Healthy Hearing Targeted Surveillance Program

Model of Care & Protocol V1.0

Effective 4 June 2024

Queensland Government

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PROGRAM OVERVIEW

Introduction

The Healthy Hearing program offers newborn hearing screening to all babies born in Queensland, with the primary aim of early detection of permanent childhood hearing loss, supported by early intervention. There are two onward referral streams for babies screened through the Healthy Hearing program – Neonatal Diagnostic Assessment and Targeted Surveillance.

This document describes the Targeted Surveillance (TS) stream. The TS pathway is indicated for children who have passed the newborn hearing screen or have normal neonatal diagnostic results but have high risk indicators for developing hearing loss in early childhood in their medical history.

From 4 June 2024, the Healthy Hearing risk registry and recommended timing of surveillance per risk factor is shown below.

	Timing of surveillance		
Risk factor	Early targeted surveillance*	9-12 month targeted surveillance	3 ½ year old targeted surveillance
Syndromes associated with hearing loss (e.g. Downs, Pierre Robin)	✓	✓	
Craniofacial anomalies (e.g. cleft palate)	✓	✓	
Family history of permanent childhood hearing loss (mother/father/siblings only)		✓	✓
Perinatal infection of the baby (toxoplasmosis, rubella, cytomegalovirus, herpes, syphilis		✓	
Severe asphyxia (convulsions, hypoxic ischaemic encephalopathy, persistent pulmonary hypertension of the newborn)		✓	

*Early targeted surveillance is a neonatal diagnostic assessment and is not within the scope of this protocol. Details are available in the Healthy Hearing Audiology Diagnostic Protocol

Background

The TS Program has operated in Queensland since 2004, with significant modifications made to the program in 2012.

The current model of care reflects changes implemented in 2024 to improve the value of care provided by the program, ensuring its sustainability, and improving access to hearing services for all children in Queensland.

These changes include:

- A revised risk registry (following a risk factor analysis and removal of some risk factors that were not resulting in hearing loss).
- A move from a diagnostic to a screening protocol, which can be performed by an Allied Health Assistant (AHA) under the delegation of a supervising audiologist.
- Reduced surveillance timeframes for most risk factors.

The benefits offered by this re-designed program include quicker and easier discharge from the program for children with sufficient hearing for speech and language development, reduced pressure on hospital audiology department waitlists, provision of services closer to home and improved equity of the service across Queensland.

Strategic Alignment

This Model of Care aligns with Queensland Health's strategic plan through:

- Being a value-based healthcare initiative intended to provide better outcomes for patients and a sustainable health system.
- Being a state-wide strategy co-designed by Hospital and Health services and partners.
- Transforming non-admitted care to improve patient experience, reduce wait times, and improve clinical outcomes.
- Aligning resources and workforce toward Department of Health and system strategic priorities.

It also aligns with Children's Health Queensland's strategic plan by:

- Closing the gap in inequity of health outcomes and access.
- Enhancing experience, engagement, and satisfaction.
- Increasing access to care closer to home.
- Building an interprofessional community of practice.
- Improving financial sustainability.

Care Delivery Team

The wider care delivery team for children in the TS program includes:

- Nursing staff who will identify high risk indicators for hearing loss at the time of the newborn hearing screen.
- Supervising audiologists who will delegate and supervise TS screening activities.
- AHAs who will conduct the TS screen.
- Audiology students on clinical placement who may conduct the TS screen.
- Diagnostic audiologists who will conduct diagnostic testing for children who don't pass the TS screen.
- Rehabilitative audiologists who will provide audiological management of children identified with permanent hearing loss through the TS program.
- Primary care physicians who will monitor and manage children with middle ear pathology identified through the TS screen and generate onward referrals for specialist medical care as required.

Care Delivery Settings

The TS hearing screen will be delivered in a range of settings, including but not limited to:

- Community health settings.
- Hospital audiology departments.
- Contracted private audiology clinics.

Patient eligibility criteria

Children must meet the following criteria to be eligible for the service:

- Presence of a risk indicator (as defined by the Healthy Hearing risk registry) for postnatal hearing loss.
- Passed the newborn hearing screen OR neonatal diagnostic audiology has excluded permanent hearing loss.
- Child has reached the age of 9 months.
- Child has not previously been discharged from the TS program.
- Medicare eligible.
- Home address is within Queensland or northern New South Wales.

Scope of Protocol

The purpose of this protocol is to describe the screening tests, procedures, and decision-making processes for the TS hearing screen. The relative roles of the AHA and supervising audiologist are also described.

Diagnostic audiology procedures are beyond the scope of this protocol. Diagnostic clinicians seeking information and guidance should refer to the relevant Healthy Hearing Audiology Diagnostic Protocol.

This protocol provides generic, rather than detailed, guidance on booking and documentation processes due to a variety of booking and medical record keeping systems in use across different Hospital and Health Services and contracted private service providers.

Healthy Hearing Contact information

- Phone:(07) 3310 6222
- Email: healthy_hearing@health.qld.gov.au
- Postal Address: PO Box 5492, West End QLD 4101

WORKFORCE AND DELEGATION MODEL

This protocol is designed so that screening tests can be performed by an AHA or student audiologist under the delegation of a supervising audiologist. Responsibilities of each party are described below. Further information and guidance on delegation practices can found at: https://www.health.qld.gov.au/ahwac/html/ahassist

TS referrals will be sent from the newborn hearing screening team to the associated audiology service, and the supervising audiologist may delegate these referrals to an AHA who works either within their own facility or in a remote facility from which the audiology service would normally receive referrals. In the majority of circumstances, the delegation and supervision relationship is between these two parties, however there is provision for some flexibility, e.g., a supervising audiologist from an alternative audiology service may be engaged to provide supervision and co-signing to cover leave arrangements, or if there is an existing arrangement in place for other childhood hearing screening, this could also include TS screens.

Due to the differences in staffing and organisational structures across Queensland Hospital & Health Services and contracted private service providers, it is acknowledged that in some cases an audiologist may perform these screening tests, however the protocol remains a screening protocol regardless of who performs the screen.

Allied Health Assistant responsibilities

Clinic scheduling

Liaise with administration team as appropriate to:

- Book clinic with new and review TS patients delegated by the supervising audiologist.
- Book interpreter, if required.

Equipment maintenance

- Ensure equipment is maintained, checked, and calibrated. Perform daily listening checks prior to commencement of clinic.
- Prepare the clinic room, ensuring equipment is turned on and there is an adequate supply of consumables (otoscope tips, tympanometry and transient evoked otoacoustic emission (TEOAE) probe tips).

Screening

- Perform the TS screen.
- Provide a brief explanation of results and recommended action to parent(s)/guardian(s).

Documentation

- Print (or print to pdf) tympanometry and TEOAE results.
- Summarise results and recommendations on the AHA Hearing Screen form and select the appropriate outpatient letter from within the form (Queensland Health sites only; available from the clinical forms catalogue) or summarise results and recommendations using alternative documentation (private Audiology sites).
- Transfer raw screening data and documentation to the supervising audiologist (via e-mail or other agreed process).
- After the supervising audiologist has co-signed and returned documentation, print and distribute copies to recipients in the cc list.
- Enter assessment data into QChild.
- Ensure that the tympanometry/TEOAE traces, AHA Hearing Screening form and a copy of the outpatient letter (or alternative documentation) are entered into the patient's electronic or paper medical record.
- A progress note in the patient's medical record is only required if it is necessary to document additional information.

Supervising Audiologist responsibilities

Training and supervision

Prior to commencing provision of TS services:

- Ensure that the AHA has the necessary knowledge and competence to perform the delegated tasks and accurately complete documentation.
- Initial assessment against performance criteria for each Clinical Task Instruction (CTI) must be completed at elbow rather than remotely.
- The supervising audiologist may accept previous sign off against CTIs by another audiologist but can opt to reassess the AHA against performance criteria prior to commencing delegation and supervision relationship.
- If the AHA has not performed hearing screens within the last 6 months, at elbow assessment and sign-off for all CTIs must take place before the AHA can resume TS screening.

Ongoing clinical supervision:

- Provide ongoing training (in person, or remotely) at a frequency appropriate to the AHA's experience and competency, and in accordance with relevant Office of the Chief Allied Health Officer governance frameworks.
- Reassessment against performance criteria should occur at no greater than 12 month intervals and may occur at elbow or via remote observation of clinical practice (using videoconferencing technology or similar).

Equipment set-up and support

- Ensure that the AHA's tympanometry and TEOAE equipment is set up with the correct screening parameters.
- Provide troubleshooting advice and support for equipment as required.

Delegation and clinical oversight

- Triage TS referrals and delegate to AHA as appropriate.
    - Ensure that parent or guardian has signed the Newborn Hearing Screening consent form before delegating.
- Review raw screening results and, AHA Hearing Screen form and outpatient letter (or alternative documentation).
    - Make appropriate amendments if required.
    - Co-sign the AHA Hearing Screen form (or alternative documentation).
    - If the final results or recommendations are different from what AHA has discussed with the family the audiologist is responsible for contacting the family to discuss.
- Facilitate referral to Audiology as appropriate.

EQUIPMENT REQUIREMENTS AND MAINTENANCE

Screening equipment

- Otoscope & speculae.
- 226 Hz probe tone tympanometer (with print or print to pdf function) & probe tips.
- Transient Evoked Otoacoustic Emissions (TEOAEs) Screener (with print or print to pdf function) & probe tips. TEOAE equipment should be capable of automatically stopping and indicating a 'pass' result when all conditions below have been met:
    - A minimum of 40 sweeps have been accepted, and;
    - 3 out of 5 frequency bands (including 1/1.5 & 4 kHz) have ≥ -5dB TE level and ≥ 6dB signal to noise ratio (SNR). For practical purposes, with some equipment it is necessary to set 4 out of 5 frequency bands as the stop criterion, and;
    - ≥80% reproducibility.
    - A 'refer' result occurs If these conditions have not been met after 70 seconds of recording.
- Audiometer with circum-aural or supra-aural headphones + play audiometry resources.
    - Frequency outputs must include 1, 2 & 4 kHz.
    - Intensity outputs must include the range 25 – 50 dB HL.
    - Additional transducers (insert earphones, bone conductor) are not required.

Annual calibration

The tympanometer, TEOAE screener and audiometer are to undergo formal calibration every 12 months via the local Biomedical Technology Services (BTS) of each Hospital and Health Service or other calibration service as appropriate.

The calibration service will affix a label to each piece of equipment indicating when the next calibration is due. The AHA is responsible for ensuring that equipment is booked for calibration prior to the due date.

Daily check

Prior to equipment being used the following checks and maintenance should be completed. It is recommended that the AHA documents their own 'normal' results for each of the screening tests to refer to when performing biological calibration.

- Otoscope
    - Check that light is working and not dull.
    - Ensure that otoscope is charged (if applicable).
    - Replace batteries and/or bulb as required.

- Tympanometer
    - Ensure that the probe tip is clean and free of wax and/or debris.
    - Perform tympanogram on your own ear and check that you get similar results to your usual.
    - Insert tympanogram probe in a 2cc / 0.5cc test cavity and run a tympanogram. This should show a flat trace with a volume that matches the volume of the test cavity (within 0.1 cc).
    - If any issues are encountered, clean the probe thoroughly and repeat, ensuring that the probe tip is fully inserted into the test cavity. Should issues continue, report to the supervising audiologist as a matter of urgency.

- TEOAE Screener
    - Ensure that the probe tip is clean and free of wax and/or debris.
    - Perform TEOAE screen on your own ear and check that you can hear the signal and that you get similar results to your usual.
    - Insert the probe into a test cavity and run the test for about 30 seconds. Ensure no bands are ticked (i.e., no pass result should be achieved for any frequency band).
    - If any issues are encountered, clean the probe thoroughly and repeat. Should issues continue, report to the supervising audiologist as a matter of urgency.

- Audiometer
    - Place headphones on your own ears and listen to the output at 1, 2 & 4 kHz from both the left and right headphones.
    - Ensure that you can hear the signal at the lowest levels you can normally hear (or within 10 dB of your usual threshold).
    - Ensure that the signal is coming from correct side and that there is no intermittency or unexpected sounds (e.g., crackling or clicks).
    - If any issues are encountered, report to the supervising audiologist as a matter of urgency.

SCREENING ENVIRONMENT

For valid results to be obtained the hearing screen must be conducted in a quiet room. A sound treated or sound-proof room is ideal but may not always be available. The following tips are recommended for ensuring an optimal test environment:

- Screen in a quiet room, away from noisy, or high traffic areas such as the waiting room or a busy corridor (the end of a corridor is often better).
- Identify noise sources in the room, and minimise where possible e.g., if there is an air conditioner, consider switching it off while conducting pure tone or TEOAE screening (note that this is not necessary during otoscopy and tympanometry, which are not affected by noise levels)
- If siblings are unable to remain quiet, they should be asked to wait outside.
- Ensure that anything used to distract the child during the screen (e.g., toys, mobile phone) does not make noise.

It is important to keep the clinic room clean and follow infection control guidelines. After every appointment, the AHA must:

- Remove any used speculae or probe tips from equipment and discard safely.
- Visually inspect the tympanometer and TEOAE probe for any wax or debris and clean as required.
- Wipe down headphones with a disinfectant wipe.
- Use a disinfectant wipe to clean surfaces that have had patient contact during the appointment, such as chairs, table or highchair.
- Wipe down any used toys and books with a disinfectant wipe.
- Once a day, wipe down all clinic room surfaces with a disinfectant wipe.

CLINICAL TASKS

The following clinical tasks are performed by the AHA. Full details of how to perform, explain and document the outcomes of each task are provided in the relevant CTI. Links to each CTI and provided.

Ear canal check

Check the child's ear canals with an otoscope, in accordance with Otoscopy Clinical Task Instruction.

https://www.health.qld.gov.au/__data/assets/pdf_file/0041/989159/d-ch01.pdf

Proceed to middle ear and hearing screen if otoscopy indicates it is safe to do so.

Middle ear screen

Screen the child's middle ear function in accordance with Tympanometry Clinical Task Instruction.

https://www.health.qld.gov.au/__data/assets/pdf_file/0033/989160/d-ch02.pdf

Type	Shape	Middle ear pressure	Outcome
A	Peaked	-100 daPa or greater (i.e., peak on or to the right of -100 daPa line)	Pass
B	Flat	N/A	Refer
C	Peaked	-101 daPa or less (i.e., peak to left of -100 daPa line)	Refer

Hearing screen

For children < 3.5 years old or children > 3.5 years old who cannot perform Pure Tone Screening

Screening Transient Evoked Otoacoustic Emissions (TEOAEs) in accordance with TEOAE Clinical Task Instruction.

https://www.health.qld.gov.au/__data/assets/pdf_file/0035/989162/d-ch04.pdf

Or, for children ≥ 3.5 years old

Pure Tone Screening in accordance with the Pure Tone Hearing Screening Clinical Task Instruction.

https://www.health.qld.gov.au/__data/assets/pdf_file/0034/989161/d-ch03.pdf

Pass = 2 positive responses at 25 dB HL at 1, 2 & 4 kHz

When to stop

The When to Stop guidance outlines circumstances under which screening should not proceed or should be discontinued and the appropriate action to take under such circumstances.

https://www.health.qld.gov.au/__data/assets/pdf_file/0024/735117/d-wts01.pdf

Tips for working with children

It is not always an easy task to conduct a complete hearing screen. Some children become distressed, others won't sit still, and some may have various degrees of learning and/or behavioural concerns. The supervising audiologist can provide you with helpful suggestions to ensure the greatest opportunity for a successful screen. Always ask for help if you need it.

Some handy hints are:

- Bubbles (these can be great for distracting child while something is in their ear).
- Books.
- Drawing.
- i-Pad, tablet or parent's phone with videos, photos etc. (sound off).
- Building blocks (done quietly).
- When performing tympanometry, children often enjoy watching the screen and seeing what kind of picture their ear can draw.
- Pretend to perform Tympanometry or TEOAEs or put headphones on parents to show the child that it is safe.
- Show the child the light from the otoscope (shine on their arm etc.) so they understand what is happening.
- Allow the parent or child to help put the probe in their ear so they have a sense of safety, familiarity, and control.
- Lightly touch the probe tip to the child's arm and face or let them feel it with their hand so they are aware that it is soft and safe.
- If a child is drinking from a bottle this can sometimes be quiet enough for screening TEOAEs.

TARGETED SURVEILLANCE SCREENING PATHWAYS

Pathways through the Targeted Surveillance program will vary depending on each child's screening results. Specific detail is provided in the tables from page 19 onwards.

Children screened at 9-12 months old will be either:

- discharged from the TS Program
- recalled for further TS screening at 3 ½ years old (children with a family history of hearing loss only)
- referred for Diagnostic Audiology

Children screened at 3 ½ years old will be either:

- discharged from the TS Program
- referred for Diagnostic Audiology

These outcomes may occur after a single screening occasion of service, or after a two-stage screen. Two-stage screening may occur under the following circumstances:

- Transient middle ear dysfunction is common in early childhood and can result in a 'refer' result on the hearing screen in children with transient conductive (temporary) hearing loss. To avoid over-referral of these children, a two-stage screening protocol is implemented for children who have a 'refer' result on both the hearing screen and middle ear screen at the initial appointment (TS1). These children are rescreened 2 months later at a second appointment (TS2) and only referred on for diagnostic audiology if they continue to have a 'refer' result on the hearing screen.
- The hearing screen will not be able to be completed for some children (e.g. uncooperative, unable to be quiet/still enough). If this occurs at the initial screen, the AHA and family can decide either to refer directly for diagnostic audiology if a second attempt is considered unlikely to be successful, or to rebook for a second attempt at screening. Where there have been two unsuccessful attempts at completing the hearing screen, referral for diagnostic audiology should occur.

Pass Criteria

A child who passes the hearing screen (either TEOAEs or pure tone screen) at either the first (TS1) or second (TS2) appointment will be considered to have passed the TS screen, regardless of the tympanometry result. Their GP is notified if the tympanometry result is 'refer'.

Referral Criteria (to Diagnostic Audiology)

Category 1 referrals (audiology recommended within 30 days)

- Children who refer on the hearing screen but pass the tympanometry screen or have a grommet sighted in their ear.

Category 2 referrals (audiology recommended within 60 days)

- Children who refer on both the hearing screen and the tympanometry screen at TS1 *and* TS2 appointments
- Children who are unable to complete, or non-compliant with the hearing screen at either the TS1 *or* TS2 appointment.

Note: To facilitate patient and family centred care, there is flexibility in how the transition to diagnostic audiology is managed. In settings where the AHA screen occurs within an audiology facility, diagnostic audiology may occur immediately following the screen provided that the conditions to trigger an audiology referral have been met. Whether to do this routinely or on a case-by-case basis according to patient circumstances is at the discretion of the audiology service.

CLINICAL STAGES

Initial Targeted Surveillance Appointment (TS1)

- Check 3 points of identification to ensure you have the correct child.
- Explain the nature of the appointment to the family.
    - *"I am an audiology assistant. Today I will be performing a hearing screen that checks 3 parts of your child's ears: the outer ear, the middle ear, and the inner ear. If your child does not pass the hearing screen, they will need further follow-up and we will discuss the next steps based on the results we are seeing."*
- Ask patient history questions and document responses and any other information provided on the AHA Hearing Screening form.
- Provide an opportunity for the family to ask any questions.
    - *"Do you have any questions before we start?"*
- Request consent to perform the screen.
    - "*Is it OK with you if I go ahead and start the screen?"*
- Chat or play with the child briefly to build rapport (unless child is asleep, in which case consider attempting otoscopy and TEOAE screen while they are asleep).
- Perform otoscopy. If clear, proceed with screening tympanometry and hearing screen (in either order).
- Record results on the AHA Hearing Screen Form (or alternative documentation).
- Explain recommended action to the family based on the results obtained (see page 19).
    - If the recommended action is unclear, explain to the family that you will discuss the results with the supervising audiologist and that you or the audiologist will then contact the family to talk about the next step.
- Explain to the family that an audiologist will review the results and that they will be contacted by the audiologist if the audiologist recommends an alternative action plan.
- Forward all documentation and results to the supervising audiologist

Notes:

- As a general rule of thumb appointment length should be 30 minutes, however this may be adjusted as appropriate, for example longer for AHAs new to the role, or shorter for very experienced AHAs who are comfortable with a shorter appointment.
- If the child does not pass the hearing screen, the screen should be repeated within the same appointment.
    - If one ear has passed the hearing screen, only rescreen the ear that didn't pass.
    - If the final result after rescreening is a pass in both ears, then the child has passed the hearing screen.

- A 'refer' result can occur on the TEOAE screen if the child or environment is noisy during the test.
    - In these instances, advise the family that you will contact them to recommend the next steps after you have discussed the results with the Supervising Audiologist.
- If the child is non-compliant for the initial hearing screen, there are two options:
    - Offer the family another appointment. Provide verbal information about how the family can prepare or desensitise their child for the next appointment. The outpatient letter will also provide this information in writing.
    - If AHA, parent or guardian feels the child is too complex for the screening service, the supervising audiologist can arrange for a diagnostic audiology assessment to be scheduled.

Second Surveillance Appointment (TS2)

A TS2 appointment is only conducted for children who either:

(i) had a 'refer' result on both the hearing screen AND tympanometry screen at the TS1 appointment, or
(ii) were unable to complete the hearing screen at the TS 1 appointment.

TS2 appointments follow the same procedure and recommend actions as the TS1 appointment with the following exceptions:

- 'Refer' result on the hearing screen (TS2)
    - Refer for diagnostic audiology regardless of tympanometry result
    - *"Your child did not pass the hearing screen today. I recommend that they see an Audiologist for a full diagnostic hearing assessment to find out what's going on with their hearing. I will arrange this for you."*
    - OUTPATIENT LETTER:
        - REFER TEOAE/PTS, PASS tymp or grommet sighted (Cat 1 referral), or
        - REFER TEOAE/PTS, REFER tymp (Cat 2 referral), or
        - REFER TEOAE/PTS, NO RESULT tymp (Cat 2 referral)

- Unable to reliably complete hearing screen (TS2)
    - Refer for diagnostic audiology
    - "*We have not been able to reliably perform a hearing screen today. I recommend that your child sees an Audiologist who will have access to different kinds of equipment and tests to help complete the hearing assessment. I will arrange this for you."*
    - OUTPATIENT LETTER:
        - NO RESULT TEOAE/PTS (Cat 2 referral), or
        - NO RESULT TEOAE/PTS, REFER tymp (Cat 2 referral)

TARGETED SURVEILLANCE APPOINTMENT OUTCOMES, ACTION, EXPLANATION TO FAMILY, AND OUTPATIENT LETTER

PASSED HEARING SCREEN IN BOTH EARS				
TEST	RESULT	ACTION	EXPLANATION TO FAMILY	OUTPATIENT LETTER
Otoscopy Tympanometry Hearing screen	Clear Type A No seal Unable to complete screen Not performed – grommet sighted Pass	1) Discharge from TS OR 2) Recall at 3 ½ years old (family history only)	*Your child has passed the hearing screen today. Hearing can change over time. If you have any concerns about your child's hearing or speech in future, you can discuss them with your family doctor.* *Your child has passed the hearing screen today. Because of the family history of hearing loss, we will recall your child at 3 ½ years old for another hearing screen.*	1 PASS TEOAE/PTS (discharge) 2 PASS hearing - recall at 3.5 years
Otoscopy Tympanometry Hearing screen	Clear Type B Type C Pass	1) Alert GP of tympanometry result and discharge from TS OR 2) Alert GP of tympanometry result and recall at 3 ½ years old (family history only)	*Your child has passed the hearing screen today and will be discharged from our service. However, there is a build-up of fluid (Type B) or pressure (Type C) behind the ear drum. Your family doctor can manage this. I will send a report to your doctor to let them know.* *Your child has passed the hearing screen today. However, there is a build-up of fluid (Type B) or pressure (Type C) behind the ear drum. Your family doctor can manage this. I will send a report to your doctor to let them know. Because of the family history of hearing loss, we will also recall your child at 3 ½ years old for another hearing screen.*	3 PASS TEOAE/PTS, REFER tymp (discharge to GP) 4 PASS TEOAE/PTS, REFER tymp (recall at 3.5 years)

REFER RESULT ON HEARING SCREEN IN ONE OR BOTH EARS				
TEST	RESULT	ACTION	EXPLANATION TO FAMILY	OUTPATIENT LETTER
Otoscopy Tympanometry Hearing screen	Clear Type A Not performed – grommet sighted Refer	Category 1 referral for diagnostic audiology	*Your child did not pass the hearing screen today. I will arrange a referral to an audiologist for a full diagnostic hearing assessment to find out what's going on with their hearing. You should receive an appointment in about 4 weeks.*	5 REFER TEOAE/PTS, PASS tymp or grommet sighted (Cat 1 referral)
Otoscopy Tympanometry Hearing screen	Clear Type B Type C Refer	1) ***Initial screen*** Book rescreen in 2 months and alert GP of tymp result OR 2) ***Review screen*** Category 2 referral for diagnostic audiology	*Your child did not pass the hearing screen today. The tympanometry screen suggests that there is a build-up of fluid (Type B) or pressure (Type C) behind the ear drum(s). We will review your child in 2 months to check if the fluid/pressure has cleared and to repeat the hearing screen. In the meantime, I recommend that you make an appointment with your family doctor about the fluid/pressure behind the eardrum.* *Your child did not pass the hearing screen today. The tympanometry screen suggests that there is a build-up of fluid (Type B) or pressure (Type C) behind the ear drum(s). Because this is the second time your child has not passed the screen, I will arrange a referral to an audiologist for a full diagnostic hearing assessment. You should receive an appointment in about 2 months.*	6 REFER TEOAE/PTS, REFER tymp (rescreen) 7 REFER TEOAE/PTS, REFER tymp (Cat 2 referral)
Otoscopy Tympanometry Hearing screen	Clear No seal Unable to complete screen Refer	1) ***Initial screen*** Book rescreen in 2 months OR 2) ***Review screen*** Category 2 referral for diagnostic audiology	*Your child did not pass the hearing screen today. Sometimes this can be because of a temporary build-up of fluid or pressure in the middle ear, although we haven't been able to check that today. Let's try again in a couple of months.* *Your child did not pass the hearing screen today. Because this is the second time your child has not passed the screen, I will arrange a referral to an audiologist for a full diagnostic hearing assessment. You should receive an appointment in about 2 months.*	8 REFER TEOAE/PTS, NO RESULT tymp (rescreen) 9 REFER TEOAE/PTS, NO RESULT tymp (Cat 2 referral)

UNABLE TO COMPLETE HEARING SCREEN				
TEST	RESULT	ACTION	EXPLANATION TO FAMILY	OUTPATIENT LETTER
Otoscopy Tympanometry Hearing screen	Clear Type A No seal Unable to complete screen Not performed – grommet sighted Unable to screen	1) ***Family and AHA agree that another attempt at screening is appropriate*** Book rescreen in 2 months OR 2) ***Family and/or AHA believe that another attempt at screening is unlikely to be successful*** Category 2 referral for diagnostic audiology	*We have not been able to complete the hearing screen today. Let's try again in a couple of months. You will receive a letter that provides some ideas for how you can prepare your child for their next hearing screen.* *We have not been able to complete the hearing screen today. An Audiologist will have access to different kinds of equipment and tests to help complete the hearing assessment. I will arrange a referral for your child.*	10 NO RESULT TEOAE/PTS (rescreen) 11 NO RESULT TEOAE/PTS (Cat 2 referral)
Otoscopy Tympanometry Hearing screen	Clear Type B Type C Unable to screen	1) ***Family and AHA agree that another attempt at screening is appropriate*** Book rescreen in 2 months OR 2) ***Family and/or AHA believe that another attempt at screening is unlikely to be successful*** Category 2 referral for diagnostic audiology	*We have not been able to complete the hearing screen today. Let's try again in a couple of months. You will receive a letter that provides some ideas for how you can prepare your child for their next hearing screen.* *In the meantime, I recommend that you make an appointment with your family doctor because the tympanometry screen suggests that there is a build-up of fluid (Type B) or pressure (Type C) behind the ear drum(s).* *We have not been able to complete the hearing screen today. An Audiologist will have access to different kinds of equipment and tests to help complete the hearing assessment. I will arrange a referral for your child.* *In the meantime, I recommend that you make an appointment with your family doctor because the tympanometry screen suggests that there is a build-up of fluid (Type B) or pressure (Type C) behind the ear drum(s).*	12 NO RESULT TEOAE/PTS, REFER tymp (rescreen) 13 NO RESULT TEOAE/PTS, REFER tymp (Cat 2 referral)

OTOSCOPY NOT CLEAR FOR SCREENING				
TEST	RESULT	ACTION	EXPLANATION TO FAMILY	OUTPATIENT LETTER
Otoscopy Tympanometry Hearing screen	Not clear Do not screen Do not screen	Refer to GP and rebook following GP review	*Otoscopy today has shown that your child's ear canal has discharge/blood/foreign body/perforated eardrum (state which). We can't do the hearing screen today. Your child will need to visit your doctor for review and management. Once your doctor has advised you that your child's ears are clear, we will see them again to complete the hearing screen. I will let your doctor know the plan.*	14 OTOSCOPY UNSUITABLE FOR SCREENING

OTHER SCENARIOS				
TEST	RESULT	ACTION	EXPLANATION TO FAMILY	OUTPATIENT LETTER
Unusual scenarios not covered above.		Supervising Audiologist to advise	Supervising Audiologist to advise	15 CUSTOM LETTER

MEDICO-LEGAL DOCUMENTATION

The inclusion of the following three documents linked to the encounter in the patient's medical record will provide sufficient documentation in most instances:

- Tympanometry and TEOAE traces
- AHA Hearing Screen form (or alternative documentation)
- Outpatient letter

A progress note is also required in instances such as failure to attend, or where there are additional details that need to be documented. Medico-legal guidelines for AHAs documenting in a patient's health record are available at: https://www.health.qld.gov.au/__data/assets/pdf_file/0029/144866/ahadocguide.pdf

FAILURE TO ATTEND (FTA) PROTOCOL

If the family fails to attend a booked appointment, the AHA should attempt to contact the family and all alternative contacts listed on the Screening & Referral form, including the child's GP. Also refer to any updated or additional phone numbers in your local information database (e.g., HBCIS). If appropriate, utilise other avenues to contact the family e.g. Indigenous Liaison Officer.

A standardised form "Targeted Surveillance Program Discharge Letter" is available to communicate with the family, GP and other parties in instances where the child is being discharged from the program (Queensland Health sites only).

If you are able to contact the family

- Advise that their child was booked for a hearing screen due to the risk factor for hearing loss. State the risk factor (with the exception of certain congenital infections – discuss with the supervising audiologist if you have concerns). Offer to rebook the appointment.
    - ***If the family agrees to rebook:***
        - Rebook appointment at a time convenient to the family.
        - Document FTA and the plan to rebook in medical record and in QChild.
    - ***If the family declines to rebook:***
        - Advise the family that if they have any future concerns about their child's hearing or speech development, they can speak with their GP about a referral to Audiology (or self-refer for another AHA hearing screen if your service offers this option).
        - Send discharge letter. Ensure a copy goes to the child's medical record.
        - Document the FTA and plan to discharge in QChild.
        - Discharge from the program.

- ***If the family has relocated and wishes to be transferred to a local service:***
  - Document the FTA in QChild.
  - Create a 'pending' referral for TS in QChild from your site to the new site. Contact Healthy Hearing if assistance is required in identifying the appropriate site.
  - Send the Screening and Referral form and other relevant documentation to the new site.

If you are unable to contact the family

- Complete the Targeted Surveillance Program Discharge Letter and send to the family's last known address and other recipients (GP, newborn hearing screening site, medical record)
- Discharge from the service.
  - If the family makes contact after receiving the letter, the referral may be reinstated.
- Document the FTA and plan to discharge in QChild.

Repeated FTAs

- Discharge child from program if there are two FTAs (whether consecutive or not).
- Complete the Targeted Surveillance Program Discharge Letter and send to the family's last known address and other recipients (GP, newborn hearing screening site, medical record)
  - If the family makes contact after receiving the letter, the referral may be reinstated.
- Document the FTA and plan to discharge in QChild.