6.3 Hearing Assessment

6.3.1 Otoscopic examination

Aim

To examine a child’s pinna, ear canal and tympanic membrane (eardrum) as a component of a broader ear health assessment.

Background

The otoscopic examination contributes valuable information to the assessment of a child’s ear health and assists the practitioner in gathering information regarding overall ear health. Common ear conditions such as otitis media can be detected and treated effectively, preventing long term hearing loss.\(^1\)

Comprehensive baseline ear health and hearing screening includes otoscopy and audiometry. Tympanometry may be conducted by service providers working with targeted populations in some settings.

Otoscopy enables examination of the pinna and ear canal to check for skin conditions, wax build-up, the presence of foreign bodies, pus, fungus, swelling, granulations, polyps and other growths. The tympanic membrane can be checked for its position, translucency, colour, and the presence of any perforation.

Universal otoscopy should be performed for all children from the age of 3.5 years during the School Entry Health Assessment, usually in kindergarten.

Targeted otoscopy may be performed on a child of any age where there is a concern suggested by parent or professional or in conjunction with audiometry.

Key points

- Prior to performing otoscopy, it is important to obtain a history from the parent/carer. The child health Personal Health Record, the School Entry Health Assessment Record (CHS 409) and the Enhanced Aboriginal Child Health schedule all contain questions which aim to highlight parental concerns about their child’s ear health.

- A history which includes recent illness, pain or discharge; a change in the child’s ability to hear and the child’s exposure to swimming or other water-based activities where water may have entered the ear canal can all be indicators of a hearing concern.\(^1,2\)

- Otoscopic examination should only be performed by community health staff who have undertaken appropriate training in this procedure.

- A child should not be forced to undergo otoscopy. Tell the child their ears are to be looked at, allow the otoscope to be felt and touch the cheek and outer ear to condition them to the sensation of contact.
Children who are uncooperative should not undergo an otoscopic examination. Refer onwards if there is a concern.

Otoscope batteries become flat very quickly and may leak if left in the otoscope. Take care to switch the otoscope off between uses, and to remove the batteries when the otoscope is not required for a period of time. Check for adequate light projection prior to use, as inadequate light may cause inaccuracy in findings. Battery and globe life will impact on this.

Community Health staff should follow the organisation’s overarching infection prevention and management policies and perform hand hygiene in accordance with WA Health guidelines at all appropriate stages of the procedure.

Adequate cleaning of speculae (tips) cannot be guaranteed. To reduce the risk to clients associated with transmission of micro-organisms, disposable specula should always be used in preference to reusable tips.

**Equipment**

- Otoscope and spare batteries
- Disposable speculae – the largest size to fit comfortably into the child’s ear canal

**Procedure**

<table>
<thead>
<tr>
<th>Steps</th>
<th>Additional information</th>
</tr>
</thead>
</table>
| 1. Engagement and consent:  
  o Explain the procedure to the child and parent/carer if present. Allow sufficient time for discussion of concerns.  
  o Ensure either written or verbal parental consent has been obtained prior to proceeding with otoscopy.  
  o Refer to ‘Special circumstances’ section in 4.2.4 Early detection sub-policy or 4.4.2 School Entry Health Assessment guidelines if screening is indicated and consent not able to be obtained for a school aged child. | Encourage parent/carer support and involvement with the procedure where possible.  
Section 337(1) of the Health Act 1911 authorises nurses specified in the schedule to examine a child without parent consent if required. |
| 2. Positioning the child:                                                        | It is always best to have the child’s ear at the same level as your eyes. Babies and toddlers must be held firmly to prevent unexpected movement. This may include wrapping. Parent/carer should be encouraged to assist with this where possible. Ask the parent/carer to hold the child’s head firmly against their chest and use their other arm to secure the child’s arms and body to stop any sudden movement. |
|                                                                                   |                                                                                                                                   |
|   o Infants and young children should be on a carer’s lap.                       |                                                                                                                                   |
|   o Older children may prefer to stand or be seated.                             |                                                                                                                                   |
| 3. Inspect the pinna for size, shape and symmetry. Note any discharge coming from | The pinna forms part of the outer ear along with the ear canal, ending in but not including the eardrum.                          |
|   the ear canal.                                                                  |                                                                                                                                   |
| 4. Performing otoscopy:                                                           | Choose the largest speculum that will easily fit into the ear canal.                                                            |
|   o Hold the otoscope in a ‘pencil grip’ at an upward angle from the child’s ear |                                                                                                                                   |
|     whilst bracing your smaller fingers against the child’s head. This may range | With this grip, the weight of the otoscope is on your hand and not resting on the child’s ear. Your small fingers should be touching the person’s head so that any sudden movement will not result in damage to the ear canal. |
|     from an 11 o’clock to 1 o’clock position/angle.                               |                                                                                                                                   |
|   o Use a clean speculum for left ear if the right ear is contaminated.          |                                                                                                                                   |
| 5. Pull the back of the pinna gently away from the head to straighten the ear     | This will promote good visibility.                                                                                               |
|   canal. For older children, pull the pinna back and up. For infants, pull the    |                                                                                                                                   |
|     pinna back and down.                                                          |                                                                                                                                   |
| 6. Gently insert the speculum into the canal opening to the first canal turn.     | The tip should only go into the ear canal far enough to see past the hairs. If inserted any further it will touch the sensitive skin deeper in the canal and cause pain and possibly bleeding. After the examination, check that there is no damage to the ear canal skin.  |
|                                                                                   |                                                                                                                                   |
7. Inspect the ear canal. | Look for wax or wax occlusion, foreign objects, discharge, swelling, sores, grommets or exostoses (bony growths).
---
8. Inspect the eardrum. | Note the colour of the eardrum, texture of the eardrum, perforations, grommets, scarring, cone of light and position of malleus.
---
9. Explain results to parent/carer (if present) or inform parent over the phone or in writing. | For referral process see below.
If abnormal, consider screening audiology. Tympanometry may also be indicated.
---
10. Documentation of otoscopy should include at least one of the following descriptors:
- Normal
- Normal- wax in canal
- Wax occlusion
- Abnormal eardrum (describe)
- Perforation- Wet
- Perforation- Dry
- Grommets
- Foreign body
- Other, not assessed, unsure.

Document findings in any one of the following:
- Child Health- CHS 560
- School Health- CHS 409-2 or CHS 142- School health progress notes
- CHS 142- Referral to Community Health Nurse;
- CHS 423- Ear Health Assessment Results.

Documentation may include electronic data.

Follow-up children with abnormal otoscopy with repeat otoscopy and screening audiology in 4-6 weeks (school aged) or refer for further assessment.

**Referral pathway**

- Where the otoscopy reveals any areas of concern, discuss results with parent or carer and either re-check within 4-6 weeks or seek consent for referral to a medical practitioner using a CHS 663- Referral from Community Health form.
- Where audiology referral is also indicated, obtain parental consent, and use CHS 300- Child Development Service Referral. Tympanometry results should be included in referral if available.
Related policies, procedures and guidelines

<table>
<thead>
<tr>
<th>1.11 Infection Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.7.3 Hearing (including management of common ear problems)</td>
</tr>
<tr>
<td>3.8.12.1 Assessment of hearing in children</td>
</tr>
<tr>
<td>4.4.2 School entry health assessments</td>
</tr>
<tr>
<td>6.3.2 Screening audiometry</td>
</tr>
<tr>
<td>6.3.3 Tympanometry</td>
</tr>
<tr>
<td>6.4.1 Irrigation ear toilet</td>
</tr>
<tr>
<td>6.4.3 Instillation of ear drops</td>
</tr>
<tr>
<td>6.4.4 Technique for tissue spearing</td>
</tr>
</tbody>
</table>

Community health staff should also refer to any service specific policies where applicable.

Useful resources


Note: This includes pictorial representations of both normal and abnormal eardrums.

Paediatric Nursing Practice Manual; Princess Margaret Hospital.

Commonwealth Department of Health and Ageing, Recommendations for clinical care guidelines on the management of otitis media in Aboriginal and Torres Strait Islander populations. Menzies School of Health Research, Editor 2011

References