence obtained from a systematic review of all relevant randomised control trials.

II) Evidence obtained from at least one well designed randomised control trial.

III) Evidence obtained from well-designed controlled trials without randomisation.

IV) Evidence obtained from well-designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case series.

V) Evidence obtained from systematic reviews of descriptive and qualitative studies.

VI) Evidence obtained from single descriptive and qualitative studies.

VII) Expert opinion from clinician, authorities and/or reports of expert committees or based on physiology.

Version Details:	
CPG No:	CPG41.0
Responsible Executive:	Executive Director, Medical Services
Review Officer:	Director Emergency Department
Contributor(s):	ENT HMO, ENT Medical Officer, Otolaryngology & CPG Working Party
National Standard:	Comprehensive Care
Version Number:	1.0
Approval Date:	18/02/2021
Next Review Due:	18/02/2022