

## Lesson 1: Introduction to hearing aids

### Who uses hearing aids


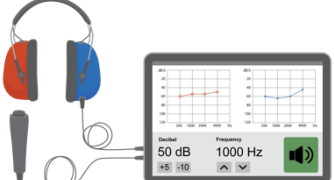

Hearing loss is when a person is not able to hear as well as a person with normal hearing. Hearing aids help people with hearing loss to hear speech and sound. They may be used by people of all ages who have difficulty with hearing.

In TAP, children over five years of age and adults can be assessed and fitted with hearing aids. Children under five years of age need assessment from a person with more specialist training.

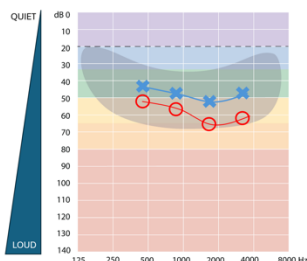
### Measuring hearing loss

Hearing loss is measured using an audiometer.

An audiometer tests how well a person hears sounds (hearing test). This includes how well a person can hear different types of sound (frequency) and how loud or quiet sounds are (decibels).

Audiometer machine	Audiometer app on tablet	Audiometer app on smartphone
		

### Hearing test



The hearing test results are shown in an audiogram.

An audiogram shows the quietest sound that a person can hear (hearing threshold) at different frequencies of sound. Results for each ear are shown in a different colour or shape.

### Grades of hearing loss

The results of an audiogram can be graded to six different levels for each ear. The grades are based on average hearing thresholds for each ear.

1. Normal hearing
2. Mild hearing loss
3. Moderate hearing loss
4. Moderately severe hearing loss
5. Severe hearing loss
6. Profound hearing loss

### Hearing aids

Hearing aids are electronic devices worn on the ear. They assist a person by making some sounds louder so that the person can hear better.

### Hearing aids included in TAP

## Behind-the-ear hearing aids



### Pre-programmed:

- Already programmed according to common types of hearing loss
- Can be adjusted manually or on a smartphone or tablet
- Suitable for adults.

### Fully programmable:

- Can be adjusted by computer software or a downloaded app
- Provide extra programming features to make sounds clearer
- Suitable for children and adults.

Important features	Other features
<p>Hearing aids should be comfortable and easy to wear behind the ear and durable when exposed to light rain, humidity and dust. Different sizes of pre-shaped earmoulds should be available.</p> <p>Essential adjustments include:</p> <ul style="list-style-type: none"><li>• 2 to 8 sound processing channels</li><li>• Fitting range to include mild to severe hearing loss.</li></ul>	<p>Other features may include:</p> <ul style="list-style-type: none"><li>• Rechargeable hearing aid and/or battery</li><li>• Programming connection (wireless or cable)</li><li>• Additional channels.</li></ul> <p>Hearing aids may have extra features which make:</p> <ul style="list-style-type: none"><li>• It easier to hear speech sounds in noisy environment</li><li>• Sounds that are loud more comfortable to hear.</li></ul>

## Hearing aids not included in TAP

Custom earmoulds	In-the-ear hearing aids	Cochlear implants
A grey, custom-shaped earmould with a small tube extending from the top.	Two in-the-ear hearing aids, one red and one blue, with small tubes.	A diagram showing a person's head in profile with a cochlear implant on the ear, and a cross-section of the ear showing the internal components.

Analogue hearing aids are also not included in TAP as they have limited technology to make sounds louder.

## Lesson 2: Step 1: Select

### Assessment overview

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

- If they may benefit from a hearing aid
- What type of hearing aids may be suitable
- What to teach them
- Follow up
- Referral to other services.

If the person already has a hearing aid, this assessment can check whether the hearing aid is meeting their needs.

### Hearing test

A hearing test (audiometry) will measure a person's right and left ears to check for hearing loss. The results will help you both decide if a hearing aid could help.

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).

#### Warning


If a person has an ear health problem, it may make the hearing test result worse. Treating the ear health problem first will give a more accurate hearing test result. Always do an ear health screen to check a person's ears before a hearing test.

When carrying out a hearing test with a person:



1. Explain the hearing test
2. Practice test response
3. Carry out hearing test

After the hearing test calculate the average hearing threshold

- Get the average decibels (dB) by adding threshold values of 500 Hertz (Hz), 1000 Hz, 2000 Hz, and 4000 Hz then divide by four.
- Check the degree of hearing loss based on the average. Refer to the Grade of hearing loss table on the assessment form to confirm the degree of hearing loss.
  - Recommend hearing aid fitting for **children** with **mild to moderately severe** hearing loss
  - Recommend hearing aid fitting for **adults** with **moderate to severe** hearing loss
- A person 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.

People with unilateral (one sided hearing loss) and asymmetrical hearing loss (right and left average thresholds different by more than 15 dB) have more complex needs  Refer to ear and hearing professional.

Recommend:

- Adults with mild hearing loss and children with normal hearing have their hearing tested annually
- Children with severe or profound hearing loss should be referred  ear and hearing professional
- Adults with profound hearing loss should be referred  ear and hearing professional.

### Hearing aid suitability

Before selecting a hearing aid, make sure you have the fitting table provided by the manufacturer. Plot the person's hearing thresholds for right and left ear on the fitting range table to check it is suitable.

## Lesson 3: Step 2: Fit

### Check hearing aid

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

## Programme hearing aid

Programming a hearing aid means adjusting the settings of the hearing aid to match the hearing loss of the person. Programming will make some sounds louder based on the person's type and grade of hearing loss. Programming can be phone assisted or by computer.

Pre-programmed hearing aids are already programmed according to common types of hearing loss.

## Trial hearing aid

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

1. Fitting the hearing aid
2. Hearing aid adjustments.

Prepare the person by explaining that using a hearing aid is not the same as having normal hearing. It takes time to adjust to using a hearing aid. A hearing aid trial allows the hearing aid to be adjusted for their comfort.

## Fitting the hearing aid

- Start by fitting the earmould. The earmould fits correctly if it is comfortable and easy to fit in/out of the person's ear canal.
- Cut the earmould tube to the correct length. The tube is the correct length when the hearing aid rests comfortably on top of the person's ear with no gaps.

## Hearing aid adjustments

Check the person can hear your voice clearly and adjust the volume if necessary. For children, the Ling sounds test is used to check they can hear clearly. If the person is not comfortable with the sound of their hearing aid, discuss with your service mentor.

## Ling sounds testing



Ling sounds testing is done with the child wearing their hearing aids. The test is usually done in a quiet room to avoid background noise. The sounds used are “ah”, “ee”, “oo”, “mm”, “sh”, and “ss”. Speak in a normal speaking voice and say the sounds one at a time:

- Wait for the child to respond after each sound
- The child should repeat each sound back to you to confirm they can hear the sound clearly
- If a child responds to all six Ling sounds, it shows they can hear the sounds of speech at normal conversation levels.

## Lesson 4: Step 3: Use

### How to use hearing aids

It is important to explain the benefits of using a hearing aid and encourage the person to build up use by using them regularly and listening to their voice and other voices.

Teach a person how to use their hearing aid correctly including how to:

1. Identify the parts of a hearing aid
2. Turn the hearing aid on and off
3. Adjust the volume of the hearing aid
4. Put on and take off the hearing aid
5. Replace and look after battery.

## How to look after hearing aids

To prevent damage, it is important to teach a person to care for their 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 with the battery door open in a dehumidifier case over night.

## Lesson 5: Step 4: Follow up

Follow up should be done for all people who are using hearing aids. Early follow up is advised at two weeks and two months to support a person to adjust to their hearing aid/s and gain maximum benefit.

Reassessment is recommended:

- Yearly for children
- Every two years for adults.

Follow up may take place remotely by phone or video call, or in person. Some follow up appointments must be done **in person**. This includes:

- The first appointment for children, two weeks after hearing aid fitting
- Yearly reassessment appointments for children
- Two yearly reassessment appointments for adults.


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

- Hearing aid is meeting the person's needs
- Hearing aid needs repairs or replacing
- Hearing aid still fits well
- Person needs any problem solving for safe and correct use.


### Hearing aid follow up for adults

Follow up for adults is recommended at two weeks, two months and two years. To find out if the person is fully benefitting from their hearing aid, check if they:

- Are satisfied with their hearing aid
- Use their hearing aid more than four hours a day
- Benefit from using their hearing aid moderately or more.

If the person does not answer yes to all, they are not fully benefitting from their hearing aids/s. Try problem solving. If problem solving does not help, ask them to attend an in person follow up appointment. If a solution is not possible, discuss with service mentor and if needed  refer to ear and hearing professional.

Explain that every two years 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. Connect the hearing aid to a listening tube and check you can hear the six Ling sounds clearly. 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.

### Hearing aid follow up for children

In TAP, follow up for children includes children between 5-18 years old. Follow up for children is recommended at two weeks, two months, one year. An additional product check is recommended at six months.

To find out if the child is fully benefitting from their hearing aid check if they:

- Are satisfied with their hearing aid
- Use their hearing aid more than four hours a day
- If the child hears 5-6 Ling sounds when wearing their hearing aids

If the child and/or their caregiver does not answer yes to all, they are not fully benefitting from their hearing aids/s. Try problem solving. If problem solving does not help, ask them to attend an in person follow up appointment. If a solution is not possible, discuss with service mentor and if needed  refer to ear and hearing professional.

Check the hearing aid is working correctly.

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

### **Maintenance and repairs**

- Clean and check each hearing aid. Remove battery and dry with a cloth to remove any moisture. Use a cloth or brush to clean the hearing aid and battery compartment. Use wire and brush to remove any blocked ear wax.
- Replace any worn or damaged parts. Parts which commonly need to be replaced include:
  - Battery
  - Ear hook
  - Earmould
  - Tubing.
- Replace hearing aid if it has major cracks or has been damaged by water.