



GUIDELINE

Hearing and Ear Health

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 promote the wellbeing and development of children by timely prevention, screening and identification of childhood hearing impairment and/or ear disease.

To understand the importance of normal hearing function and the impact that hearing impairment has on the development and health of a child.

Risk

Unrecognised and/or unmanaged ear disease and hearing impairment can have a significant effect on a child's speech and language, social and psychological development, educational progress and long term social and vocational outcomes.

Background

Normal hearing is vital for the development of language and communication in children.¹ Impaired hearing that occurs at key developmental periods early in a child's life can significantly affect speech, language, social and cognitive development. In turn, this may lead to poor attention and listening, and behavioural problems, making it difficult to engage in school and learning.^{2,3,4} Longer term outcomes may include poor academic performance, limited employment options and income, antisocial behaviour, and increased contact with police and the criminal justice system.^{2,3}

Hearing loss may result from a variety of issues including; genetic causes, complications at birth, infectious diseases, chronic ear infections, use of certain medicines, injuries and accidents, exposure to loud noise and aging.⁵ While universal neonatal screening enables early identification and intervention for congenital hearing issues, otitis media (OM) and associated conditions are common causes of temporary and longer term hearing impairment in early childhood, especially for Aboriginal children.⁶

A large scale Australian longitudinal study explored the impact of ear infection and health impairment among indigenous and non-indigenous children. It was estimated that at least

half of all children experience at least one episode of OM by the age of three years. It was found that children who experienced repeated ear infections were significantly more likely to sustain hearing loss and increased risk of poor health and developmental outcomes.⁶ There is strong clinical and epidemiological evidence that recurrent infections, ear disease and hearing loss are highly prevalent among Australian Aboriginal children.⁷ Research has found that Aboriginal children in rural and remote areas suffer high rates of persistent OM from early infancy. Further, recent research in Western Australia (WA) found that approximately half of Aboriginal children living in metropolitan Perth experienced OM by the age of six months.⁸

The newborn screening program is well established in WA and has significantly improved the identification and treatment of congenital hearing loss. Subsequent screening of infants and young children through to the early school years enables early detection and treatment of hearing loss which may occur after the neonatal period, for example, as a result of recurrent middle ear disease. A review of screening programs globally recommended use of otoscopy and tympanometry tests, and audiometry for children who can follow directions for a hearing test.⁴

The *WA Child Ear Health Strategy 2017-2021* promoted a strong focus on all children aged 0-5 years to achieve changes in prevention, early intervention and effective management.⁹ Subsequently, the WA Auditor General recommended additional screening and prevention activity to address the burden of ear disease among young Aboriginal infants and young children.¹⁰

Key points

- Additional and early ear health screening for Aboriginal children aged 0 – 5 years is critical to enabling early identification of abnormalities, preventing ear disease and optimising health and development.
- Nurses should refer to the [Child health](#) and [School health](#) *Hearing and ear health assessment, review and referral guides* at the end of this document. The guidance incorporates consideration of clinical judgment as well as tympanometry, audiometry, and otoscopy results (if performed).
- Hearing screening should only be performed by staff who have successfully completed undertaken approved CAHS-CH or WACHS (or equivalent) training.
- Hearing risk factors are identified at each universal contact. Additional checks and support are offered for children at risk of hearing and ear health issues.
- Families will be provided with key health education messages to promote ear health and hearing as appropriate to their circumstances. (See Appendix A).
- Clinical judgement is important to determine actions required for each child, including the following considerations:
 - parent/caregiver responses to screening questions
 - nurse observations
 - otoscopy, audiometry and/or tympanometry results
 - teacher observations, as relevant
 - child's risk factors and social circumstances.

- Staff to conduct screening in accordance with the otoscopy, audiometry and tympanometry procedures in the Community Health Manual.
- The schedules for ear health and hearing screening for WA children is outlined in Table 1 and Table 2 in this document.
- Children with identified concerns are offered referral, liaison and advocacy as required.
- The planning and implementation of ear health screening and related services should be co-designed with consumers and communities to better meet their needs and increase service effectiveness.
- For schools and communities where ear health screening may be regularly or intermittently conducted by non-government agencies, community health staff should liaise with the agency to avoid service gaps and overlaps.

Hearing loss and disorders of the ear

There are three types of hearing loss, categorised as conductive, sensorineural or mixed.¹ Hearing loss may be congenital or acquired.

Conductive hearing loss

Conductive hearing loss is caused by a physical blockage or mechanical problem which interferes with sound transmission through the outer or middle ear. Conductive hearing loss is usually acquired. It can be caused by otitis media, perforated ear drum and a break in one of the ossicles, or foreign object in ear canal. Most causative conditions can be corrected by medical or surgical intervention, and/or use of amplification.¹

Sensorineural hearing loss

Sensorineural hearing losses are caused by damage to the hair cells of the inner ear, the auditory nerve or brain. Sensorineural hearing loss is considered to be permanent; however, most cases can be assisted with amplification.¹

Common causes of sensorineural hearing loss include meningitis, genetic factors, aging, certain drugs, certain pre-natal conditions, some viruses and noise exposure.¹

Mixed hearing loss

Mixed hearing loss is a combination of conductive and sensorineural hearing loss. Children with mixed hearing loss require management for the hearing loss, which may involve allied health, medical and/or surgical intervention.¹

Otitis media

Otitis media (OM) refers to inflammation and infection of the middle ear, associated with illness and hearing loss. It is the leading cause of medical consultations, antibiotic prescriptions and surgery among young children.⁸ OM can be described as a spectrum of diseases, ranging from mild - OM with Effusion (OME) to severe - Chronic Suppurative Otitis Media (CSOM). See Appendix B for more information.

Many children from all populations groups experience episodic OME at some time, and most children will experience at least one episode of acute OM (AOM). In developed countries, spontaneous resolution will occur in most children, especially in older children.

However, children who suffer frequent episodic AOM or persistent OME are of concern and may require antibiotic treatment, especially when infections occur in the first six years of life.⁷

Recurrent OM may lead to effusion or 'glue ear', with (temporary) hearing impairment. When an ear drum perforates and does not heal, pathogens (such as *Pseudomonas aeruginosa* and *Staphylococcus aureus*) may become established and can result in CSOM. This condition may persist for months and years, leading to destruction of the bone in and around the ear and permanent hearing loss.¹ Ongoing infection may indicate an ear cyst, or cholesteatoma in the middle ear which can be life threatening. Specialist intervention may be required for those afflicted by chronic ear disease, including audiology, speech pathology and surgery.¹

CSOM and persistent OME, often termed 'ear disease', are associated with poor social determinants and poverty. Australian Aboriginal children have among the highest prevalence of ear disease in the world.³ Others at risk include children with Down Syndrome, unrepaired cleft palates or cranio-facial disorders, and children from refugee backgrounds or from high-risk countries.^{11,12}

Prevalence of CSOM above 4% is considered a serious public health issue by the World Health Organization. In some WA Aboriginal communities with poor living conditions, the prevalence is significantly higher.¹ In rural and remote areas, tobacco smoke, crowded living conditions, and high bacterial load in the nasopharynx are linked to increased risk of early OM.⁸ It is estimated that many Aboriginal children experience up to 32 months of conductive hearing loss in their first five years of life, leading to long-term impact on speech and language, educational and vocational outcomes.¹ Further, it has been found that up to 90% of Aboriginal prison inmates have hearing loss.³

Children at Risk - Signs and Risk Factors


Important signs which may indicate hearing problems

- Lack of awareness of usual environmental sounds
- Less or no vocalising after early babbling or poor or monotonous vocalisations
- Often talking too loudly
- Frequent inattentiveness
- Recurrent ear infections and/or ear discharge
- Consistently not responding when called
- Listening to TV or electronic devices at a loud volume.¹³

Risk factors for hearing impairment or loss

- Recurrent or persistent OME
- CSOM
- Strong family history of permanent hearing loss from a young age
- History of rubella, cytomegalovirus, toxoplasmosis, syphilis or herpes during pregnancy
- Dysmorphic deviations: e.g., low set ears, skin tags, accessory tragi, malformed auricles, auricular sinus, peri auricular sinus

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

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Healthy kids, healthy communities

Compassion
Excellence
Collaboration
Accountability
Equity
Respect

Neonatology | Community Health | Mental Health | Perth Children's Hospital



Hearing and Ear Health Assessment, Review, and Referral Guide – Child Health

This guide supports decision-making by CACH and WACHS Community Health nurses regarding hearing and ear health assessment, review, and referral. The information in this child health focused resource relates to Universal screening, Universal Plus, and ECHS (WACHS only) assessments of children who are not developmentally able to perform audiometry.

For guidance regarding children who are able to perform audiometry, see the [Hearing and Ear Health Assessment, Review, and Referral Guide – School Health](#) guide.

Factors requiring consideration include tympanometry, audiometry and otoscopy results (if performed), responses to the hearing surveillance questions, parent/caregiver/teacher concerns, and the client's hearing and ear health risk factors, general observations, individual health, and social circumstances. Thorough consideration and documentation of all these factors will lead to appropriate referrals when concerns are identified. **Note that clinical judgement may override the guidance listed below.**

Nurses will conduct hearing and ear health screening in accordance with the [Hearing and ear health](#) guideline and [Audiometry](#), [Otoscopy](#), and [Tympanometry](#) procedures in the Clinical Nursing Manual.

Concerns regarding hearing and/or speech and language development and risk factors for hearing and ear health may be identified during Universal screening or may be the reason for a Universal Plus assessment. See [Hearing and ear health](#) guideline, p. 4 and 5 for signs and risk factors for poor hearing and ear health, and Table 3 for screening questions and observations. The presence or absence of concerns identified from hearing and ear health surveillance questions, general observations, or parent/caregiver feedback is indicated as 'Concerns' or 'No concerns' in the tables below.

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CACH and WACHS Referral information

Table Legend

Return to Universal or ECHS hearing and ear health screening
Review required, and for referral to GP if indicated
Referral required

Table 1 - WA children under 6 months: Universal, ECHS, and Universal Plus assessments					
	Surveillance questions, general observations, parental concerns	Otoscopy	Audiometry	Tympanometry	Outcomes
INITIAL	No concerns	Not performed	N/A	Not performed	<ul style="list-style-type: none"> Continue with Universal or ECHS hearing and ear health screening pathway
	Concerns	Unable to perform	N/A	Unable to perform	<ul style="list-style-type: none"> Attempt assessment again in 4-6 weeks
		Normal	N/A	Normal	<ul style="list-style-type: none"> Refer to GP for referral to Audiology if concerns with hearing
		Abnormal	N/A	Normal	<ul style="list-style-type: none"> Review in 4-6 weeks Refer to GP if indicated
		Normal or Abnormal	N/A	Abnormal	<ul style="list-style-type: none"> Review in 4-6 weeks Refer to GP if indicated
Note: If the NEWBORN HEARING SCREEN (NBHS) was not performed, or if the infant failed their first NBHS and has not attended the follow-up appointment, advise parent/caregiver to contact the WA NBHS Program Coordinator on: Ph - 6456 0037.					
REVIEW	Concerns	Unable to perform	N/A	Unable to perform	<ul style="list-style-type: none"> Refer to GP for referral to Audiology
	Concerns resolved	Normal	N/A	Normal	<ul style="list-style-type: none"> Continue with Universal or ECHS hearing and ear health screening pathway
		Abnormal	N/A	Normal	<ul style="list-style-type: none"> Refer to GP
		Normal or Abnormal	N/A	Abnormal	<ul style="list-style-type: none"> Refer to GP
	Concerns	Normal	N/A	Normal	<ul style="list-style-type: none"> Refer to GP for referral to Audiology if concerns with hearing
		Abnormal	N/A	Normal	<ul style="list-style-type: none"> Refer to GP and suggest referral to Audiology if concerns with hearing
Normal or Abnormal		N/A	Abnormal	<ul style="list-style-type: none"> Refer to GP and suggest referral to Ear, Nose and Throat (ENT) services 	

Table 2 - Aboriginal children and children with risk factors under 6 months: Universal, ECHS, and Universal Plus assessments

	Surveillance questions, general observations, parental concerns	Otoscopy	Audiometry	Tympanometry	Outcomes
INITIAL	Concerns or no concerns	Unable to perform	N/A	Unable to perform	<ul style="list-style-type: none"> Attempt assessment again in 4-6 weeks
	No concerns	Normal	N/A	Normal	<ul style="list-style-type: none"> Continue with Universal or ECHS hearing and ear health screening pathway
	Concerns	Normal	N/A	Normal	<ul style="list-style-type: none"> Refer to GP and suggest referral to Audiology for hearing concerns
		Abnormal	N/A	Normal	<ul style="list-style-type: none"> Review in 4-6 weeks Refer to GP if indicated
		Normal or Abnormal	N/A	Abnormal	<ul style="list-style-type: none"> Review in 4-6 weeks Refer to GP if indicated
Note: If the NEWBORN HEARING SCREEN (NBHS) was not performed, or if the infant failed their first NBHS and has not attended the follow-up appointment, advise parent/caregiver to contact the WA NBHS Program Coordinator on: Ph - 6456 0037					
REVIEW	No concerns	Unable to perform	N/A	Unable to perform	<ul style="list-style-type: none"> Continue with Universal or ECHS hearing and ear health screening pathway
	Concerns	Unable to perform	N/A	Unable to perform	<ul style="list-style-type: none"> Refer to GP and suggest referral to Audiology for hearing concerns
	Concerns resolved	Normal	N/A	Normal	<ul style="list-style-type: none"> Continue with Universal or ECHS hearing and ear health screening pathway
		Abnormal	N/A	Normal	<ul style="list-style-type: none"> Refer to GP
		Normal or Abnormal	N/A	Abnormal	<ul style="list-style-type: none"> Refer to GP
	Concerns	Normal	N/A	Normal	<ul style="list-style-type: none"> Refer to GP and suggest referral to Audiology if concerns with hearing
		Abnormal	N/A	Normal	<ul style="list-style-type: none"> Refer to GP and suggest referral to Audiology if concerns with hearing
Normal or Abnormal		N/A	Abnormal	<ul style="list-style-type: none"> Refer to GP and suggest referral to ENT services 	

Table 3 - WA children from 6 months age until developmentally able to perform audiometry: Universal, ECHS, and Universal Plus Assessments

	Surveillance questions, general observations, parental concerns	Otoscopy	Audiometry	Tympanometry	Outcomes
INITIAL	No concerns	Not performed	N/A	Not performed	<ul style="list-style-type: none"> Continue Universal or ECHS hearing and ear health screening pathway
	Concerns	Unable to perform	N/A	Unable to perform	<ul style="list-style-type: none"> Attempt assessment again in 4-6 weeks.
		Normal or abnormal	N/A	Type A	<ul style="list-style-type: none"> Refer to Audiology Refer to GP if indicated
		Normal or abnormal	N/A	Type B normal	<ul style="list-style-type: none"> Review in 4-6 weeks Refer to GP if indicated
		Abnormal	N/A	Type B high volume	<ul style="list-style-type: none"> <u>Grommet in-situ and patent</u>: No review required. If concerns about hearing, advise follow-up with their ENT service provider. <u>Perforation</u>: No review required. Refer to GP unless perforation is documented and long-standing.
		Normal or Abnormal	N/A	Type B low volume	<ul style="list-style-type: none"> Reposition tympanometer and test again as probe may be against wall of ear canal Refer to GP for removal of wax or foreign body if present Review 1-2 weeks post-removal of wax or foreign body
		Normal or Abnormal	N/A	Type C	<ul style="list-style-type: none"> Review in 4-6 weeks Implement Blow, Breathe, Cough program Refer to GP if indicated
REVIEW	Concerns	Unable to perform	N/A	Unable to perform	<ul style="list-style-type: none"> Refer to GP if indicated For referral to Audiology if concerns with hearing
	Concerns resolved	Normal	N/A	Type A	<ul style="list-style-type: none"> Return to Universal or ECHS hearing and ear health screening pathway
		Abnormal	N/A	Type A	<ul style="list-style-type: none"> Refer to GP if indicated
		Normal or Abnormal	N/A	Type B normal	<ul style="list-style-type: none"> Refer to GP For referral to Audiology

Table 3 (continued) - WA children from 6 months age until developmentally able to perform audiometry: Universal, ECHS, and Universal Plus Assessments

REVIEW	Concerns resolved	Normal or Abnormal	N/A	Type B high	<ul style="list-style-type: none"> Refer to GP
			N/A	Type B low	<ul style="list-style-type: none"> Refer to GP
			N/A	Type C	<ul style="list-style-type: none"> Refer to GP if indicated
	Concerns	Normal or Abnormal	N/A	Type A	<ul style="list-style-type: none"> For referral to Audiology if concerns with hearing Refer to GP if indicated
	Concerns	Normal or Abnormal	N/A	Type B normal	<ul style="list-style-type: none"> Refer to GP For referral to Audiology if concerns with hearing
			N/A	Type B high	<ul style="list-style-type: none"> For referral to Audiology if concerns with hearing Refer to GP for concerns about recent perforation NOTE: No need to review or refer patent grommets
			N/A	Type B low	<ul style="list-style-type: none"> Refer to GP For referral to Audiology if concerns with hearing
			N/A	Type C	<ul style="list-style-type: none"> Refer to GP For referral to Audiology if concerns with hearing

Table 4 - Aboriginal children and children with risk factors from 6 months age until developmentally able to perform audiometry: Universal, ECHS, and Universal Plus Assessments

	Surveillance questions, general observations, parental concerns	Otoscopy	Audiometry	Tympanometry	Outcomes
INITIAL	Concerns or no concerns	Unable to perform	N/A	Unable to perform	<ul style="list-style-type: none"> Attempt assessment again in 4-6 weeks
	No concerns	Normal	N/A	Type A	<ul style="list-style-type: none"> Continue Universal or ECHS hearing and ear health screening pathway
	Concerns	Normal	N/A	Type A	<ul style="list-style-type: none"> For referral to Audiology if concerns with hearing
	Concerns or no concerns	Abnormal	N/A	Type A	<ul style="list-style-type: none"> Review in 4-6 weeks Refer to GP if indicated
		Normal or Abnormal	N/A	Type B normal	<ul style="list-style-type: none"> Review in 4-6 weeks Refer to GP if indicated
		Abnormal	N/A	Type B high volume	<ul style="list-style-type: none"> Grommet in-situ and patent: No review required. If concerns about hearing, advise follow-up with their ENT service provider. Perforation: No review required. Refer to GP unless perforation is documented and long-standing.
		Normal or Abnormal	N/A	Type B low volume	<ul style="list-style-type: none"> Reposition tympanometer and test again as probe may be against wall of ear canal Refer to GP for removal of wax or foreign body if present Review 1-2 weeks post-removal of wax or foreign body
Normal or Abnormal	N/A	Type C	<ul style="list-style-type: none"> Review in 4-6 weeks and refer to GP if indicated Implement Blow, Breathe, Cough program 		
REVIEW	No concerns	Unable to perform	N/A	Unable to perform	<ul style="list-style-type: none"> Continue with Universal or ECHS hearing and ear health screening pathway
	Concerns	Unable to perform	N/A	Unable to perform	<ul style="list-style-type: none"> Refer to Audiology if concerns with hearing Refer to GP if indicated
	Concerns resolved	Normal	N/A	Type A	<ul style="list-style-type: none"> Return to Universal or ECHS hearing and ear health screening pathway
		Abnormal	N/A	Type A	<ul style="list-style-type: none"> Refer to GP if indicated
		Normal or Abnormal	N/A	Type B normal	<ul style="list-style-type: none"> Refer to GP and Audiology
N/A	Type B high		<ul style="list-style-type: none"> Refer to GP 		

Table 4 (Continued) - Aboriginal children and children with risk factors from 6 months age until developmentally able to perform audiometry: Universal SEHA screening, ECHS, and Universal Plus assessments

REVIEW	Concerns resolved	Normal or Abnormal	N/A	Type B low	<ul style="list-style-type: none"> Refer to GP
			N/A	Type C	<ul style="list-style-type: none"> Refer to GP if indicated
	Concerns	Normal	N/A	Type A	<ul style="list-style-type: none"> Refer to Audiology if concerns with hearing
			Abnormal	N/A	Type A
		Normal or Abnormal	N/A	Type B normal	<ul style="list-style-type: none"> Refer to GP Refer to Audiology if concerns with hearing
				Type B high	<ul style="list-style-type: none"> Refer to Audiology if concerns with hearing Refer to GP for concerns about recent perforation NOTE: No need to review or refer patent grommets
			N/A	Type B low	<ul style="list-style-type: none"> Refer to GP Refer to Audiology if concerns with hearing
			N/A	Type C	<ul style="list-style-type: none"> Refer to GP Refer to Audiology if concerns with hearing

CACH Referral information

GP referral is generally required to access ENT clinics and PCH Audiology. Nurses should familiarise themselves with local hearing and ear health services, and their referral requirements.

In their referral to the GP, nurses may suggest a further referral if indicated to PCH ENT clinic, PCH Audiology, or Aboriginal ENT clinic. Include the referral email address if known.

Audiology

PCH Audiology can provide services for clients aged under 6 months.

CDS Audiology provides services to clients aged 6 months and over. See [Child and Adolescent Health Service | CAHS - Referrals and eligibility](#)

See CDIS User Guide for [Recording Referrals](#)

AHT Ear Health Services

Visit the [Aboriginal Health Team page](#) for information about the ear health services they provide. The team can be contacted to enquire about further support for Aboriginal children and families.

Speech Pathology (when indicated)

Refer to Speech Pathology for concerns about speech/language development.

For CDS Speech Pathology referrals, see [Child and Adolescent Health Service | CAHS - Referrals and eligibility](#)

See CDIS User Guide for [Recording Referrals](#)

Private service providers

Parents may prefer to access private Audiology, Speech Pathology, or ENT specialist medical services.

For private Audiology and Speech Pathology services, direct the referral to the parent's preferred service provider. See CDS resource [The right services for your child](#) for professional websites that list some private allied health service providers.

WACHS referral information

Referral options for hearing and ear health concerns differ across regional WA. WACHS staff are advised to be familiar with the services and referral options in each region and location. Consider WACHS Child Development Services, WACHS Ear Health teams, GPs, Nurse Practitioners, Aboriginal Medical Services, private services providers and non-government agencies that provide services for hearing and ear health concerns.



Hearing and Ear Health Assessment, Review, and Referral Guide – School Health

This guide supports decision-making by CACH and WACHS Community Health nurses regarding hearing and ear health assessment, review, and referral. The information in this school health focused resource relates to Universal SEHA screening, Universal Plus, and ECHS (WACHS only) assessments of children who are developmentally able to perform audiometry.

For guidance regarding children who are not yet developmentally able to perform audiometry, see [Hearing and Ear Health Assessment, Review, and Referral Guide – Child Health](#).

Factors requiring consideration include tympanometry, audiometry and otoscopy results (if performed), responses to the hearing surveillance questions, parent/caregiver/teacher concerns, and the client's hearing and ear health risk factors, general observations, individual health, and social circumstances. Thorough consideration and documentation of all these factors will lead to appropriate referrals when concerns are identified. **Note that clinical judgement may override the guidance listed below.**

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Concerns regarding hearing and/or speech and language development and risk factors for hearing and ear health may be identified during Universal screening or may be the reason for a Universal Plus assessment. See [Hearing and ear health](#) guideline, p. 4 and 5 for signs and risk factors for poor hearing and ear health, and Table 3 for screening questions and observations. The presence or absence of concerns identified from hearing and ear health surveillance questions, general observations, or parent/caregiver feedback is indicated as 'Concerns' or 'No concerns' in the tables below.

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Table 2 - Aboriginal children and children with risk factors - developmentally able to perform audiometry

CACH and WACHS Referral information

Table Legend

Return to Universal or ECHS hearing and ear health screening
Review required, and for referral to GP if indicated
Referral required

Table 1 - WA children - developmentally able to perform audiometry:

	Surveillance questions, general observations, parental concerns	Otосcopy	Audiometry	Tympanometry	Outcomes
INITIAL	Concerns or no concerns	Unable to perform	Unable to perform	N/A	<ul style="list-style-type: none"> Attempt assessment again in 4-6 weeks. Consider having parent present at next screen
	No concerns	Normal	Normal	N/A	<ul style="list-style-type: none"> Return to Universal or ECHS hearing and ear health screening pathway
	Concerns or no concerns	Unable to perform	Unable to perform	N/A	<ul style="list-style-type: none"> Attempt assessment again in 4-6 weeks. Consider having parent present at next screen
		Not normal	Normal	N/A	<ul style="list-style-type: none"> Review in 4-6 weeks Refer to GP if indicated
		Normal or Abnormal	Abnormal	N/A	<ul style="list-style-type: none"> Review in 4-6 weeks No tympanometry at this stage Advise parent/school that child currently has hearing loss Refer to GP if indicated
REVIEW	Concerns	Unable to perform	Unable to perform	Unable to perform	<ul style="list-style-type: none"> Refer to Audiology Refer to GP if indicated
	Concerns resolved	Normal	Normal	N/A	<ul style="list-style-type: none"> Return to Universal or ECHS ear health screening pathway
	Concerns	Normal	Normal	N/A	<ul style="list-style-type: none"> Refer to GP for ongoing concerns
	Concerns or no concerns	Normal	Abnormal	Type A	<ul style="list-style-type: none"> Complete 500Hz and 2000Hz as expanded screen is required Refer to Audiology for possible risk of sensory neural hearing loss. Include all results in referral to enable priority appointment
		Normal or Abnormal	Normal	Type Bs – all Type C	<ul style="list-style-type: none"> Refer to GP
			Abnormal	Type Bs – all Type C	<ul style="list-style-type: none"> Complete 500Hz and 2000Hz as expanded screen is required Refer to GP Refer to Audiology

Table 2 - Aboriginal children and children with risk factors - developmentally able to perform audiometry:

	Surveillance questions, general observations, parental concerns	Otoscopy	Audiometry	Tympanometry	Outcomes	
INITIAL	Concerns or no concerns	Unable to perform	Unable to perform	Unable to perform	<ul style="list-style-type: none"> Attempt assessment again in 4-6 weeks. Consider having parent present at next screen 	
	No concerns	Normal	Normal	Type A	Continue Universal or ECHS screening pathway	
	Concerns	Normal	Normal	Type A	Refer to GP for ongoing concerns	
	Concerns or no concerns	Normal or Abnormal	Abnormal	Abnormal	Normal or abnormal	<ul style="list-style-type: none"> Review in 4-6 weeks Advise parent/school that child currently has hearing loss Refer to GP if indicated
			Abnormal	Normal	Normal or abnormal	<ul style="list-style-type: none"> Review in 4-6 weeks Refer to GP if indicated
		Normal or Abnormal	Normal	Normal	Type B normal volume	<ul style="list-style-type: none"> Review in 4-6 weeks Refer to GP if indicated
			Abnormal	Normal or Abnormal	Type B high volume	<ul style="list-style-type: none"> <u>Grommet</u> in-situ and patent: No review required. If concerns about hearing, advise follow-up with ENT service provider. <u>Perforation</u>: No review required. Refer to GP unless perforation is documented and long-standing.
		Normal or Abnormal	Normal or Abnormal	Normal or Abnormal	Type B low volume	<ul style="list-style-type: none"> Reposition tympanometer and test again as probe may be against wall of ear canal Refer to GP for removal of wax or foreign body if present Review 1-2 weeks post-removal of wax/foreign body
Normal or Abnormal	Normal or Abnormal	Normal or Abnormal	Type C	<ul style="list-style-type: none"> Implement Blow, Breathe, Cough program Review in 4-6 weeks Refer to GP if indicated 		
REVIEW	No concerns	Unable to perform	Unable to perform	Unable to perform	Refer to GP if indicated	
	Concerns	Unable to perform	Unable to perform	Unable to perform	<ul style="list-style-type: none"> Refer to Audiology Refer to GP if indicated 	
	No concerns	Normal	Normal	Type A	No further action required	
	Concerns	Normal	Normal	Normal	Type A	Refer to GP for ongoing concerns
			Abnormal	Normal	Type A	Refer to GP
	Concerns or no concerns	Normal or Abnormal	Normal	Normal	Type B's or C	Refer to GP
Abnormal			Abnormal	Type A	<ul style="list-style-type: none"> Complete expanded screen 500Hz and 2000Hz as required Priority referral to Audiology as results may suggest a sensory neural hearing loss. 	
Abnormal			Abnormal	Type B's or Type C	<ul style="list-style-type: none"> Complete 500Hz and 2000Hz as expanded screen is required Refer to GP and Audiology 	

CACH Referral information

GP referral is generally required to access ENT clinics and PCH Audiology. Nurses should familiarise themselves with local hearing and ear health services, and their referral requirements.

In their referral to the GP, nurses may suggest a further referral if indicated to PCH ENT clinic, PCH Audiology, or Aboriginal ENT clinic. Include the referral email address if known.

Audiology

PCH Audiology can provide services for clients aged under 6 months.

CDS Audiology provides services to clients aged 6 months and over. See [Child and Adolescent Health Service | CAHS - Referrals and eligibility](#)

See CDIS User Guide for [Recording Referrals](#)

AHT Ear Health Services

Visit the [Aboriginal Health Team page](#) for information about the ear health services they provide. The team can be contacted to enquire about further support for Aboriginal children and families.

Speech Pathology (when indicated)

Refer to Speech Pathology for concerns about speech/language development.

For CDS Speech Pathology referrals, see [Child and Adolescent Health Service | CAHS - Referrals and eligibility](#)

See CDIS User Guide for [Recording Referrals](#)

Private service providers

Parents may prefer to access private Audiology, Speech Pathology, or ENT specialist medical services.

For private Audiology and Speech Pathology services, direct the referral to the parent's preferred service provider. See CDS resource [The right services for your child](#) for professional websites that list some private allied health service providers.

WACHS referral information

Referral options for hearing and ear health concerns differ across regional WA. WACHS staff are advised to be familiar with the services and referral options in each region and location. Consider WACHS Child Development Services, WACHS Ear Health teams, GPs, Nurse Practitioners, Aboriginal Medical Services, private services providers and non-government agencies that provide services for hearing and ear health concerns.