

Hearing Loss and Deaf Awareness



Helping deaf children
learn to listen and talk

www.elizabeth-foundation.org





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Types of Hearing Loss

Conductive	<ul style="list-style-type: none">• Caused by a problem in the outer and middle ear.• Often conductive losses are treatable.• Conductive losses may be temporary.
Sensori-neural	<ul style="list-style-type: none">• Hearing loss caused by abnormalities in the inner ear.• Generally not medically or surgically treatable.• Usually sensori-neural hearing loss is permanent.
Mixed	<ul style="list-style-type: none">• When there is both a conductive and sensori-neural hearing loss.

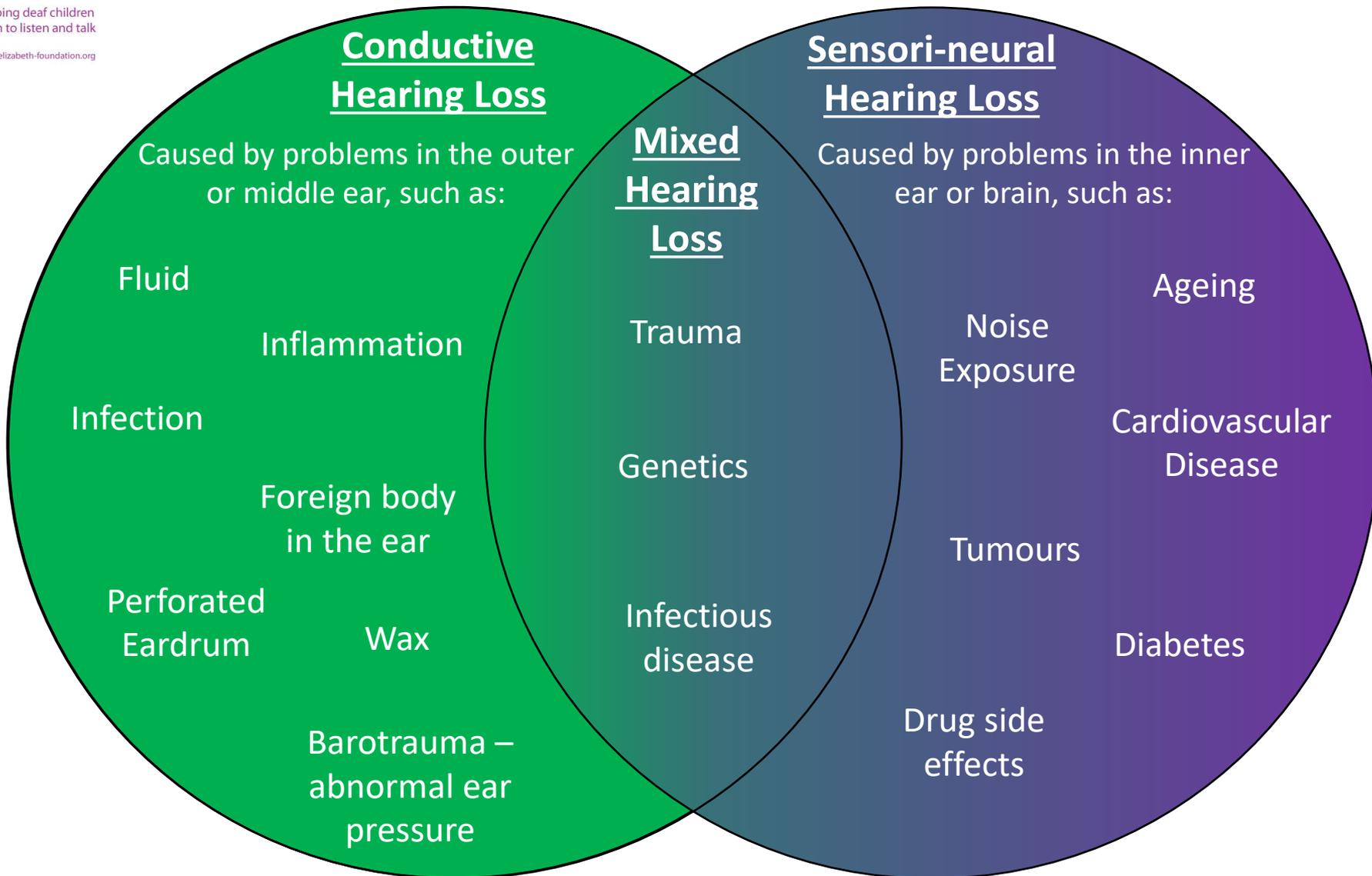
Causes of Hearing Loss



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Causes of Hearing Loss

Trauma & Inflammation	Hearing loss can occur if the entrance to the ear canal is obstructed, either due to trauma, congenital deformity or inflammation due to disease or infection. Damage to the tiny bones in the ear such as breaks or dislocations caused by a head injury can also result in hearing loss.	Conductive
Barotrauma	Inadequate ventilation in the middle ear causes such an increase in pressure that the ear drum perforates. This can occur when flying or diving with a head cold.	Conductive
Wax	If wax blocks the ear canal this can cause hearing loss by preventing sound transmission. This is the most common cause of hearing loss.	Conductive
Foreign Body	Foreign bodies in the ear canal can block the passage of sound to the ear drum.	Conductive
Swelling (Otitis externa)	Swelling in the ear canal can inhibit the transmission of sound to the ear drum. Swelling can be caused by allergy, infection or inflammation.	Conductive
Perforated eardrum	Can be caused by forcing a foreign body too far into the ear canal, infection and inflammation or a blow to the side of the side that ruptures the ear drum.	Conductive
Congestion	Blocking of the eustachian tube prevents air flow to the middle ear. This prevents draining of the middle ear and can cause infection. Congestion can occur due to the common cold or a variety of bacterial or viral infections.	Conductive
Otosclerosis	The tiny bone in the ear called the Stapes is prevented from vibrating due to an abnormal growth/overgrowth.	Conductive

Causes of Hearing Loss

Ageing	Wear and tear over time can cause damage to the bodies hearing systems, especially the cochlear and nerve pathways to the brain. Hearing loss due to age generally starts with reduced sensitivity to higher pitched sounds. Over time the auditory nerve and auditory cortex in the brain can also lose the ability to process sound efficiently. This can cause problems with complex sounds such as music or conversation.	Sensori-Neural
Noise Exposure	Delicate sensory cells in the cochlear can be damaged by loud noises, a form of trauma. The louder the noise and length of exposure the greater the damage can be.	Sensori-Neural
Cardiovascular Disease	The cochlear can be damaged by reduction in blood supply which can occur due to high blood pressure, stroke and heart attack.	Sensori-Neural
Disease	Many common bacterial and viral diseases including measles, mumps, meningitis and the flu can cause permanent hearing loss.	Sensori-Neural
Diabetes	Prolonged high blood glucose is thought to affect the blood supply to the inner ear. Over time the nerves and blood vessels become damaged, resulting in hearing loss.	Sensori-Neural
Genetics	There are many genetic abnormalities known to cause hearing loss. This can be from birth or progressive loss as the patient grows through childhood.	Sensori-Neural
Tumours	A benign tumour can develop between the inner ear and the brainstem, compressing the auditory nerve and causing hearing loss.	Sensori-Neural
Drug side effects	Some medicines, called Oxotoxic drugs can cause sensori-neural hearing loss. For this reason these medicines are only used to treat life threatening conditions such as cancer.	Sensori-Neural

Common Hearing Technology

Technology	Image	What is it	How it can help
Hearing Aids		A microphone sits behind the ear and converts received sound into a digital signal. The amplifier increases the strength of this signal and this is fed into the ear through an earpiece via a tube.	Works a little like a microphone by amplifying sound, allowing those with a hearing loss to hear sounds outside of their natural hearing range.
Cochlear Implants		Consists of an external sound processor and an implant which is surgically placed below the skin and attached to a row of electrodes inserted into the cochlear.	Bypasses the damaged sensory hair cells in the cochlear to directly stimulate the auditory nerve allowing patients to hear sounds they could not discern naturally.
Baha Hearing Aid <i>(Bone Anchored Hearing Aid)</i>		Consist of 2 parts, a titanium bone implant and an external sound processor. The external processor converts sounds into vibrations that are transmitted into the implant. This vibrates the ear bones and activates the normal hearing process in the inner ear	Transmits vibrations directly to the inner ear, bypassing problems that may exist in the outer and/or middle ear. Often used when hearing loss is unilateral (only effecting 1 ear).
Radio Aid		Wireless assistive device that works with hearing aids and implants. Consists of a radio transmitter and a radio receiver.	Allow sounds closer to the speaker to be picked up, enhanced and transmitted directly to the individual. Useful to enhance speech in noisy environments, such as a teacher in a classroom.
Grommets		A small tube that is surgically placed into the eardrum creating a channel between the outer and middle ear.	Allow fluid to escape from the middle ear and air to circulate. Inner ear pressure can stabilise and the ossicle bones can move freely.

The Impact of Hearing Loss on Everyday Life

Speech
development
delays

Social
interaction -
Feeling 'left out'
of conversations

Trouble accessing
leisure facilities,
e.g. the cinema

Safety
concerns -not
hearing alarms
etc

Problems
accessing
education

Requirement
for specialist
settings like
schools with an
HI unit

Issues
surrounding
water based
activities e.g.
swimming

Impact on
vocational choices
due to impaired
communication

Loss of
confidence

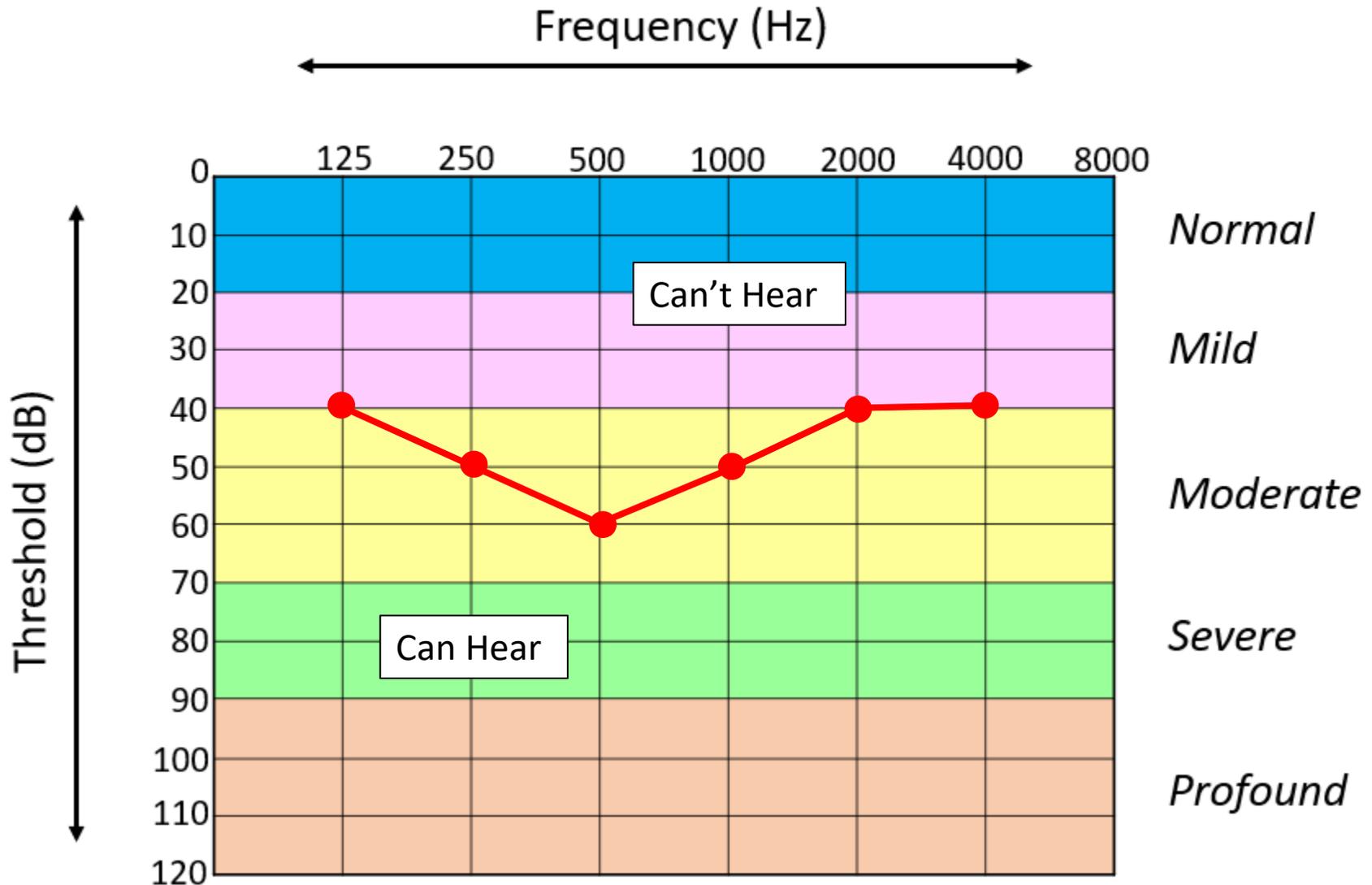
Struggle to
make new
friends

Levels of Hearing Loss

The 4 levels of hearing loss are defined as Mild, Moderate, Severe and Profound.

MILD	Someone with a mild hearing loss will not be able to hear below 25-40dB. This means they can not hear rustling leaves, electrical hums, whispers or softly ticking clocks. Someone may also struggle to hear conversation in noisy environments.
MODERATE	A moderate hearing loss means someone will struggle to hear sounds between 40-75dB. This can make it very hard to follow a conversation even in a quiet environment as a moderate impairment means someone will miss whole words or parts of words. It can be exhausting trying to understand what people are saying by filling in the gaps and people will often mishear or misunderstand what is said.
SEVERE	An individual with a severe hearing loss will not be able to hear below the 70 – 90dB range. In practice this means that they can not hear the TV, the telephone or people having a conversation.
PROFOUND	A profound hearing loss means people will struggle to hear anything below 90dB. They may be able to hear very loud music or alarms, lawn mowers or chainsaws but most everyday sounds are undiscernible.

The results of a hearing test are plotted on a graph called an Audiogram. An audiogram shows the quietest sound you can hear at each frequency tested. The example below shows someone with a moderate hearing impairment.



Are YOU Deaf Aware?



Need Advice communicating with deaf friends?



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This is how frustrating it is for deaf persons to listen to hearing persons. Harsh. It's not it!

Did you know there are over 45,000 deaf children in the UK, and 90% are born into hearing families?



What can you do to help someone who is deaf in your school?



It makes it almost impossible for the deaf person to read your lips.

Don't talk too



or too

Be Patient

You may need to repeat yourself more than once.

Don't Exaggerate the mouth.

Exaggerating your mouth makes it harder to lip read you.



Want more information?
Visit: www.elizabeth-foundation.org
Registered charity number: 293835

- Don't obscure your mouth when speaking
- Speak one at a time
- Do not speak too fast or too slow
- Be Patient and be prepared to repeat yourself
- Don't exaggerate mouth movement – it makes it harder to lipread
- Get a persons attention before speaking
- Crouch down to a child's level if communicating with a deaf child
- Maintain eye contact
- Keep background noise to a minimum