

## Sensorineural hearing loss across the lifespan

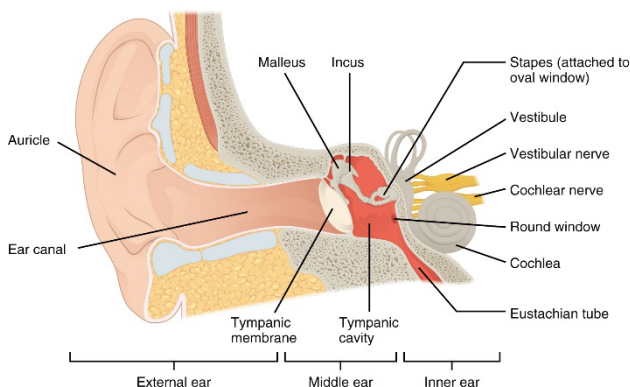
Our hearing system is comprised of three main parts: the outer ear, middle ear, and inner ear. The outer ear directs sounds down our ear canal to the middle ear. The middle ear transfers this sound to the inner ear (cochlea), where the auditory nerve is stimulated, sending an electrical signal to the brain, where we 'hear' sound. Damage to any of the three parts of our hearing system can cause hearing loss.

A **sensorineural hearing loss (SNHL)** occurs when there is damage to the cochlea, or along the auditory nerve to the brain. SNHL is usually permanent.

Around 1 in every 1000 babies born in Australia are diagnosed with a SNHL.

It is estimated that SNHL impacts around 1 in every 6/7 Australians.

When a child is born with SNHL, it's referred to as 'congenital' (from birth) or 'pre-lingual' (before they can talk) hearing loss. If the hearing loss occurs after a person has learnt to talk, it is called a 'post lingual' or 'acquired' hearing loss.



[https://commons.wikimedia.org/wiki/File:1404\\_The\\_Structures\\_of\\_the\\_Ear.jpg](https://commons.wikimedia.org/wiki/File:1404_The_Structures_of_the_Ear.jpg)

### About SNHL

SNHL can be present in **one ear** (unilateral loss) or in **both ears** (bilateral loss).

The **degree** or **severity** of hearing loss tells us what the person can and can't hear. SNHL can range from mild, moderate, severe to profound.

The level of hearing loss may stay the same over time, become progressively worse, or get worse suddenly.

It's important to **identify SNHL early**. People with SNHL are likely to have difficulties communicating with others as sounds aren't reach their brain clearly or consistently. The earlier the hearing loss is

identified, the earlier the person can access hearing technology and therapeutic supports if they're needed.

People with SNHL might benefit from hearing technology like **hearing aids**, and **cochlear implants** to help them hear better and maintain their quality of life. A cochlear implant is recommending when conventional hearing aids no longer provide benefit for speech understanding.

### Causes of SNHL

There are many possible causes of SNHL, including:

- genetics,
- anatomical differences (e.g., the inner ear or hearing nerve doesn't form properly),
- viruses and diseases (e.g., meningitis, cytomegalovirus),
- tumours and other health conditions,
- head trauma,
- noise exposure,
- brain injuries,
- normal aging (called presbycusis),
- some medications that are toxic to parts of the ears.

In many cases, the cause of the SNHL is unknown.

### Effects of SNHL

#### Pre-Lingual / Congenital SNHL

If a child who has not learned to talk yet, can't hear well, they will have trouble learning to listen and speak like other children. Some families of children who are deaf or hard of hearing, want their child to learn to talk, others choose for their child to learn sign language (Auslan), and some families want their child to learn both.

All children need to hear and/or see language used around them to learn to communicate. Regardless of which mode of communication the family chooses, it's critical that the child has access to as much language as possible, from as early as possible.

Early intervention providers who specialise in working with children with SNHL are well placed to help families understand their options and make an informed decision about the right communication choice for their child and family.

Early diagnosis, early fitting of appropriate hearing technology, and access to specialised early intervention services are critical. It's never too early to start.

### Post-Lingual / Acquired SNHL

People who acquire SNHL after they know how to talk, can find it hard to participate in things they enjoy the same way that they did before their hearing loss. Acquired hearing loss can have significant impact on a range of areas including communicating, studying, socialising, and staying active and involved in activities they enjoy.

People with acquired hearing loss can have trouble following conversations and understanding what's being said. Hearing technology is available to suit every hearing lifestyle, and it's important to get help for your hearing early at every age. There is extensive research highlighting unmanaged hearing loss can quicken the process of cognitive decline.

### What you can do

#### Pre-Lingual / Congenital SNHL

Most babies born in Australia have their hearing screened in the hospital where they are born. If a baby doesn't pass their hearing screening, they will be referred for a comprehensive diagnostic assessment. If a hearing loss is confirmed, the baby will be referred on to Hearing Australia who provide hearing health care for children who are deaf or hard of hearing from 0 to 26 years old.

It's important the babies born with hearing loss access early intervention as soon as possible. Early diagnosis, and proactive management of congenital SNHL is important.

There are lots of options when it comes to hearing technology, for example, the child might benefit from using a hearing aid or aids, or a cochlear implant or implants to help them hear. Other assistive technology such as vibrating alarm clocks and personal listening devices might also be useful.

Remember, it's possible to pass hearing screening at birth, and still have a mild hearing loss, or for the child to acquire a hearing loss in the first few years of life. Regular check-ups are important.

#### Post-Lingual / Acquired SNHL

Early diagnosis, and proactive management of acquired SNHL is important. There are lots of options when it comes to hearing technology, for example, the person might benefit from using a hearing aid or aids, or a cochlear implant or implants to help them hear. Other assistive technology such as light up doorbells, vibrating alarm clocks and personal listening devices might also be recommended depending on the person's goals, needs and priorities.

Getting help for your hearing and communication needs has lots of benefits, in areas including academic achievement, employment, socialisation,

cognitive skills, relationships, and overall quality of life.

If hearing is a concern, then you can see your GP, who might recommend a hearing test with an audiologist and/or you see a speech pathologist.

You don't need a referral to see a speech pathologist or an audiologist, but you may be able to access Medicare or private health rebates if you do have a referral – talk to your GP to find out more.

### How speech pathologists help

Speech pathologists can help people with SNHL by monitoring their communication skills or communication development and providing therapy when it's needed. Speech pathologists who work with people who are deaf or hard of hearing can also help by gathering information on functional listening skills, and collaborating with audiologists to make sure that changes in hearing are identified and managed appropriately.

### Find out more

For more information, visit:

- Hearing Australia: <https://www.hearing.com.au/>
- How do we hear: <https://www.asha.org/public/hearing/how-we-hear/>
- Aussie Deaf Kids: <https://www.aussiedeafkids.org.au/>
- Audiology Australia: <https://audiology.asn.au/Home>