



Lesson 1: Introduction to programmable hearing aids

This module builds on the TAP Preprogrammed hearing aids module and focuses on providing programmable hearing aids for children.

Impact of hearing aids for children

Hearing aids help children with hearing loss to hear speech and sounds in their environment. Hearing aids can reduce the effect of hearing loss. They support a child's learning at school, socialising and friendships, speech and language development.

Assessment for hearing aids

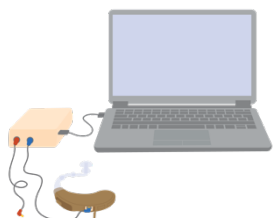
Children aged five years and older can be assessed and fitted with programmable hearing aids. Children under five years of age can also use programmable hearing aids. However, they require assessment from a person with more specialist training. ➡ Refer to an ear and hearing professional

Assessment for hearing aids requires a hearing test. Before carrying out a hearing test for children complete an ear health screen to check both their ears are healthy. The results of a child's hearing test can be graded to six different levels for each ear. The grades are based on average hearing thresholds for each ear.

Grades of hearing loss	Recommendations
1. Normal hearing 2. Mild hearing loss 3. Moderate hearing loss 4. Moderately severe hearing loss 5. Severe hearing loss 6. Profound hearing loss	Children with mild to moderately severe hearing loss are recommended hearing aids. Children with severe and profound hearing loss have more complex needs and should be ➡ referred to an ear and hearing professional.

Programmable hearing aids

If a child has hearing loss, programmable hearing aids are recommended for both ears. These hearing aids are also an option for adults. If an adult requires programmable hearing aids ➡ refer to an ear and hearing professional.



Adjustments for programmable hearing aids:

Programmable hearing aids are adjusted according to individual needs.

They can be adjusted by:

- Computer software
- An app.

They provide extra programming features to make sounds clearer.

Lesson 2: Step one: Select

Assessment overview

Through an assessment you will gather information about the child's hearing and grade of hearing loss. The information will help you and the child's caregiver to plan:

- If they may benefit from hearing aids
- What type of hearing aids might be suitable

- What to teach
- Follow up
- Referral to other services.

If the child already has hearing aids and is returning to the service, this assessment can check whether the hearing aids are meeting their needs.

Hearing test preparation

Before the hearing test, check the environment is suitable for testing by measuring the level of background noise. The noise level should be less than 40 decibels (dB).

Prepare the child by explaining the test in a simple, fun and playful way. This should be suitable for the child's age. Show the equipment so they know what will happen during the hearing test. Involve the child and their caregiver.




Hearing test

1. Explain the hearing test.
2. Practice test response. If the child does not pass the practice, do not continue to the hearing test.
3. Carry out the hearing test. The child must respond correctly at least two out of three times to confirm the hearing threshold for each frequency.
4. Calculate average hearing threshold. The difference between right and left ears should be less than 15 dB.
5. Record result for each ear. Include test confidence and grade of hearing loss for right and left ear.

Tip

If the child does not respond to the test try: changing the response signal, using toys to encourage them or ask their caregiver or another child to demonstrate.

Plan

- **Monitor:** Plan follow up in one year for children with hearing in normal range, to retest hearing.
- **Refer:** With their caregivers permission  refer children with severe to profound hearing loss or more than 15 dB difference between average hearing thresholds in their right and left ears to an ear and hearing professional.

Some children will benefit from hearing aids. A child and/or their caregiver may need time to think about whether they want or need hearing aids. Explain the potential benefits of hearing aids and offer the opportunity to practice using a hearing aid before deciding.

- **Select:** Type of hearing aid, correct size of earmould and battery. Record details.
- **Teach:** Child and their caregiver how to use to get the most benefit from their hearing aids.
- **Follow up:** Within two weeks to check how the child is getting on with their hearing aids.

Lesson 3: Step two: Fit

Check hearing aids

Before fitting a hearing aid, check the hearing aid has no sign of damage and is working. You should be able to hear all the Ling sounds clearly.

Programming

Programming the hearing aid will adjust the loudness of individual sounds to match the results of a person's hearing test. Before starting, check the hearing aid program or app is downloaded on your device and the hearing aid is connected (the serial number of the hearing aid should be seen).

- Create a record with the child's details and hearing test results.

- Enter the type of earmould. Select prescriptive formula (this is the default setting) to programme the hearing aid with the most suitable settings for the child. Select 'first fit' and save settings before closing the application and disconnecting the hearing aids from the programmer.

Trial hearing aids

After hearing aid programming, it is important to carry out a hearing aid trial. A hearing aid trial will include:


- Fitting hearing aids
- Adjusting hearing aids.

Fit hearing aids

1. Start by fitting the earmould. The earmould should be comfortable and fit inside the child's ear canal with no gaps.
2. Cut the earmould tube to the correct length. The hearing aid should rest comfortably on top of the ear with no gaps.

Adjust hearing aids

Check a child can hear your voice clearly when wearing their hearing aids.

1. Use the Ling sounds test. The sounds used represent speech sound across low, middle and high frequencies.
If a child responds to all six Ling sounds, it shows they can hear the sounds of speech at normal conversation levels. The child should hear at least five out of six of the sounds to pass the test.
2. Check the hearing aid for feedback (whistling sound). There should be no feedback.
3. Ask the child and/or caregiver questions to understand if the child is comfortable with how their hearing aid sounds. Adjust the sound level if necessary.
4. If the child and their caregiver are not satisfied with the trial, discuss with your mentor.  Refer to an ear and hearing professional if needed.



Lesson 4: Step three: Use

How to use hearing aids

It is important to explain the benefits of using hearing aids. Encourage the child to build up use by using them regularly and listening to their voice and other voices.

Teach the child and/or caregiver how to use their hearing aid correctly including how to:

- Identify the parts
- Turn on and off
- Adjust the volume
- Put on and take off
- Replace and look after battery.

How to look after hearing aids

To prevent damage, it is important to teach a child and their caregiver to care for the hearing aids. This includes:

- **Cleaning the earmould and hearing aid:** Only the earmould should be cleaned with water!
- **Avoiding water damage:** It is important to protect hearing aids from getting wet.
- **Storing safely:** Avoid moisture by wiping daily. Store hearing aid with the battery door open in a dehumidifier overnight. Put the battery in a hearing aid box.

Lesson 5: Step four: Follow up

Hearing aid follow up for children

Follow up for children includes children between 5-17 years old. Early follow up is advised at two weeks and two months to support a child to adjust to their hearing aids and gain maximum benefit.

Children may cause extra wear and tear on hearing aids. A six month follow up is recommended for hearing aids only. Ask the caregiver to bring the hearing aids to the service for a product check.

Reassessment is necessary every year for children. Their needs may change more quickly than adults as they are still growing. Follow up may take place remotely by phone or video call, or in person. The first follow up and reassessment appointments must be done **in person**.


Follow up for hearing aids will help you find out if the:

- Hearing aids are meeting the child's needs
- Hearing aids need repair or replacing
- Hearing aids still fit well
- Child needs any problem solving for safe and correct use.

Benefit from using hearing aids

To find out if a child is fully benefitting, check if they:

- Are satisfied with the comfort and experience of using their hearing aids
- Use their hearing aids more than four hours a day
- Can hear 5-6 Ling sounds.

If the answer is no to any, they are not fully benefitting from their hearing aids. Try problem solving. If problem solving does not help, ask them to attend an in person follow up appointment to carry out an ear health and product check. If a solution is not possible, discuss with service mentor and if needed  refer to ear and hearing professional.

Explain that every year it is important to check their ear health and repeat their hearing test to see if there are any changes.

Check the hearing aid is working correctly using the listening tube. If one or both hearing aids are not working, clean and replace any worn or damaged parts. If this does not help discuss with mentor and if needed, send to manufacturer.

Maintenance and repairs

Maintenance, repairs and problem solving are an important part of follow up. This is discussed in the TAP Preprogrammed hearing aids module.

Encourage caregiver to return to the service with their child at any time if they experience any difficulties with their hearing or hearing aids.