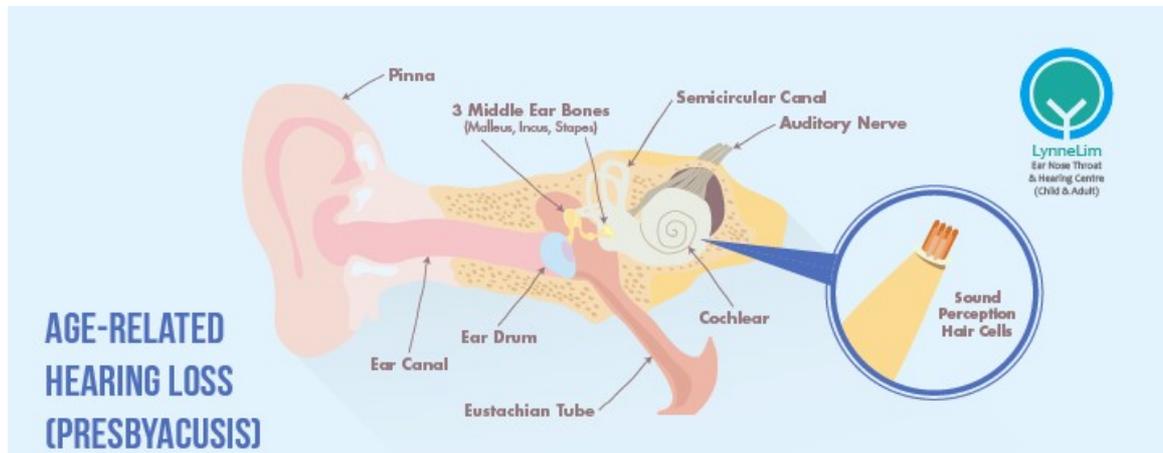


## Age-related Hearing Loss (Presbycusis)

Age-related hearing loss, known as presbycusis, occurs slowly as tiny sound-perception hair cells in the inner ear and hearing nerve deteriorate or gets damaged. The hearing loss is usually greater for high-pitched sounds at the start.



### Many are affected

People may think admitting to hearing loss is stigmatising – but it really is just a normal part of wear and tear, like cataracts and knee joint problems that need treatment over time. Over 30% of elderly worldwide have significant hearing loss that affects daily function. In a 2010 census in Singapore, already 1 in 5 in their 50s, 2 in 5 in their 60s, and over 50% of those over 60 years of age have hearing loss. By 2030, about a million of our population will have hearing loss. With increasing numbers of noise-induced hearing loss afflicting even teenagers and young adults, it could be that age-related type of hearing loss will be seen in those in their forties soon, and no longer a domain of usually seniors.

### Risks of untreated hearing loss

It reduces one's confidence, learning, social, work and quality of life options. People avoid work that requires conversations and meetings and phones. There is depression and fear as one withdraws.

Risk of dementia and memory loss is increased 2 to 5 times with hearing loss. It is very tiring, with a lot of effort used to try and guess what others are saying, trying to give the correct answers, trying to lip read. There is little brain energy or space left for memory or other brain work. Research is showing that brains shrink faster in those with hearing loss, especially sound and speech processing areas of brain, the very same areas involved in memory and sensory integration. Hearing well also allows social integration and communication which protect against dementia.

Sounds of whistling of the kettles with water boiling, sounds of alarms, instructions given by doctors and nurses and caregivers are missed. Balance is reduced. Falls and hospitalisation are increased 300% even for mild hearing loss.

HL reduces safety not only for oneself but for those whom we care for, like our young children. Eg, sounds of oncoming traffic are missed till the traffic is very near, which leaves us very little split second reaction time to get to safety. The high pitch squeals of tires, the mid pitch sounds of car horns, the low pitch sounds of various passing vehicles may be missed. Sounds of cyclists, electric scooters types and dogs/ cats are not heard, and warning calls from others are often missed. When there is background noise of other road traffic, road works, chatter, trees rustling, wind, rain and thunder, it gets even more difficult to hear.

## **Hearing Loss is Often and Easily Missed**

Hearing loss creeps up on one gradually, so even moderate hearing loss is missed unless there is proper testing in a sound proof room.

Sounds are not only softer, but words are also distorted and jumbled. There is reduction in speech discrimination and difficulty understanding speech. Example, " I think she should go to the store" is heard wrongly as " I wish we could go to the show". This is worse in background noise or poor acoustics environments.

Words rich in high pitch sounds and sibilant consonants with a whistling quality, like "ch", "f", "g", "s", "sh", "t", "th", "z" are most affected. As hearing loss progresses, explosive consonants like "b", "d", "k", "p" also gets distorted.

## **Treatment Options**

The doctor should first exclude any treatable or dangerous hearing conditions like infections or nerve tumors. Formal hearing tests in sound rooms are needed, and specialised audiology and auditory processing tests needed for some patients.

In most cases, hearing aids are all that is needed, with careful post follow up and tuning. We need to evaluate and rehabilitate tinnitus and balance issues together in the elderly, to achieve full hearing and balance functions as a whole. In more severe hearing loss, cochlear implants can help. Cochlear implants and special electro-acoustic system implants surgeries can be done even for those in their eighties years of age, allowing good quality of life and communication and social integration.

Some nerve tonics and maintenance of general good health is helpful. There is no reversal of age-related hearing loss, and stem cell treatment is currently only in the realm of research.

Worldwide, only 1 in 10 adults needing hearing aids are using them, despite there being excellent technological advances available. Initially on fitting hearing aids, there may be sensitivity to background noise that others with normal hearing are accustomed to. Time is needed over weeks and months for the brain to adjust. Group rehabilitation sessions are also being piloted and helpful.

Very careful choice of different types and brands of hearing aids and proper fine-tuning of the hearing aids is important. Hearing outcomes also depend on the duration of hearing loss, brain sound processing ability, type and cause of the hearing loss. It is important to set correct expectations.

