



## PROCEDURE

### Otoscopy

Scope (Staff):	Community health
Scope (Area):	CACH, WACHS

#### Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [disclaimer](#)

### Aim

To assess a client's external auditory canal and tympanic membrane as a component of a broader ear health assessment.

### Risk

Non-compliance with the procedure may result in:

- delay or failure to identify and treat ear conditions, with possible hearing loss, developmental issues, and long term impacts.<sup>1</sup>
- compromising client safety.

### Background

Otoscopy is part of comprehensive ear health and hearing screening for children. Screening may also include video otoscopy, audiometry and/or tympanometry. The ear health and hearing screening schedule for Western Australian children can be viewed in the *Hearing and ear health guideline*.

Otoscopy allows a physical inspection and assessment of the pinna, ear canal and the tympanic membrane. Normally the canal is pink with a small amount of fine hairs and cerumen.<sup>2</sup> Deviations from normal include inflammation, infection, lesions, scaling, scratches, swelling, occlusion, drainage, discharge, foreign bodies, offensive odour and excessive or impacted cerumen.<sup>2</sup>

Accurate diagnosis of middle ear disorders such as otitis media (OM) requires an assessment of the appearance of the tympanic membrane by otoscope (or video otoscope) plus compliance/admittance or mobility of the tympanic membrane by pneumatic otoscopy or tympanometry.<sup>3</sup>

The tympanic membrane is assessed for colour, translucency, anatomic landmarks, light reflex, contour (position) and for the presence of perforations. Normally the tympanic membrane is pearly grey to light pink and peripheral blood vessels may be evident.<sup>2</sup> The contour of the tympanic membrane is normally neutral or concave and will be intact.<sup>2</sup> There should be no signs of scarring, opacity or lesions.<sup>2</sup> Anatomical landmarks include identifying the long process of the malleus, the cone of light reflex reflected from where the long process of the malleus connects to the tympanic membrane, and the short process of the malleus.<sup>1</sup> These landmarks may become distorted or absent when fluid has accumulated behind the membrane.<sup>2</sup>

## Key points

- See [Hearing and ear health](#) guideline for screening schedules for WA children.
- Otoscopy is only to be performed by staff who have completed training approved by CAHS-CH or WACHS.
- Otoscopy is to be performed prior to audiometry and tympanometry.
- Otoscopy is not to be performed if there is any evidence of pain or discharge.
- Clinical judgement is important to determine actions required for each child, including the following considerations;
  - parent/caregiver screening question responses
  - otoscopy, audiometry and/or tympanometry results
  - nurse observations
  - teacher observations, as relevant
  - child's risk factors and social circumstances.
- Key health education messages for families, children and school staff are to be provided as appropriate for the audience. See the [Hearing and ear health](#) guideline for key messages.
- If there is evidence that the child is under the care of a relevant health professional, clinical judgement is required about the need for otoscopy and other assessment.
- Nurses are to deliver culturally safe services by providing a welcoming environment that recognises the cultural beliefs and practices of all clients.
- All nurses will refer to the [Nursing and Midwifery Board AHPRA Decision-making framework](#) in relation to scope of practice and delegation of care to ensure that decision-making is consistent, safe, person-centred and evidence-based.
- Community health staff must follow the organisation's overarching Infection Control Policies and perform hand hygiene in accordance with WA Health Guidelines at all appropriate stages of the procedure.

## Equipment

- Otoscope
- Spare batteries and/or charging unit
- Disposable specula of various sizes (same brand as otoscope).

## Process

Steps	Additional Information
<b>1. Preparation for screening session</b> <ul style="list-style-type: none"> <li>Check the otoscope for adequate light projection, as inadequate light may cause inaccuracy in findings.</li> </ul>	<ul style="list-style-type: none"> <li>Switch the otoscope off between uses or remove batteries when the otoscope is not required for a period of time.</li> <li>Batteries become flat very quickly and may leak if left in the otoscope.</li> </ul>
<b>2. Engagement and consent</b> <ul style="list-style-type: none"> <li>Ask parent/caregiver about health history,</li> <li><b>and/or</b></li> <li>Check parent/caregiver responses in CHS 409-1, CHS409-5 or CHS 719.</li> <li>Ask the teacher about any hearing or ear health concerns for individual children.</li> <li>Explain the procedure to the child and parent/caregiver, if present. Allow time for discussion of concerns.</li> <li>Ensure written or verbal parental consent is obtained prior to otoscopy.</li> </ul>	<ul style="list-style-type: none"> <li>When parent/caregivers are present, encourage involvement with the procedure, where possible.</li> <li>See, <i>Hearing and ear health</i> guideline for ear health history guide.</li> </ul>
<b>3. Prior to otoscopy</b> <ul style="list-style-type: none"> <li>Infants and young children should sit on parent/caregiver's lap. Older children may prefer to stand or sit.</li> <li>Ask the parent/caregiver to hold the child's head securely against their chest and use their other arm to secure the child's arms and body to stop any sudden movement.</li> <li>Prepare the child by telling them you are going to look in their ears with the otoscope. Show the light by shining over their hand.</li> </ul>	<ul style="list-style-type: none"> <li>When a child is not willing to have the procedure and staff or parent have concerns, discuss referral options with parent/caregiver.</li> </ul>
<b>4. Otoscopy procedure</b> <ul style="list-style-type: none"> <li>Inspect the outer ear (pinna and lobe) for deviations from normal.</li> </ul>	<ul style="list-style-type: none"> <li>The examiner's eyes should be at the same level as the child's ear.</li> </ul>

Steps	Additional Information
<ul style="list-style-type: none"> <li>○ Observe around mastoid process and under ear for infection, swelling or tenderness.</li> <li>● Choose the largest speculum that will fit comfortably into the auditory canal.</li> <li>● Hold the otoscope in such a way that you can brace your little finger against the child's head or cheek, to prevent any potential damage as a result of sudden movement by the child. A 'pencil grip' at an upward angle ranging from 11 o'clock to 1 o'clock from the child's ear, is recommended.</li> <li>● For infants (up to 12 months) gently pull down and back on the ear lobe to straighten the canal and for children, gently pull the pinna up and back.</li> <li>● Gently insert speculum to the first turn of ear canal, just past the hairs. Inserting the speculum any further may cause pain and possible bleeding.</li> <li>● For infants, take care not to insert the speculum deep into the ear canal.</li> <li>● If discharge or wax from the first ear examined has contaminated the speculum, use a clean speculum for the second ear.</li> </ul>	<ul style="list-style-type: none"> <li>● If client reports ear pain or discharge is visible, do not proceed.</li> <li>● Consider the following when documenting the results of examination: <ul style="list-style-type: none"> <li>○ Normal external ear</li> <li>○ Normal external auditory canal</li> <li>○ Normal tympanic membrane</li> <li>○ Excessive cerumen</li> <li>○ Occlusion or impacted cerumen</li> <li>○ Lesions</li> <li>○ Discharge</li> <li>○ Inflammation</li> <li>○ Scaling</li> <li>○ Scratches</li> <li>○ Scarring</li> <li>○ Swelling</li> <li>○ Foreign body</li> <li>○ Grommets</li> <li>○ Offensive odour</li> <li>○ Distorted or absent anatomical landmarks</li> <li>○ Deviations of the tympanic membrane: <ul style="list-style-type: none"> <li>- Bulging</li> <li>- Retracted</li> <li>- Perforated – wet or dry</li> <li>- Fluid behind membrane</li> </ul> </li> </ul> </li> <li>● Other observations.</li> </ul>
<p><b>5. Video Otoscopy</b> (if used)</p> <ul style="list-style-type: none"> <li>● Refer to step 3 for undertaking an otoscopy examination.</li> </ul>	<ul style="list-style-type: none"> <li>● Video otoscopy allows an image of the tympanic membrane to be displayed on a computer and viewed by children and their parents/caregivers, or it can be used as a component of telemedicine.<sup>2</sup></li> </ul>

Steps	Additional Information
<ul style="list-style-type: none"> <li>• The external auditory canal must be dry, so that the video otoscopy lens does not fog up.</li> <li>• Situate the video otoscope so that the handle is in a vertical downward position at approximately 5 – 7 o'clock.</li> <li>• View image on the computer screen.</li> <li>• Capture image by pressing the camera button.</li> <li>• Label images with the client's name, and store in client's record according to CAHS-CH or WACHS processes.</li> </ul>	<ul style="list-style-type: none"> <li>• Video otoscopy may be conducted in some settings by staff who have undertaken appropriate training.</li> <li>• Additional client consent may be required, when images are shared and/or in a videoconferencing format. Refer to local processes.</li> <li>• Refer to the manufacture instructions for operational and calibration details.</li> <li>• CAHS staff refer to the <a href="#">Medical equipment repair, maintenance and calibration workflow for CAHS Community Health</a> for advice on calibration of video otoscopy equipment</li> </ul>
<p><b>5. Communicate results with parents</b></p> <ul style="list-style-type: none"> <li>• If parent/caregiver present, discuss otoscopy findings including any concerns.</li> <li>• If parent/caregiver not present;             <ul style="list-style-type: none"> <li>○ Contact to discuss if there are any concerns.</li> <li>○ Provide results in writing using CHS 409-6A Results for parents sheet or other relevant form.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• If unable to contact parent/caregiver by phone, follow CAHS-CH and WACHS processes to provide effective communication with family.</li> </ul>
<p><b>6. Referral and review</b></p> <ul style="list-style-type: none"> <li>• Make a clinical judgement about the need for referral based on screening assessments, observations and other relevant information.</li> <li>• Consider a review in 4-6 weeks in cases of recent upper respiratory tract infection, unwell or uncooperative.</li> <li>• Provide referral as indicated to medical practitioner, Ear, Nose and Throat (ENT) clinic, audiologist, speech pathologist or other health practitioner.</li> </ul>	<ul style="list-style-type: none"> <li>• For results that suggest otitis media and related issues, refer to a medical practitioner.</li> <li>• For results that suggest sensory neural hearing loss or ongoing chronic middle ear pathology concerns, refer to Audiology.</li> <li>• Adherence to CAHS-CH and WACHS clinical handover processes is required when handing over, or referring a client within, or outside of, the health service.</li> <li>• CAHS-CH: The <a href="#">Aboriginal ENT Clinic</a> provides a free specialist ENT service. Include clinic's email in referral: <a href="mailto:cach.earhealthreferral@health.wa.gov.au">cach.earhealthreferral@health.wa.gov.au</a></li> </ul>

Steps	Additional Information
<ul style="list-style-type: none"> <li>• Include otoscopy results, as well as tympanometry and/or audiometry results if conducted.</li> <li>• Discuss and seek consent for referral from parent/caregiver.</li> <li>• For children at risk, follow up with patient/caregiver to determine if support is needed to action the referral.</li> </ul>	See clinic information for referral requirements.

## Documentation

Nurses maintain accurate, comprehensive, and contemporaneous documentation of assessments, planning, decision making and evaluations according to CAHS-CH and WACHS processes.

## Compliance monitoring

Failure to comply with this policy document may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the [Integrity Policy Framework](#) issued pursuant to section 26 the [Health Services Act 2016](#) (WA) and is binding on all CAHS and WACHS staff as per section 27 of the same act.

Compliance monitoring methods will include:

- Health Service reporting of Universal Child Health Contacts.
- Health Service reporting of Aboriginal Ear Health Assessment.

References
<ol style="list-style-type: none"> <li>1. Coates H, Kong K, Mackendrick A, Bumbak P, Perry C, Friedland P, Morris P &amp; Chunghyeon. <i>Aboriginal, Torres Strait Islander and Pacific Islander Ear Health Manual</i>. Perth: Garnett Passe and Rodney Williams Foundation, 2020.</li> <li>2. Chiocca E. <i>Advanced Pediatric Assessment</i>. Second ed. New York: Springer Publishing Company; 2015.</li> <li>3. Technical Advisory Group. <i>Otitis Media in Aboriginal and Torres Strait Islander Children</i>. Darwin: Menzies School of Health Research; 2020</li> <li>4. Government of Western Australia. <i>WA Child Ear Health Strategy</i>. Perth; 2017.</li> <li>5. Centre for Remote Health, 2022. <i>CARPA Standard Treatment Manual (8th edition)</i>.</li> <li>6. Yong M, Panth N, McMahon CM, Thorne PR &amp; Emmett SD. How the World's Children Hear: A narrative review of school hearing screening programs</li> </ol>

globally. American Academy of Otolaryngology – Head and Neck Surgery, *OTO Open* 2020, 4(2): 1-8.

Related internal policies, procedures and guidelines
The following documents can be accessed in the CH Clinical Nursing Manual: <a href="#">HealthPoint link</a> or <a href="#">Internet link</a> or for WACHS staff in the <a href="#">WACHS Policy Manual</a>
Hearing and Ear Health guideline
Audiometry procedure
Tympanometry procedure
Physical assessment 0-4 years guideline
Universal Contact - School Entry Health Assessment guideline
Universal Contacts – 8 week, 4 months, 12 months, 2 years guidelines
Factors impacting child health and development
The following documents can be accessed in the <a href="#">CACH Operational Policy Manual</a>
Client identification
Consent for services
The following documents can be accessed in the CAHS Policy Manual
Hand Hygiene (Infection Control Manual)
The following documents can be accessed in the <a href="#">WACHS Policy Manual</a>
Ear tissue spearing, irrigation and ear drop installation procedure
Engagement procedure
Enhanced Child Health Schedule
The following documents can be accessed in the <a href="#">Department of Health Policy Frameworks</a>
<a href="#">Clinical Governance, Safety and Quality</a>
Clinical Handover Policy ( <a href="#">MP0095</a> )
Clinical Incident Management Policy ( <a href="#">MP 0122/19</a> )



Related internal resources – <u>CACH forms</u>
Ear health school screening – Consent CHS 719
Ear health assessment CHS 423
Ear health assessment results for parents CHS 423A
School Entry Health Assessment Parent Questionnaire CHS 409-1
School Entry Health Consultation for Education Support Students CHS 409-5
School Entry Health Assessment Results for parents CHS 409-6A
Clinical Handover/Referral CHS 663
Referral to Community Health Nurse CHS142

Related WACHS resources
<a href="#">Child Ear Health Services: Codesign Framework</a>
Ear Health Module 1 – Overview (EHOV EL1) WACHS My Learning
Ear Health Module 2 – Otoscopy (EHOT EL1) WACHS My Learning
Ear Health Module 3 – Tympanometry (EHTT EL1) WACHS My Learning
Ear Health Module 4 – Play Audiometry (EHPA EL1) WACHS My Learning
Ear Health Module 5 – Referrals (EHRE EL1) WACHS My Learning
Related CACH e-Learning
<a href="#">Aboriginal Cultural eLearning (ACeL) - Aboriginal Health and Wellbeing</a>
CACH Ear Health Module 1: Ear Health Assessment and Hearing Screening
CACH Ear Health Module 2: Otoscopy
CACH Ear Health Module 3: Child Health Tympanometry
CACH Ear Health Module 4: School Health Tympanometry
Related external resources (including related forms)
Coates H, Kong K, Mackendrick A, Bumbak P, Perry C, Friedland P, Morris P & Chunghyeon O. Aboriginal, Torres Strait Islander and Pacific Islander <a href="#">Ear Health Manual</a> . Perth: Garnett Passe and Rodney Williams Foundation, 2020.




[PLUM and HATS speech resource](#) – Pictures and questions to assist with talking to parents about hearing, speech and language, National Acoustic Laboratories.

[Blow-Breathe-Cough Program](#). Hearing Australia resources for teachers and early childhood educators to promote ear health.

[Care for Kid's Ears](#). A wealth of information and resources for parents, early childhood educators, teachers and health professionals. Includes material in several different language groups.

[Otitis Media Guidelines Smartphone App](#). Created by the Centre for Research Excellence in Ear and Hearing Health of Aboriginal and Torres Strait Islander Children. The App is for use by clinicians and health workers who have responsibility for management of OM in Aboriginal and Torres Strait Islander children – in urban, rural and remote populations.

This document can be made available in alternative formats on request.

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Compassion

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