



Faculty of Medicine, Dentistry & Health Sciences

# Melbourne Audiology & Speech Pathology Clinic



## Sensorineural hearing loss

The ear is made up of three portions;

- **Outer ear** – pinna and (most outer part of your ear) ear canal
- **Middle ear** – ear drum and ossicles (middle ear bones)
- **Inner ear** – cochlea (hearing organ) and vestibular system (balance organ)

A sensorineural hearing loss is the result of damage to the inner ear (cochlea). The cochlea is filled with thousands of tiny hair cells that move in response to sound waves. The movement of the hair cells then create chemical changes which in turn produce an electrical impulse. The electrical impulse is then sent along the hearing nerve to the brain. This is how the brain is able to interpret sound. The more damaged hair cells there are the bigger the hearing loss.

Hair cell damage can occur as a result of ageing, noise exposure, chemical damage (such as certain drugs) as well as a variety of other less common causes.

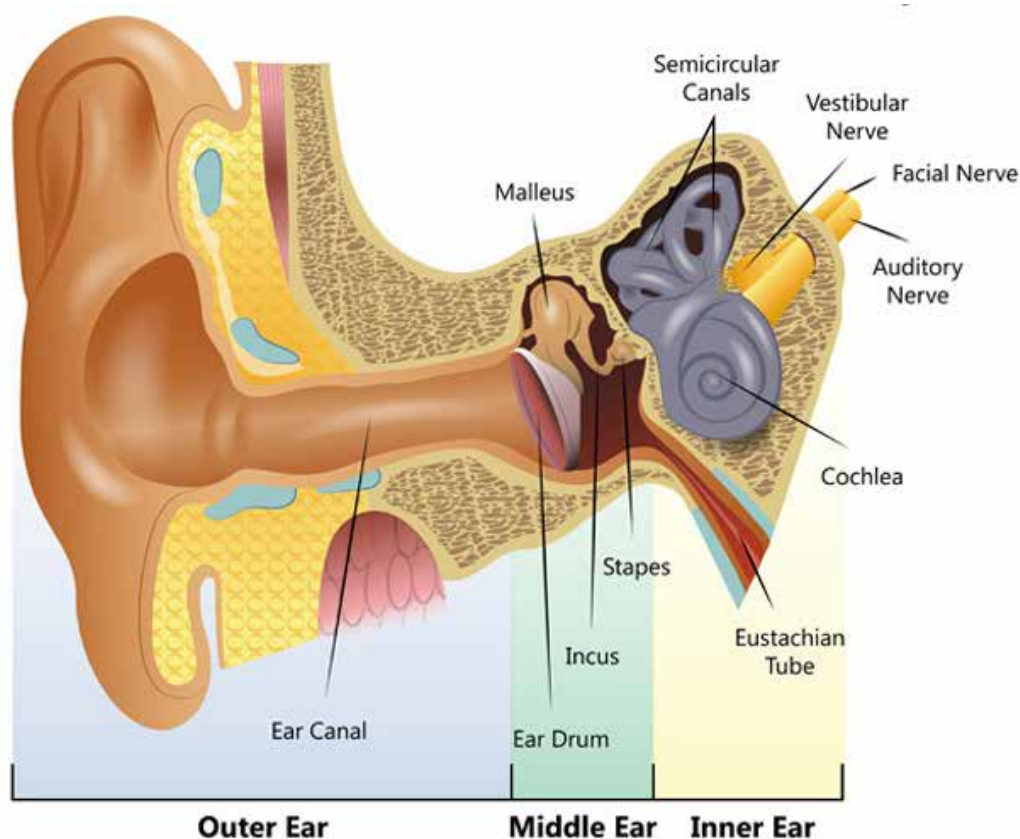
When your audiologist tests your hearing they are looking at different pitches that enable us to hear speech (low to high pitches).

**High pitch hearing loss** – This is the more common type of hearing that we see with ageing ears. We do expect some wear and tear of our ears over time and it is the high pitches that tend to go first.

If you have a hearing loss in the high pitches it is harder to hear the softer sounds of speech (the consonants). The high pitches are where we get a lot of the clarity of speech. If you have a high pitch hearing loss it may sound like people are mumbling or you may miss-hear some words, especially in noisy environments.

People with high pitch hearing loss may feel exhausted listening in noisy environments because they need to fill in the gaps of sounds or words that they may have missed.

**Low pitch hearing loss** – The low pitches give us the volume of speech. Some people have both low and high pitch hearing losses.



## MANAGEMENT FOR A SENSORINEURAL HEARING LOSS

Management will depend on how big the hearing loss is and how the hearing loss is impacting your communication. Often your audiologist will provide you with some communication strategies to help optimise your listening in different situations. Some people will find that these are enough to help them hear day to day without many problems. Sometimes people will need hearing aids to help give back the volume and clarity. Your audiologist will be able to discuss the hearing aid options that are available to you.

## SUMMARY

**Area affected:** inner ear.

**Causes:** damage to or malfunction of either the cochlea, hearing nerve or further along the auditory pathway to the brain.

**Permanence:** usually permanent. There is a reduction in the loudness and clarity of the sounds heard.

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