Creating Deaf Friendly Settings

(Secondary and Primary settings)

Anita Biswas, Deborah Tetstill and Simone Banks

Advisory Teachers of the Deaf

Specialist Team – Deaf and Hard of Hearing Support Team

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Outcomes from today's training:

- Knowledge of key facts about hearing loss
- How to use and maintain hearing devices
- Understand the impact of deafness on language development and learning
- Understand the impact of deafness on social and emotional wellbeing
- Identify strategies that can be used by staff to successfully include children in the setting

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How confident do you feel about supporting a deaf child in your setting?

- 1. Very confident
- 2. Somewhat confident
- 3.A little confident
- 4.Not confident

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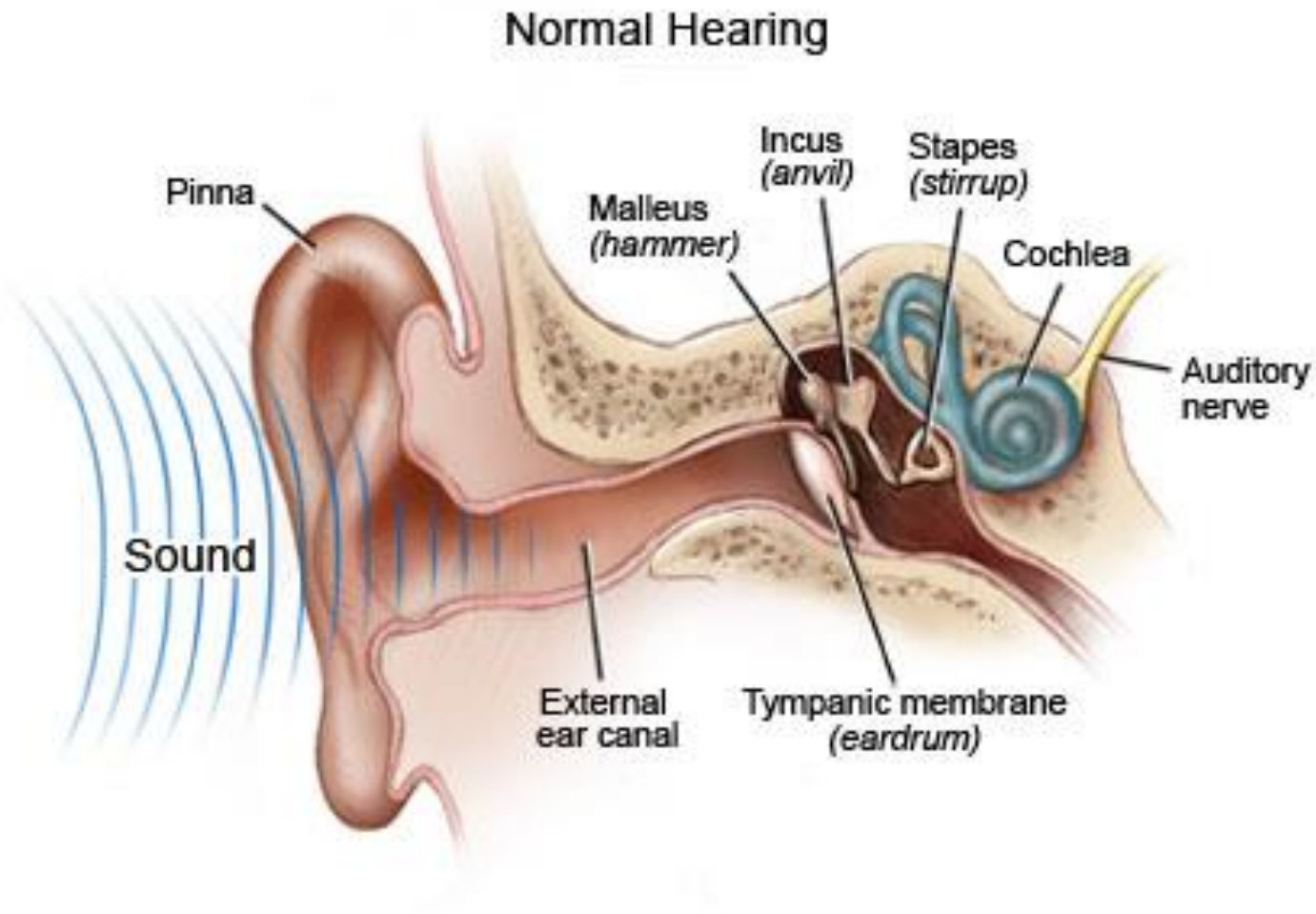
How Normal Hearing Works

Sound waves enter the outer ear and travel through the ear canal to the ear drum, causing it to vibrate.

Vibration of the eardrum sets into motion the three small bones of the middle ear, which in turn, transfer the vibration from the eardrum to the inner ear.

The inner ear, also known as the cochlea, senses the vibration and converts it into electrical signals.

The hearing nerve transmits electrical signals from the cochlea to the brain, where they are interpreted as sound.



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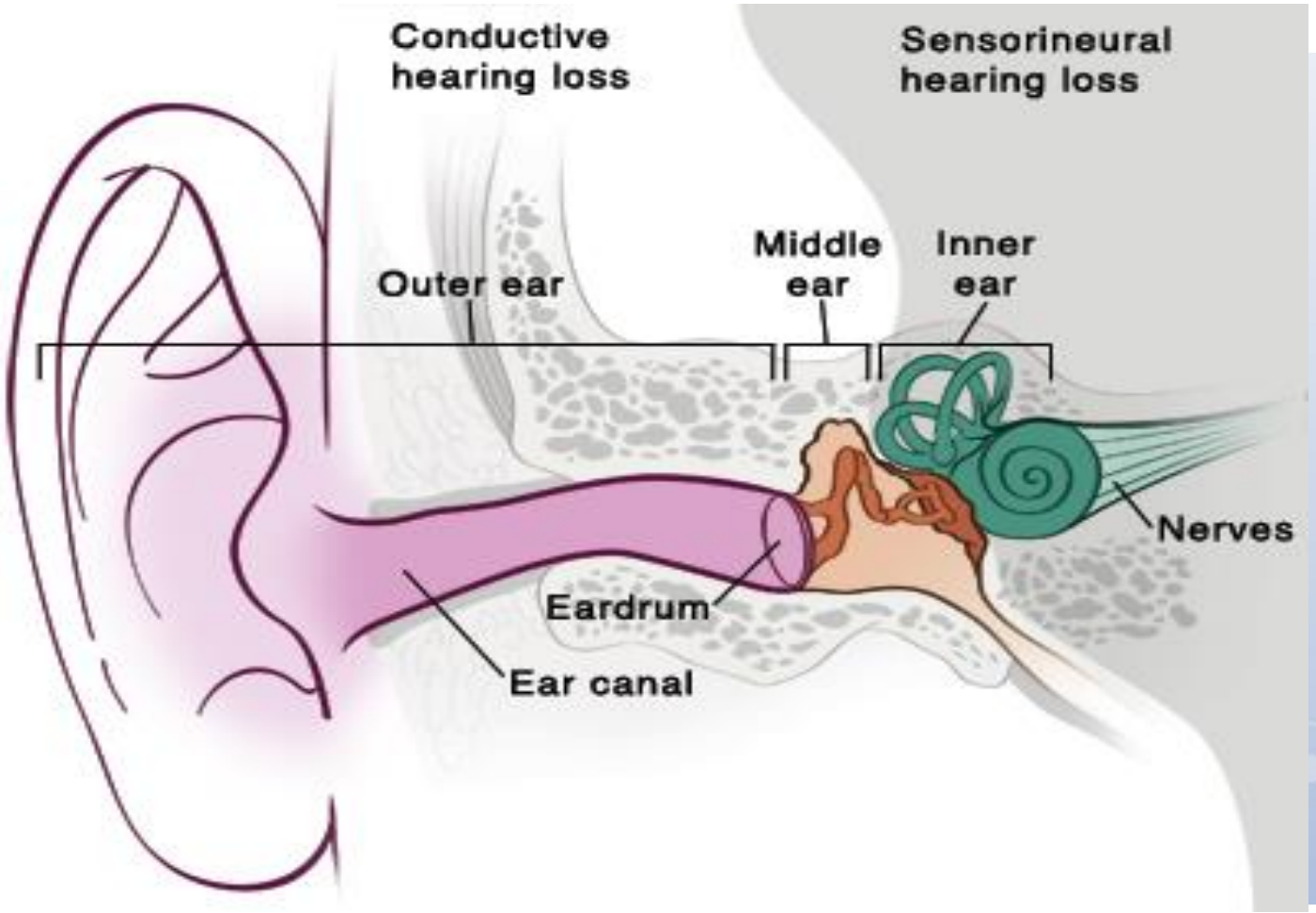

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Types of Hearing Loss

Conductive Hearing Loss:

- Hearing loss in the middle ear - usually temporary (glue ear, perforated eardrum)

Sensorineural Hearing Loss:

- Permanent hearing loss of the inner ear (Connexin 26, genetic, unknown cause)

Mixed Hearing Loss:

- A Sensorineural hearing loss with a conductive overlay

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What percentage of children will have glue ear (resulting in a hearing loss) before the age of 10?

- 50 per cent
- 20 percent
- 10 per cent

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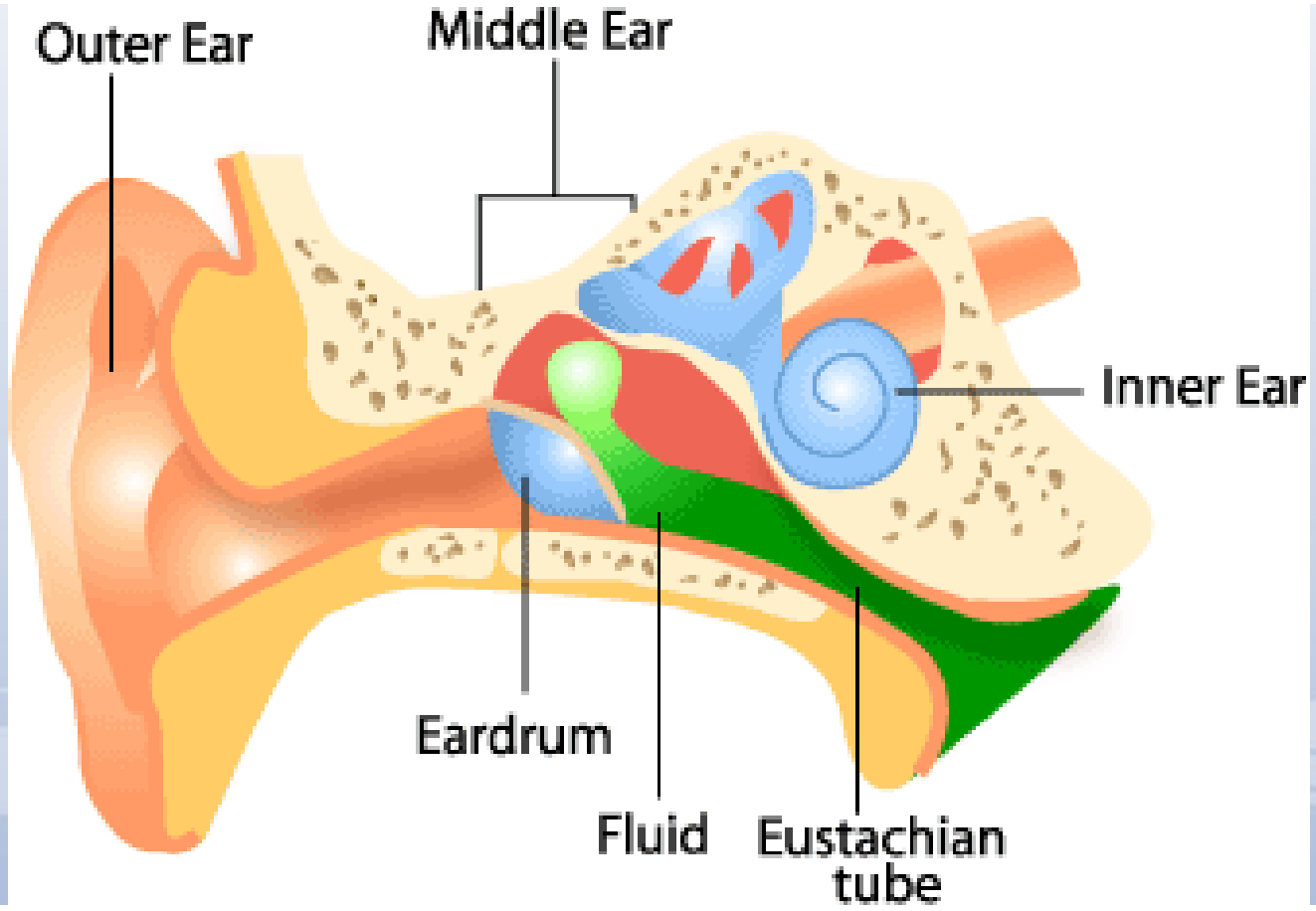
Glue Ear

- 1 in 5 children will have experienced glue ear by the age of 10
- Occurs when fluid collects in the child's middle ear
- Main symptom is temporary hearing loss
- Often occurs after infection, but can also occur when a blockage affects the child's eustachian tube





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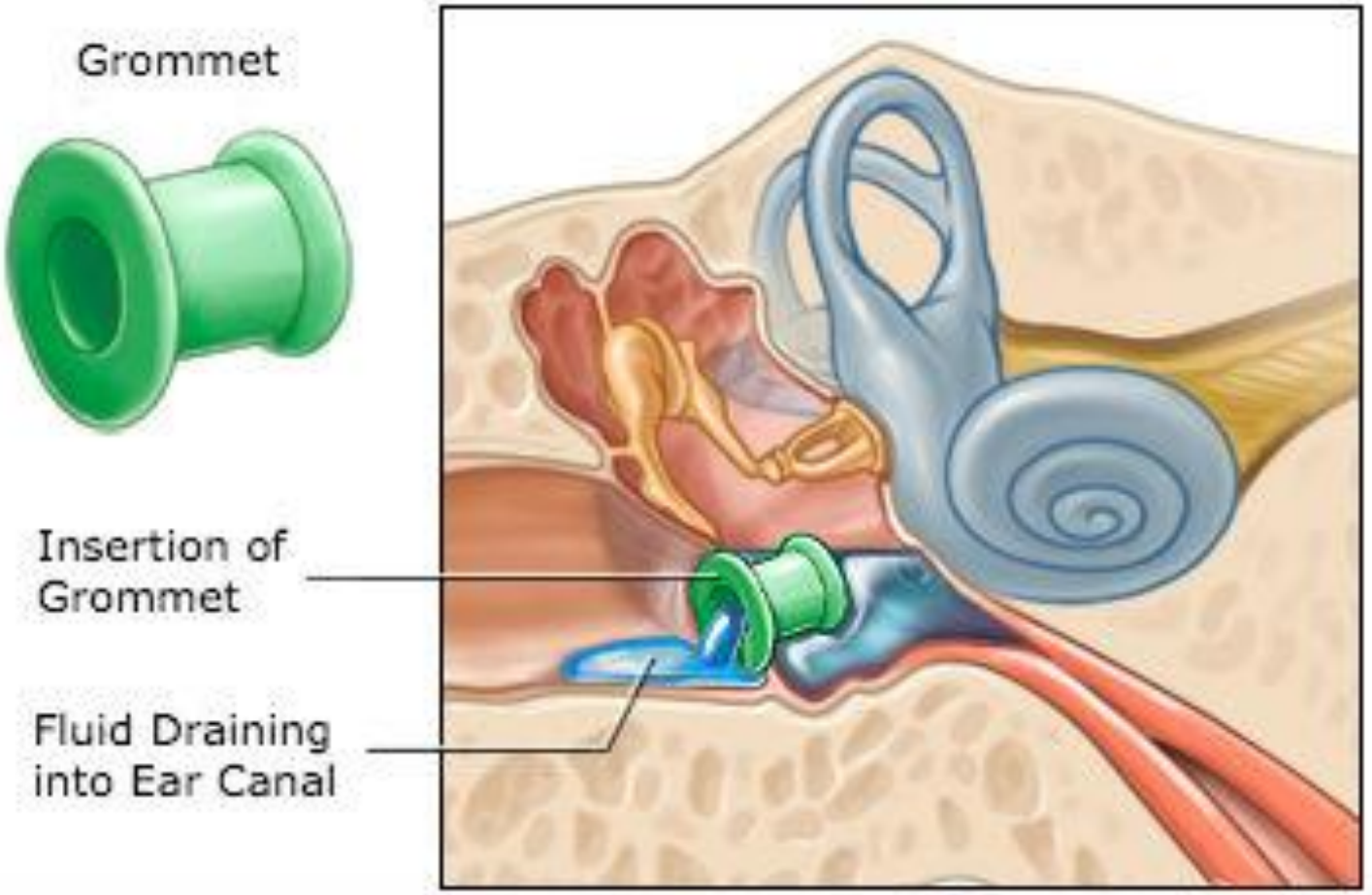
Grommets

- A grommet is a small tube that is placed inside the child's ear during surgery.
- It drains fluid away and keeps the eardrum open.
- The grommet usually falls out naturally after 6-12 months



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Levels of Hearing Loss

Mild*:*

- following speech is difficult, especially in noisy situations

Moderate / Severe:

- hearing aids required in order to access speech/conversation

Profound:

- No useful hearing without powerful hearing aids / cochlear implants

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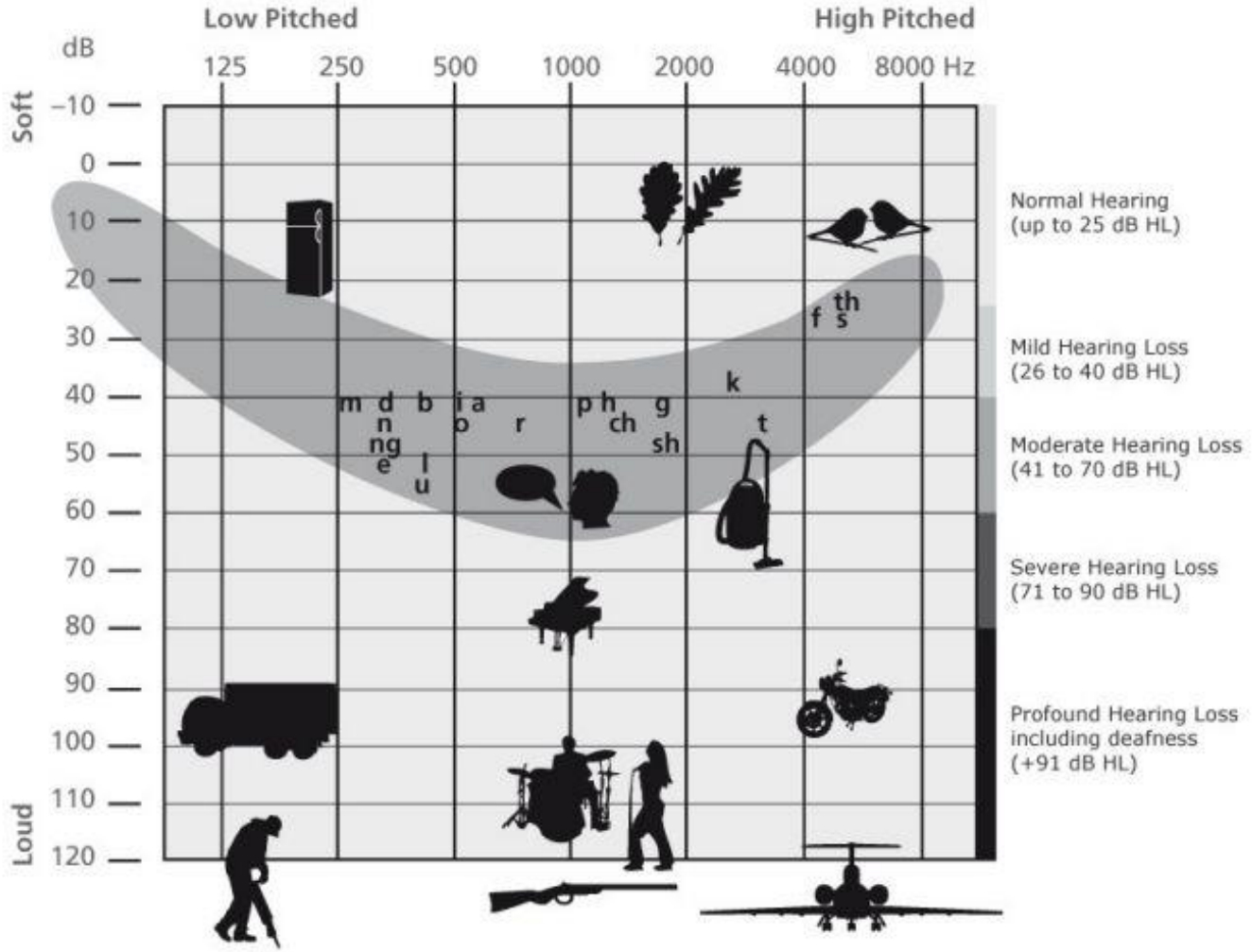
Degrees of Hearing Loss

- Normal conversational speech is about 45 dB.
- The term, ‘Speech Banana’, describes the area where the sounds of human speech appear on an audiogram.



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Hearing Levels – Flintstones!



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Hearing Loss Simulation in Noise



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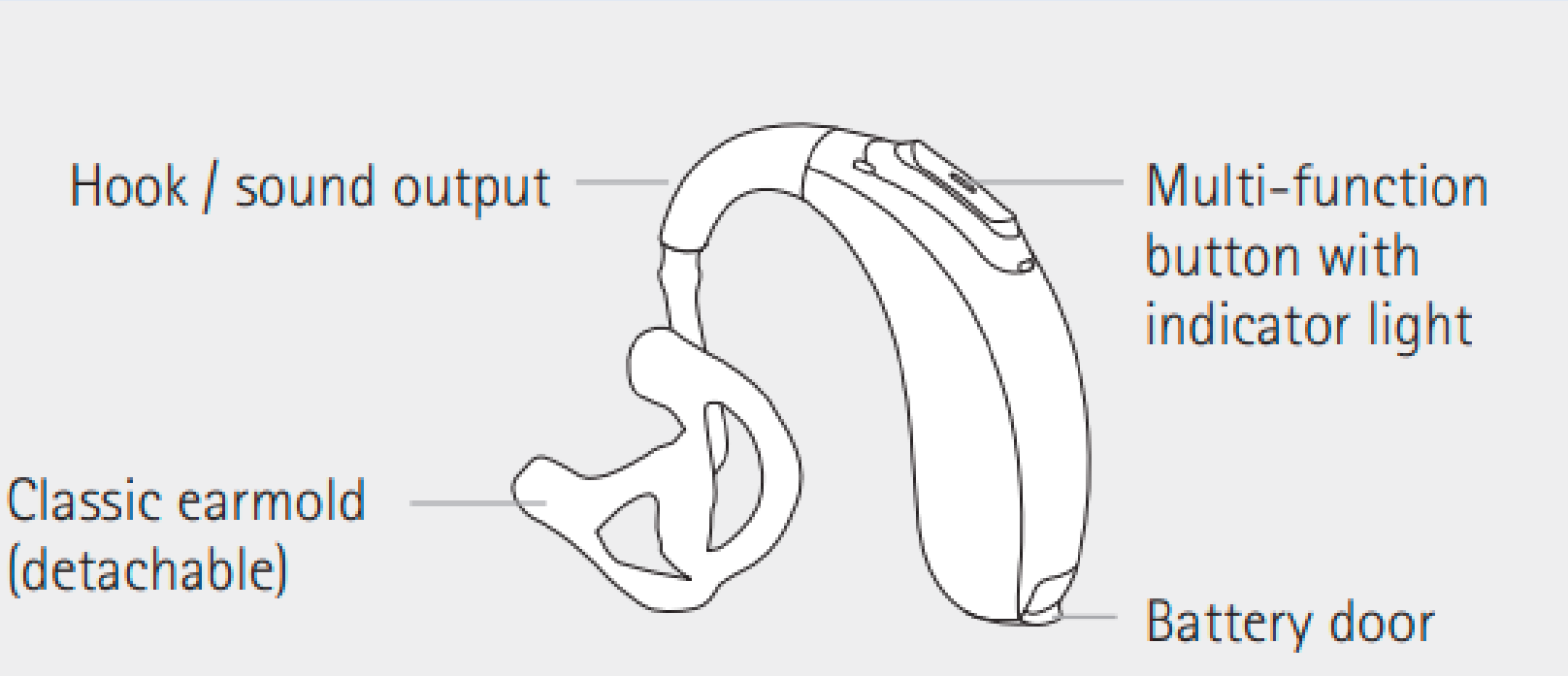
Hearing Aids





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How should you remove a hearing aid?

- By the hearing aid itself?
- By the tubing?
- By the mould?

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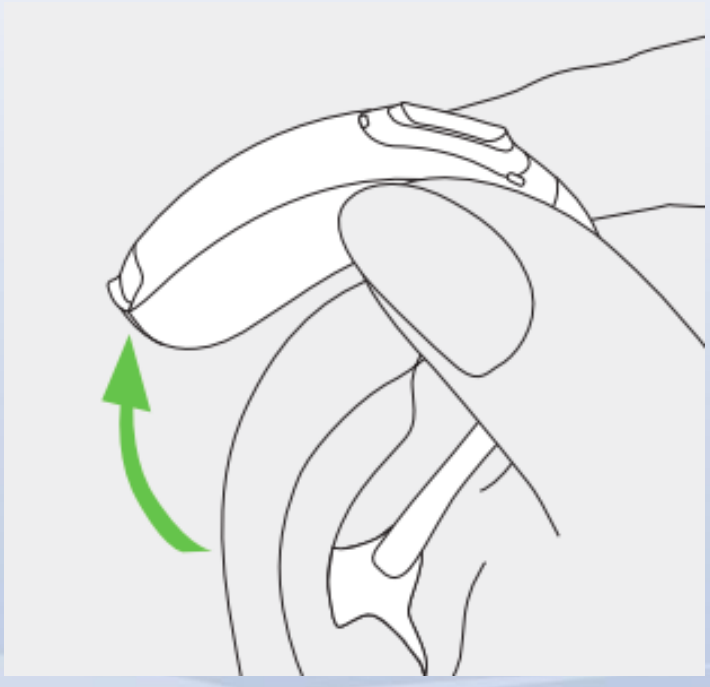
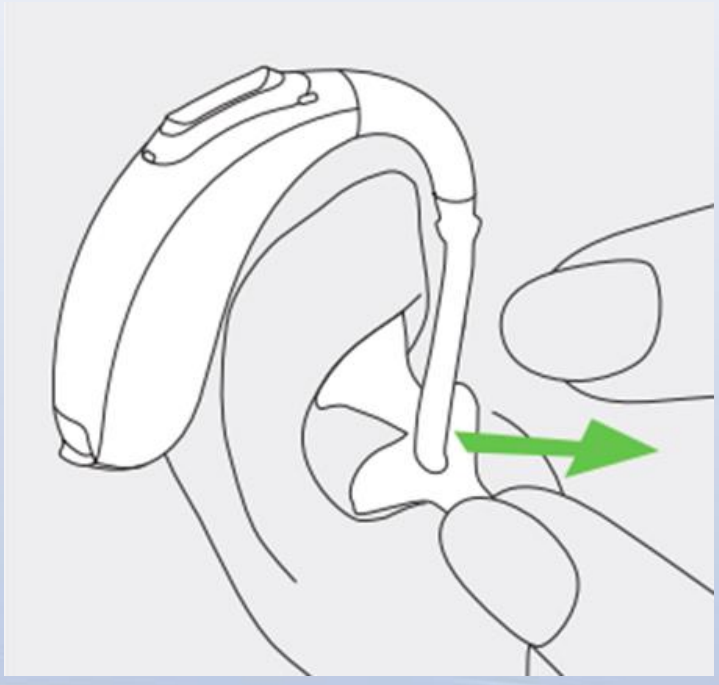
Removing the Hearing Aid



Lift the hearing aid above the ear



Remove the hearing aid by the mould.

ENSURE THE HEARING AID IS ALWAYS REMOVED BY THE MOULD - PULLING IT BY THE AID ITSELF CAN CAUSE THE TUBING TO BECOME LOOSE!

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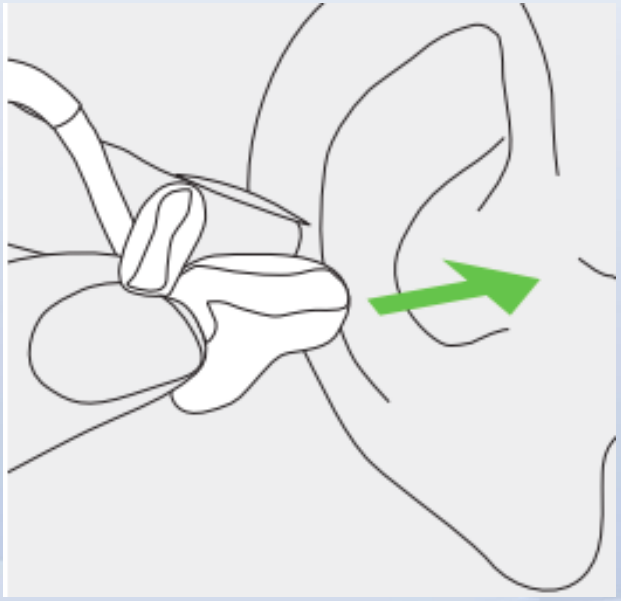
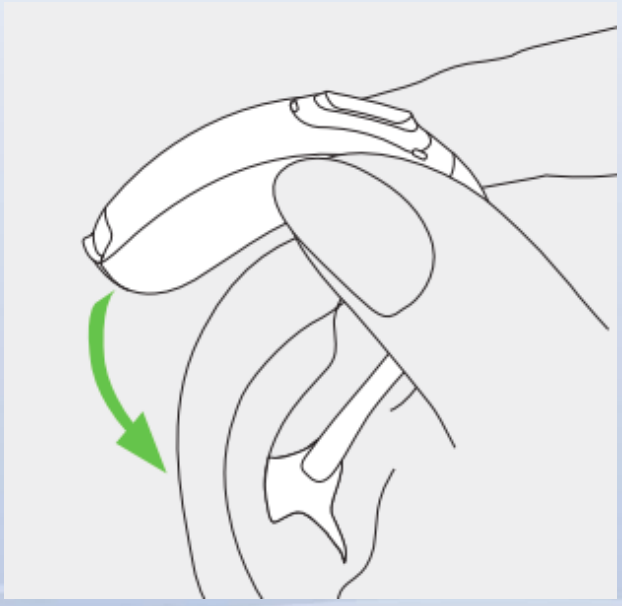
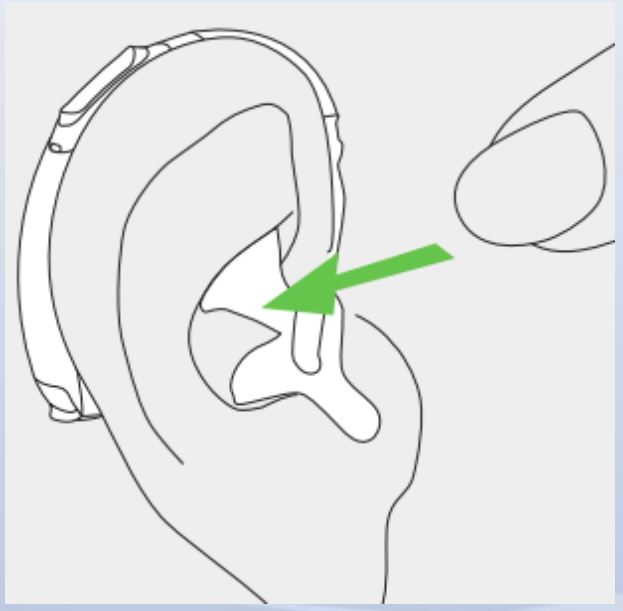
Inserting the Hearing Aid



Push the ear canal part into the ear canal



Place the hearing aid behind the ear



Insert the upper part of the earmould into the fold of skin

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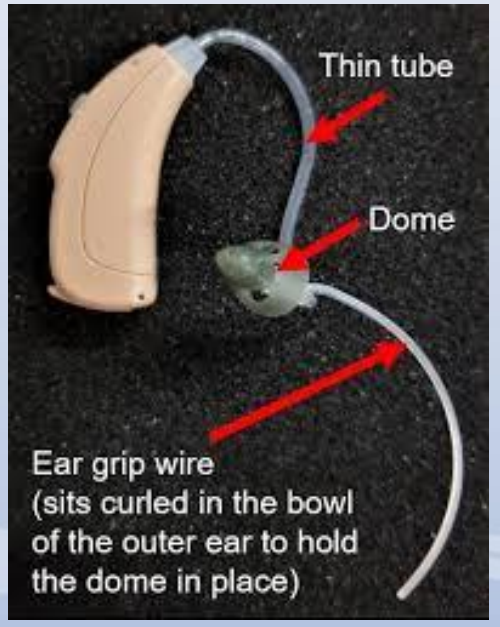
Hearing aids with thin tubes and domes

- Thin tubes are now being offered more frequently to children from around the age of 8
- More cost effective for NHS
- More discreet for young people
- May be used with or without the ear grip wire





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RIC (Receiver in Canal hearing aids)

- The receiver is placed in the ear canal, making the visible portion (behind the ear) smaller than traditional BTE aids.
- RIC aids are known for delivering a more natural sound due to the receiver being closer to the eardrum.



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CROS/BICROS hearing aids

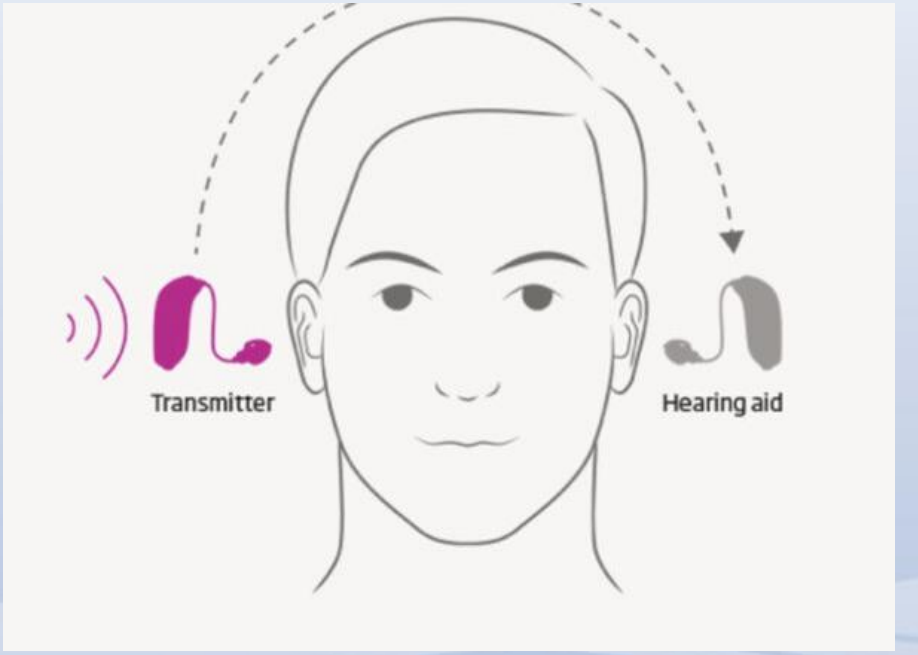
In the case of both set ups there is an ‘unaidable’ ear, meaning one ear has little or no hearing. What looks like a hearing aid is placed on the ‘unaidable’ side. However, there is no receiver (speaker) on this side. It is purely a microphone to pick up sound from that side and a transmitter.

CROS:

- The microphone on the unaidable ear wirelessly transmitted to a hearing aid on the better hearing ear, allowing the user to perceive sounds from both sides.

BiCROS:

- Similar to CROS, but the hearing aid on the better ear also provides amplification for the user's hearing loss in that ear.



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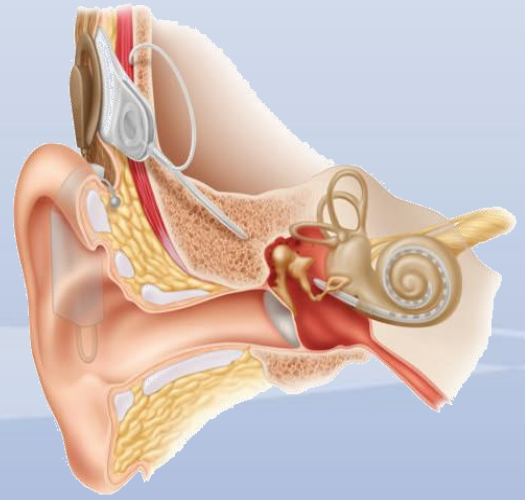
Cochlear Implants

A cochlear implant is a sophisticated hearing aid, part of which is surgically implanted in the child's ear.



The implant tries to do the job of the damaged hair cells in the cochlea. It converts sound into electrical signals which can then be sent up the auditory nerve to the brain.

https://www.youtube.com/watch?v=Vm0nZH9RahE



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Cochlear Implants

The earlier the child is implanted, the better the outcome.

Significant increase in the number of deaf children in mainstream education.



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Cochlear Implants – things to be aware of……

- Swimming and bathing (unless a waterproof kit is used)
- Security scanners such as at museums and airports (They must be switched off and must not go through the scanner)
- Vigorous/ contact sports: in case of impact/blow to head
- Magnets should not be used too close to the head
- Unable to have MRI normally

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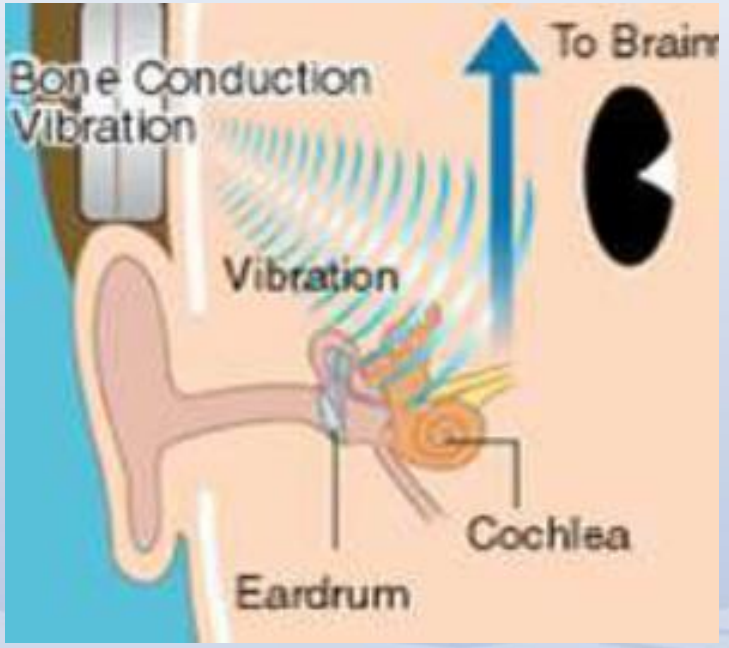
Bone Anchored Hearing Aid (BAHA)

- Transmits the sound through the bone of the skull directly to the cochlea, bypassing the outer and middle ear.



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BAHA – the device

- for those with a conductive (middle ear) or mixed hearing loss
- clips to a headband that is worn around the head



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From BAHA to surgical implant

- Children with a permanent middle ear hearing loss / malformation of the ear may be offered a surgical implant, but usually only if they trial the BAHA and have demonstrated that it is helpful to them
- Older children who are offered the BAHA, particularly boys, will often be resistant to wearing the headband and this can deter them from considering any device at all
- In these cases, they can trial the BAHA at home – we would never force a child to wear it to school if they felt uncomfortable about this. However, we do try to work with them to accept it as a temporary measure so that a more discreet implantable solution can be offered



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Bone Conduction Hearing Implants

- Surgically implanted just under the skin
- External part, shaped like a disc, attached via an implanted magnet
- Does not require surgery to the cochlear
- Used for permanent conductive hearing loss / a mixed hearing loss / malformation of the external auditory canal
- For children over the age of 5
- Batteries are changed in the same way as a BAHA



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What can Hearing Devices do?

- help pupils to hear speech sounds and acquire language
- help the wearer to hear conversation more clearly
- help to reduce feelings of isolation



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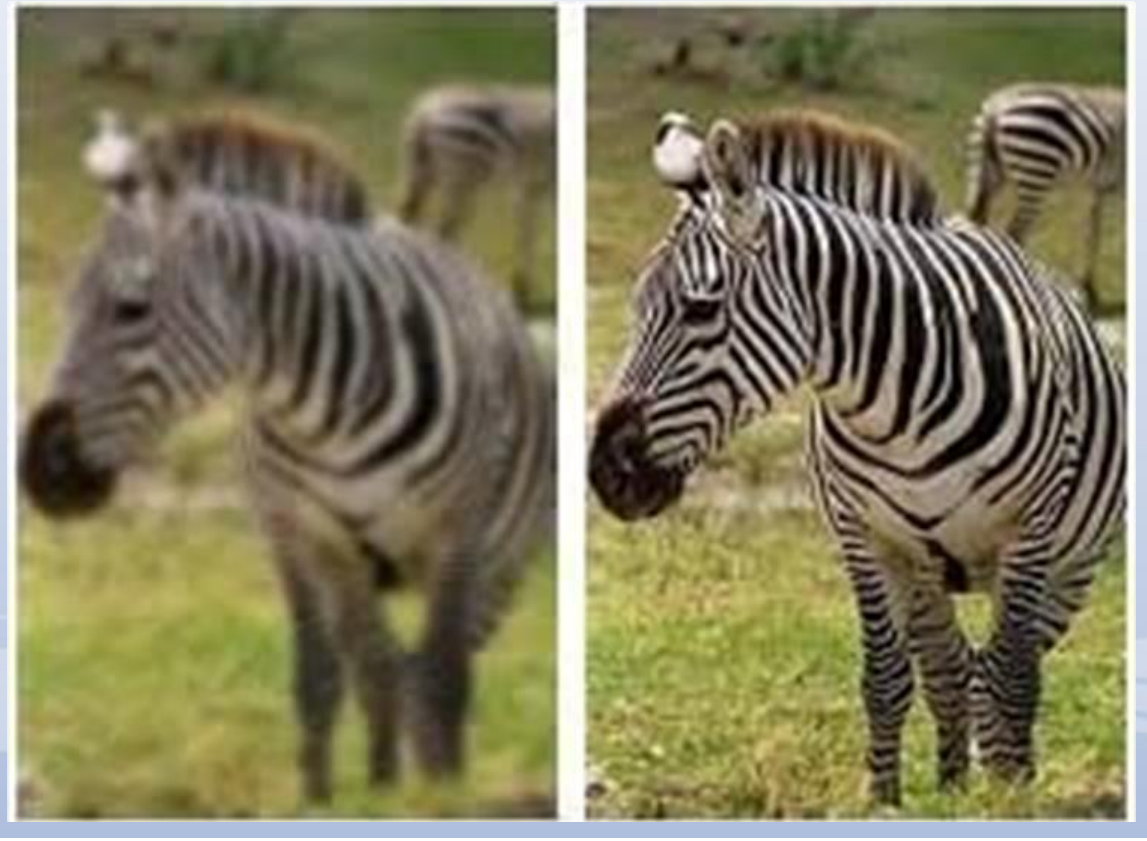
What do Hearing Devices *not* do?

- restore hearing to normal
- restore good hearing in the way that glasses restore good sight
- separate the sounds you want to hear from the ones you do not want to hear



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Single-sided hearing loss (unilateral hearing loss)

Because one ear still has normal hearing, a child will hear well in most situations, but may experience problems with the following:

- Hearing sounds directed toward the poorer ear
- Locating the source of sounds (this is called localization)
- Understanding speech in a noisy background



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Specific Strategies for Unilateral Deafness

- The most important thing to remember is PREFERENTIAL SEATING i.e near the key speaker or sound source with the good ear towards the sound.
- Allow the child to change seat locations to direct the normal hearing ear toward the primary speaker and to sit near the speaker. This may mean that the child will need to change seats from one activity to the next.

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What sort of behaviours might indicate a hearing loss in a young person?



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Behaviours that may indicate a hearing loss / deafness

- Does not react to their name
- Does not respond to instructions
- Looks at the face/lips when trying to listen.
- Loses concentration and appears dreamy
- Becomes angry / frustrated, presents with challenging behaviour
- Reacts negatively to loud sounds/certain pitches.
- Sits closely to the television / turns up the volume
- Speaks loudly or very quietly



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Difficulties with social interaction and isolation

Hearing loss / Deafness can mean:

- Lack of incidental learning about social relationships and how to interact – 'odd behaviour', misunderstanding
- Difficulties participating so friendships may be harder
- Interrupting conversations without hearing that one is already in progress
- Can sometimes hear different voices better than others (particularly if they are familiar with that voice)
- Receiving negative comments 'you can hear when you want to', 'why don't you try harder to listen'

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The Impact of hearing loss :

- Can lead to social isolation and low self -esteem.
- Miss overhearing conversations, parts of conversations, punch-lines to jokes
- Can cause delay in the development of receptive and expressive communication skills.
- Can cause learning difficulties that result in reduced academic achievement.
- May have an impact on vocational choices.

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Some thoughts and questions to keep in mind:

When deaf adolescents try to develop an identity…

- Are they able to communicate appropriately?
- Do they identify as hearing or deaf?
- With whom do they fit?

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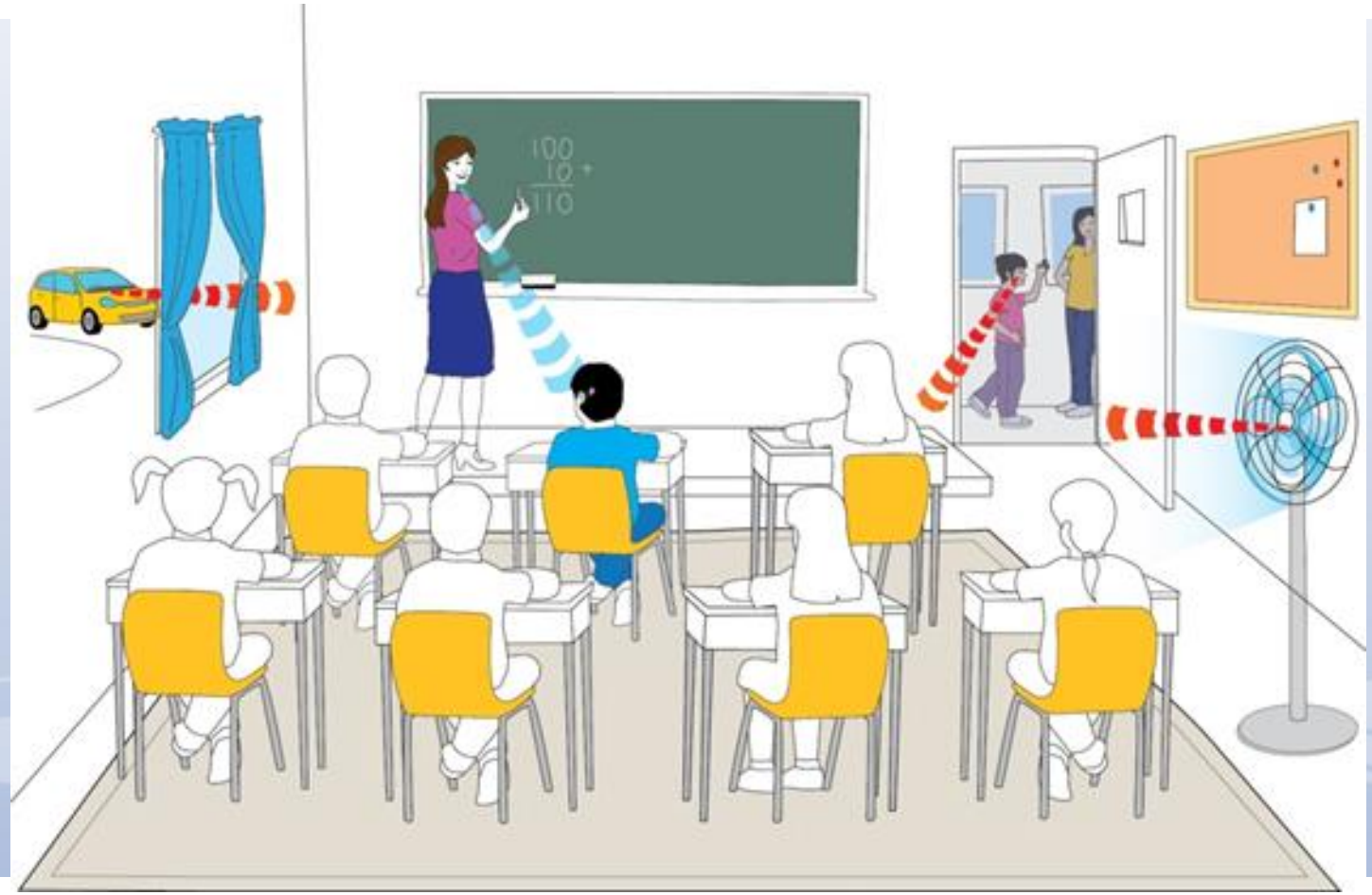
Reducing background noise to help your learners succeed in the classroom…

hearing with background noise and at a distance from the speaker remain challenging, even with hearing devices for all deaf learners.



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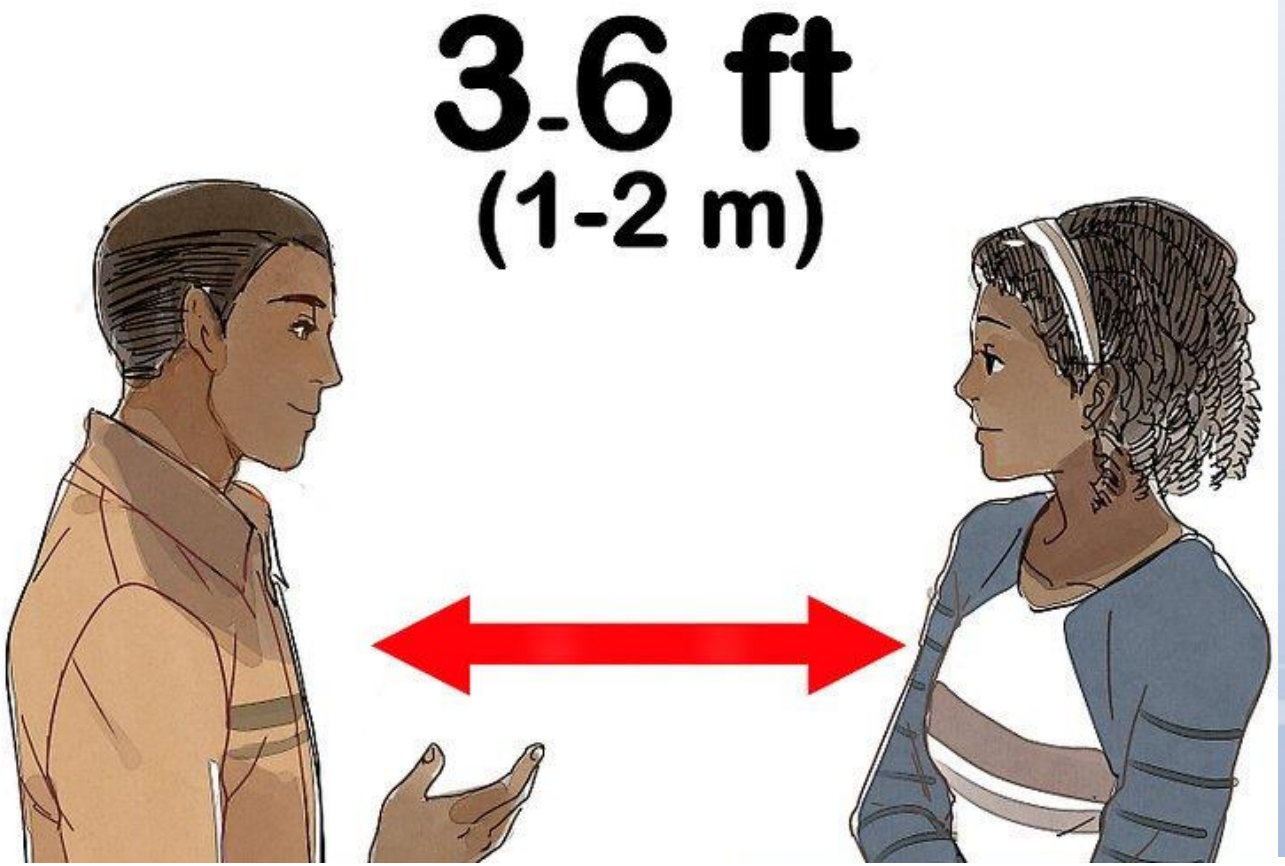
Comfortable Listening Distance



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Auditory Support – Listening Effort

- Be aware of ‘listening effort’ which takes away from other cognitive functions such as reasoning and remembering.
- It can be tiring to listen, especially in a noisy situation. A child may ‘switch off’ at an inappropriate time.

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Auditory Support – Noise Awareness

Internal noise

- Encouraging good behaviour
- Fan heaters
- Computers
- Projectors

External noise

- Close doors
- Close windows

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Visual Support

- Reduce visual distractions
- Avoid exaggerated lip patterns
- Try to stand still
- Avoid covering your face or lips
- Ensure appropriate lighting

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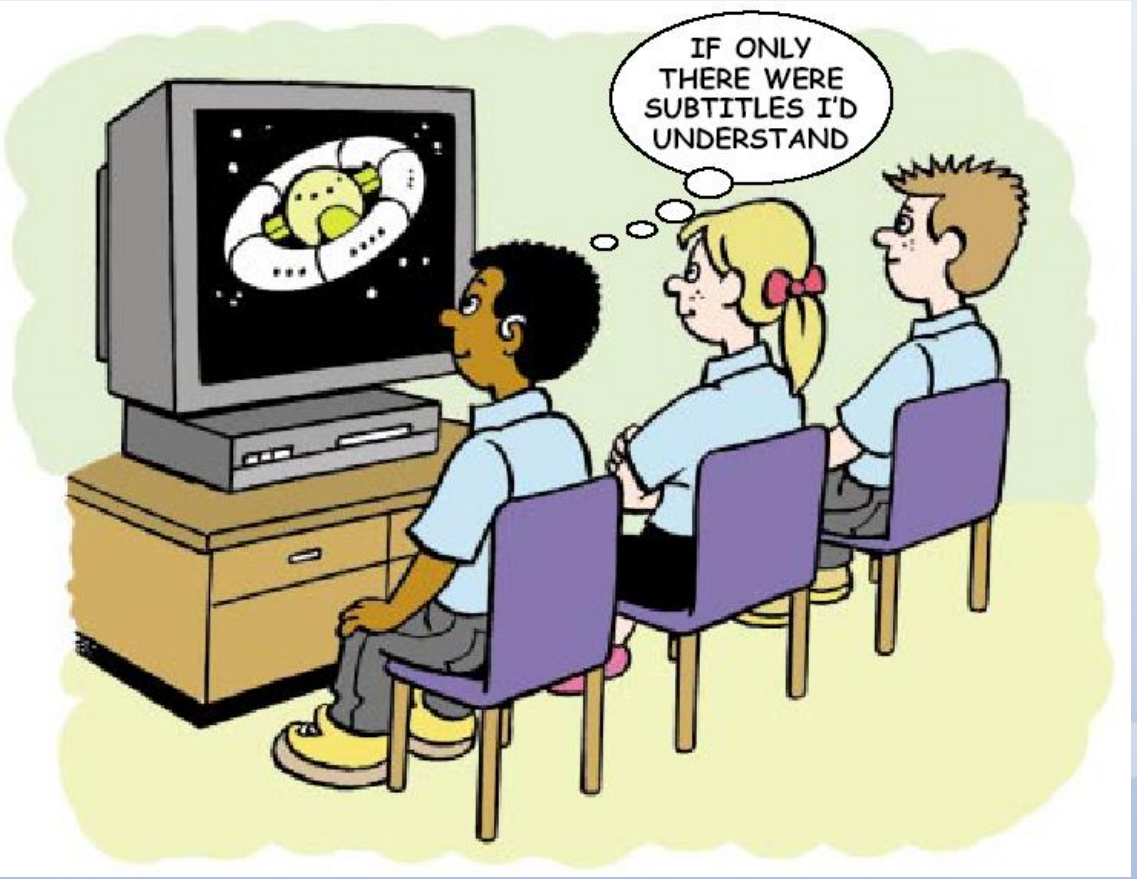
Visual Support



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Support for Understanding

- Write key words on board
- Write up lesson outline
- Use visual aids as much as possible
- Think of visual ways to clarify meanings of words





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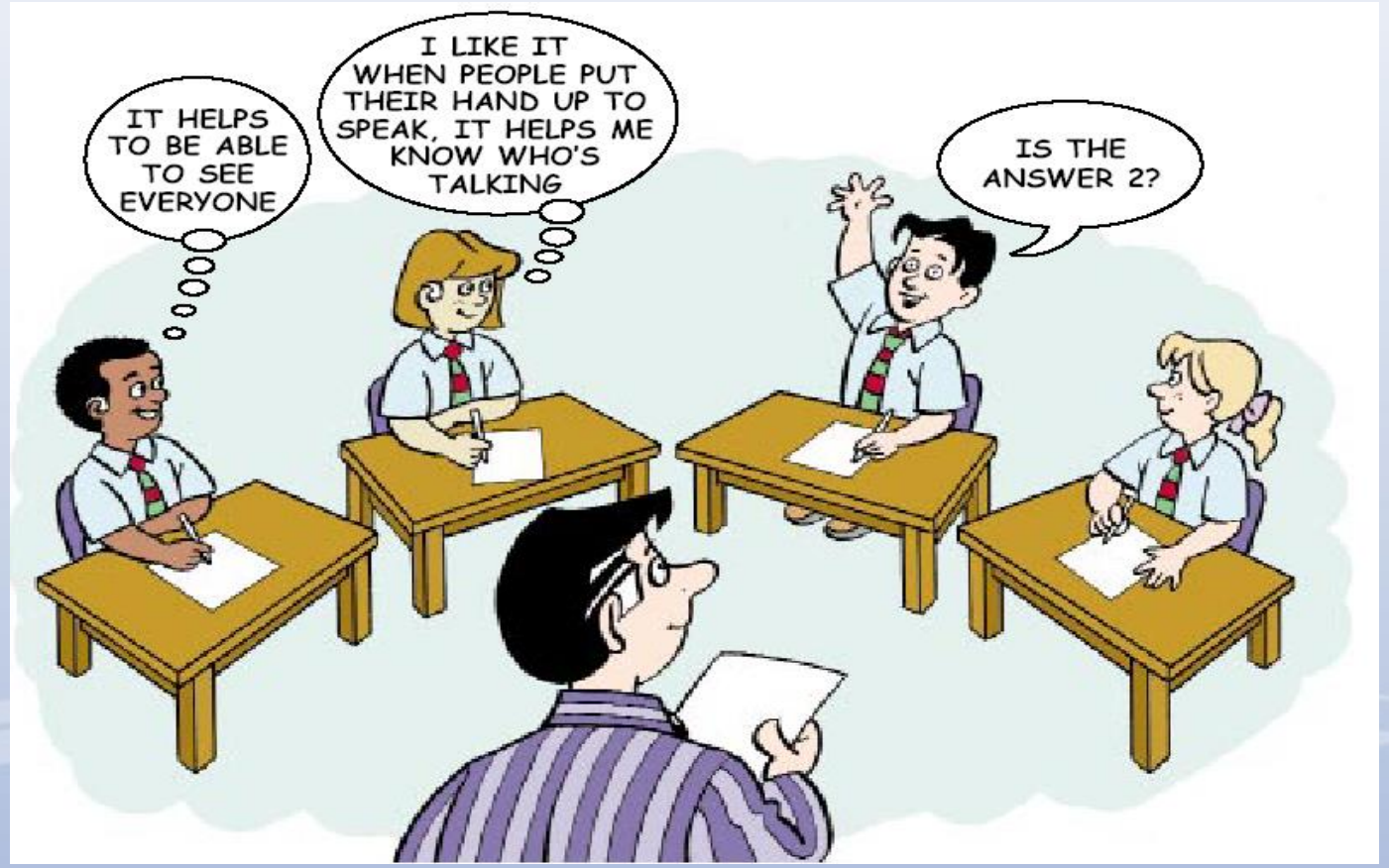
Support for Understanding



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Support for Understanding

- Check student is picking up group information and not just copying others.
- Better to ask pertinent questions than simply asking if a student can hear. Very often students are unaware of what they have misheard or misunderstood or are too embarrassed to admit it
- Repeat / paraphrase contributions from other students
- Remember, students with a hearing loss cannot write and listen at the same time – they need to see the visual cues of the speaker, including lip reading

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A Radio Aid / EduMic

- A radio aid is a personal FM system that supports hearing aid / cochlear implant users to hear a speaker in a noisy situation or at distance from the speaker.
- The student wears a receiver attached to their hearing instrument and the speaker wears a transmitter.
- The system transmits the speaker's voice directly to the hearing instrument via the receiver therefore helping to overcome problems of listening in noise and at distance from the speaker.

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Radio Aid Equipment

Lanyard – please remove all other lanyards when wearing the radio aid





The hearing aids / cochlear implant connect directly to the radio aid

The microphones must not be covered or disturbed

Switching it ON/OFF – please check the radio aid has been turned on



Connect the receiver to the transmitter

The mute/unmute button. It will flash red when muted so you can't miss it

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Radio Aids – Good Practice

- The microphone should be about 15-20cm from the speaker's mouth
- The strap is adjustable
- The mic must be worn centrally
- The mic MUST be free of beads, scarves and other lanyards
- Turn off/ mute the transmitter when the student does not need to listen!





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EduMic

LED lights.
Green – on.
Flashing green - mute

The microphone must not be covered or disturbed and should be placed approx. 20cm from the speaker's mouth



On / off button (press and hold)
Press the button briefly to switch between on / mute / off.

The EduMic has a clip that can be clipped to the speaker's clothing, alternatively there is a lanyard

Can also be connected to an audio device such as a laptop using the jack cable supplied

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Roger On (sometimes used for older students)

Microphones should not be covered or disturbed. Device should be worn a pen's length from speaker's mouth

On / off button



Clip to clip to clothing, also has a lanyard option

Hold this button down for two seconds to mute / unmute

Charging point – please leave on charge every evening. Can also be used to connect to laptop using the jack cable supplied.

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A Conference Mic!

The radio aid / mini mic is also a conference mic and good for group work. It can be laid on the table and pick-up up to eight voices around a table clearly. Still be mindful of background noise and poor acoustics as that will affect the quality of listening.

During group work, lay it on the table the student is working at and then pick it back up again when you resume the lesson.





Just lay it flat on the table where the child is working

Remember to pick it back up again and wear it round your neck after any group activity!

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Exam Arrangements

- Young people with a permanent hearing loss (sensorineural) are entitled to certain access arrangements for exams. These need to be introduced early so that they are part of the normal way of working.
- The student should be seated at the front of the exam room or in a separate room
- For any exams presented via audition, for example a modern foreign language, a live speaker will be required to enable lip reading cues. Additional repetition is allowed, if necessary, to process the information more easily. The exam should take place in a quiet room. Rest breaks may also be required to compensate for listening fatigue during exams presented via audition
- 25% extra time may also be needed if there are persistent and significant considering difficulties in following speech at normal speed and processing of language.
- Please refer to the following website and document - https://www.jcq.org.uk/examsoffice/access-arrangements-and-special-consideration



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Reminders of the strategies for effective deaf awareness …

- Get the young person's attention before starting
- Face the young person
- Make eye contact
- Speak clearly, at a natural pace – do not over-exaggerate your lip pattern
- Use an expressive face
- Use natural gestures
- Ensure your face is in good light
- Keep your mouth visible
- Make sure the young person knows the topic of conversation
- Do not switch to a new topic without warning
- Check the young person has understood you before continuing
- Speak one at a time

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How confident do you feel about supporting a deaf child in your setting?

- 1.Very confident
- 2.Somewhat confident
- 3.A little confident
- 4.Not confident

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Some useful websites & links…

- www.ndcs.org
- www.successforkidswithhearingloss.com/

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Your feedback is essential!



- Please take a few moments to give us your feedback. Thank you and we hope you enjoyed the session today! (there are 10 short questions)

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Remember….

What's good for deaf students is good for all students!

Thank you for listening!



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