

HEARING HEALTH

2022

Everything you want to know about hearing, hearing loss, treatments, research, and financial assistance available to people with hearing difficulties.

HEARING HEALTH

How is your hearing?

Take the 1-min. hearing check.

HEARING TECHNOLOGY

How do they work?

Understand the technology behind the latest hearing aids.

Science

Beat the isolation

Research reveals the importance of avoiding the social and personal impacts of hearing loss.



 (08) 9390 8811

 artofhearing.com.au



THE ART OF
HEARING
INVISIBLE HEARING SOLUTIONS

The art of invisibility



Phonak Lyric™

The world's only 100% invisible hearing solution

- Clear and natural sound
- Wear and forget for months
- 24/7 relief from tinnitus
- Improved self-esteem

Free 30-day trials!

For more information, See Page 20.



THE ART OF
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INVISIBLE HEARING SOLUTIONS

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Forward

Dear Reader,

What can make the people who you love truly happy? Is it fame, fortune, or good looks? No, it is YOU!

A Harvard Medical School Study¹, which tracked hundreds of people for more than 80 years, revealed that it's our perception of strength of bonds we have with others that most determines our happiness. Furthermore, this sense of 'community' even sees us living longer!

Unfortunately, around 3 million Australians have not addressed their hearing loss and, therefore, risk feeling increasingly isolated. Untreated hearing loss can also lead to depression, decline in memory and concentration, and early-onset dementia².

But, as you will read in Hearing Health, there is some great news for Australians too. Pensioners and veterans have access to free digital hearing aids and services. Further financial assistance is available through health insurance and compensation for hearing loss resulting from noisy workplaces.

Address hearing loss today!

Take the next step and schedule a hearing assessment and consultation at one of our hearing centres. You will find our locations listed on the back page.

Be assured that we offer independent advice and will discuss the full range of solutions that are best suited to your needs – including hearing aids from all leading manufacturers.

We hope to hear from you soon!

Best regards,

Ravi Gupta
Audiologist and Owner
Art of Hearing



HOW DOES THE EAR WORK? 3

Understand how the ear works and processes sound

HEARING LOSS 4

1-minute hearing check.
Types and causes of hearing loss.
Tinnitus: Causes and treatments.

COMMUNICATION TIPS 5

Overcoming limitations to communication caused by hearing loss.

THE SCIENCE 10

What research tells us about the personal, social and financial impact of hearing loss.
Why it's silly to think: "But, I'm too young for hearing aids."

HEARING TESTS & RESULTS 12

Introduction to basic hearing tests.
What does your audiogram say about your hearing health?

HEARING SOLUTIONS 14

How do they work?
Features of modern hearing aids.

PHONAK LYRIC 20

Introducing the world's only 100% invisible hearing solution.

HEARING SERVICES PROGRAM 22

Free hearing aids for pensioners veterans.*

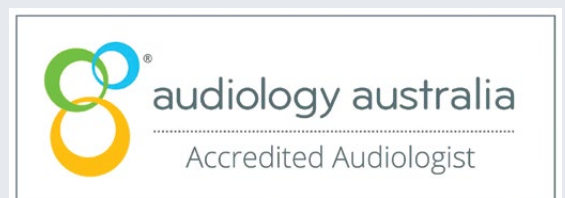
FINANCIAL ASSISTANCE 23

Private health insurance benefits.
Workers compensation for noise-induced hearing loss.

LOCATIONS 24

REFERENCES

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HOW DOES THE EAR WORK?

To better understand hearing loss and what can be done, it is first important to understand how the ear receives and processes sound.

Outer ear

Sound first enters our ear at the pinna, which is the visible part of the ear on the outside of our head. The pinna is designed to collect sound waves and funnel them down the ear canal towards the tympanic membrane (eardrum).

Together, the pinna and ear canal are referred to as the outer ear.

Middle ear

The middle ear starts with the tympanic membrane. As sound waves traveling down the ear canal reach the tympanic membrane, it vibrates like a drum.

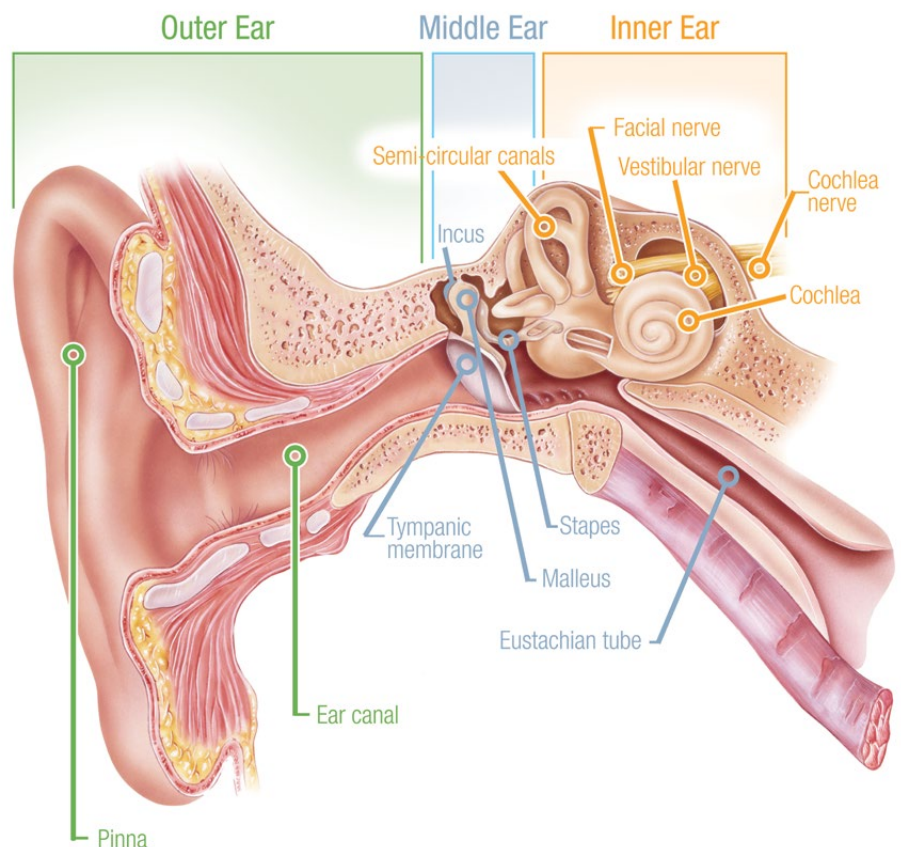
Behind the eardrum is an air-filled space containing three tiny bones; the malleus, incus and stapes. They are the smallest bones found anywhere in the human body. The vibrations in the eardrum, in turn, cause these bones to vibrate. The middle ear consists of the eardrum, malleus, incus, stapes, and the air pocket in which they reside.

Inner Ear

The cochlea and the semi-circular canals are organs of both hearing and balance. With the cochlear nerve (auditory nerve), they form the inner ear.

Sound passes to the inner ear via the vibrations of the middle ear bones, which are connected to the cochlea at one end.

Thousands of tiny sensory hair cells within the cochlea convert the vibrations into an electro-chemical signal that's carried by the auditory nerve to the brain, where sound is processed and interpreted ■



HEARING LOSS

An estimated 3.5 million³ Australians live with hearing difficulties, making it hard to follow conversations – particularly in social and noisy settings such as restaurants, cafés, and family gatherings.

As hearing loss progresses gradually over time, it can be hard to read the signs. Initially, it may be family members or friends who notice the hearing difficulties.

Left untreated, sufferers will increasingly become isolated, frustrated, and earning lower incomes³ due to decreased effectiveness in the workplace. It also leads to increased risk of serious health issues, including depression, decline in memory and concentration, and even early onset dementia⁷.

More than 100 years ago, Helen Keller, who was deaf and blind, described the isolation caused by hearing loss aptly when she explained that:



Helen Keller

“Sight connects people to things. Hearing connects people to people.”

When people take the steps to address their difficulties, and do this as early as possible, they are able to fully enjoy the sounds that really matter – conversations, music, nature and laughter.



Signs of hearing loss

Hearing loss usually affects different frequencies of sound by varying amounts. This can lead to conversations being difficult to follow.

If you feel that your hearing is not what it used to be, or are concerned that a loved one may be experiencing hearing loss, take a moment to complete the 1-minute hearing check on the next page.



1-minute Hearing Check

What impact is hearing loss having on your life, or that of someone you love?

The Questionnaire

NOTE: Choose most appropriate word.

1. I _____ find that following conversations in a noisy environment, such as a busy restaurant, can be very difficult.

Never Sometimes Often

2. I _____ have to ask people to repeat themselves, particularly when they are not directly facing me.

Never Sometimes Often

3. Others _____ comment that I have the radio or television turned up too loud for their liking.

Never Sometimes Often

4. Family members _____ comment that they think that I may have a hearing problem.

Never Sometimes Often

5. Telephone conversations are _____ difficult, particularly with children.

Never Sometimes Often

6. I _____ experience a persistent or prolonged 'ringing in my ears'.

Never Sometimes Often

7. Do you agree with the following statement? *"I used to be more active in group conversations."*

Disagree Unsure Agree

Adding up your score

Use the following to total the responses from your Questionnaire.

Never/Disagree = 0 Sometimes/Unsure = 1 Often/Agree = 2

Your Score _____

- If your score is between 1 and 4, then hearing loss is not having a major impact on your life. Nevertheless, hearing loss advances with time, so we recommend that you have your hearing checked every few years.
- If your combined total is 5 or greater, we strongly recommend that you call (08) 9390-8811 to arrange a Hearing Evaluation & Consultation, as it is important that your hearing loss is monitored and addressed before it has a lasting impact on your life.

Types of hearing loss

There are three forms of hearing loss: conductive, sensorineural, and mixed hearing loss.

CONDUCTIVE HEARING LOSS

This loss results from a problem with the passage of sound through the outer ear and/or middle ear.

Some common examples include:

- Excessive cerumen (earwax) in the ear canal
- Perforation of the eardrum
- Middle ear infection with fluid build-up

However, conductive hearing loss accounts for only 10% of all hearing losses, and they range from mild to moderate in severity. Conductive hearing loss can often be medically treated, and in some cases, hearing can be completely restored.

SENSORINEURAL HEARING LOSS

Also known as "nerve deafness", this is the most common type of hearing loss and originates in the inner ear.

Common causes include:

- Genetic factors (hearing loss can run in families)
- Excessive noise exposure – either sudden or prolonged
- Changes in the inner ear due to aging

Less common causes include:

- Reactions to ear-toxic medications
- Acoustic neuroma (a benign tumor that can develop on the cochlear nerve)
- Conditions acquired prior to birth (congenital)
- Infections such as meningitis and mumps
- Kidney disease
- Vascular disease

Each cause can lead to damage to the sensory hair cells or nerves. Once damaged, the hair cells can't repair themselves or be medically treated. Therefore, 90% of cases of sensorineural hearing loss cannot be reversed. In more than 95% of cases involving sensorineural hearing loss, hearing aids are the recommended course of treatment.

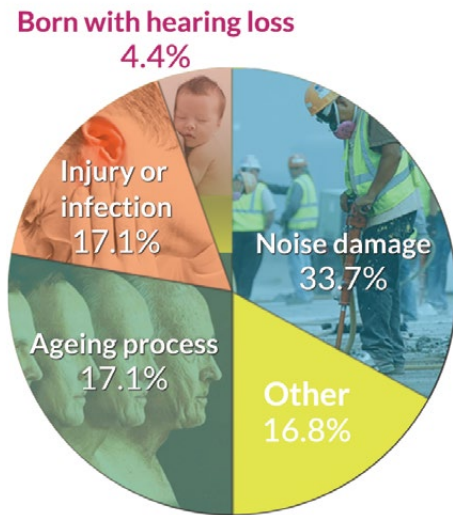
MIXED HEARING LOSS

When hearing loss occurs from a condition in the inner ear as well as the outer and/or middle ear, this is known as “mixed hearing loss”. An example of mixed hearing loss may be someone with inner-ear damage due to exposure to noise in his or her workplace over many years, who also currently has an infection that has led to a fluid build-up in the middle ear.

Causes of hearing loss

While the aging process is a major contributor to hearing loss, it is certainly not a condition reserved for the later stages of life.

Studies have shown that exposure to noise is thought to be a contributing factor in around 34% of cases – and interestingly, around 50% of Americans with hearing loss are still of traditional working age (i.e. under 65 years).



* Contributors are not necessarily the only factor.

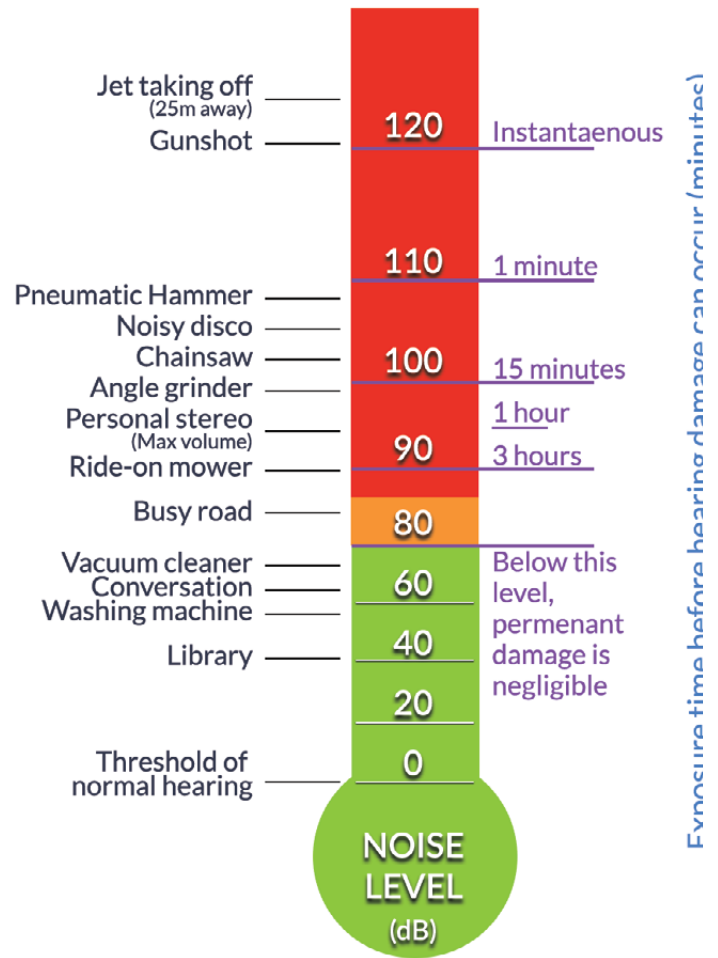
Other factors contributing to hearing loss can be viewed in the chart shown here⁵.

NOISE-INDUCED HEARING LOSS

Given the impact of noise in traditionally male-dominated fields such as factories, military service and construction, American males are considerably more likely to have hearing loss than women – including being twice as likely to have a moderate to severe hearing loss.

These days, people are more aware of the damage that noise can do to their hearing. This is illustrated through the mandatory provision of ear protection on work sites and in factories.

Nevertheless, every day, millions of Americans are

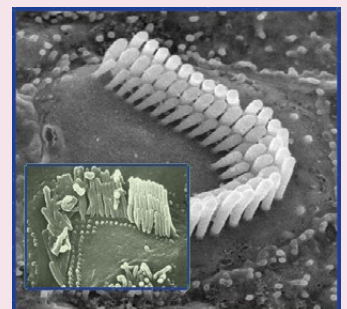


exposing themselves to noise levels that will surely lead to long-term damage to their hearing, including the use of personal stereo systems by the youth of the nation.

Why can I hear low-pitched sounds better than high-pitched sounds?

Sound that has high frequencies of vibration (e.g. power tools) will excite receptor cells near the opening of the cochlea, while sounds mostly containing low frequencies will stimulate cells at the end of the cochlea.

Commonly, over time the high-frequency hair cell receptors receive more movement by the incoming pressure waves of the fluid inside the cochlea.



TINNITUS

“This ringing in my head is driving me CRAZY!”

We’re all going to experience a ringing in our ears when there is no external source of that sound. For many people this buzzing or ringing sound can be persistent, intermittent, and prolonged. Known as “tinnitus”, it is a cause of great frustration and distress for sufferers.

While tinnitus can occur in every stage of life and affects both men and women, the condition is most common among men. According to an American study, almost 12% of men who are 65 to 74 years of age are affected by tinnitus⁸.

Tinnitus is not a disease but rather a reflection of something else that is going on in the hearing system or brain.

Treating tinnitus

Research has yet to discover a cure for the condition. As there are varying causes of tinnitus, Art of Hearing concentrate instead on “management” rather than solutions.

Often the best place to start is a hearing evaluation, which can be performed at Art of Hearing. If this assessment reveals significant hearing loss, we may advise you that a hearing

aid is likely to reduce or, in some cases, completely alleviate the condition.

We may also recommend an evaluation by an Ear, Nose and Throat Specialist who can prescribe medical treatments. Following successful surgical treatment for some ear problems (e.g. otosclerosis or middle ear effusion), tinnitus may fade away.

A tinnitus masker is another option to help manage the condition where hearing loss is not present. While it looks like a hearing aid, it actually produces a blend of external sounds that stimulate hearing nerve fibers, helping deviate attention away from the tinnitus.

Clinical psychologists often recommend Cognitive Behavior Therapy (CBT) where other treatments have failed. This therapy can be effective for some people to help alleviate distress and help them adjust to tinnitus.

What causes Tinnitus?

Almost anything that can affect a person’s hearing can lead to tinnitus. The following have been identified as potential causes of tinnitus:

- **Extreme noise:** The most common cause. Both long-term exposure and sudden loud

noises can trigger a permanent hearing loss that results in tinnitus.

- **Hearing loss:** Having to strain to hear can raise tinnitus levels.
- **Meniere’s disease:** A medical condition that also causes dizziness, nausea, and fluctuating hearing loss.
- **Some medications:** Tinnitus can be a side effect of common medicines such as antibiotics and arthritis pills.



The function of CBT is threefold:

1. It changes the way a person perceives their tinnitus
2. It teaches individuals how to focus attention away from tinnitus
3. It helps people achieve control over their stress.

Finally, if you suspect that tinnitus is related to a jaw alignment problem, it's worthwhile consulting your dentist.

Arrange a consultation

Unfortunately, tinnitus is not a simple problem and treatments need to be tailored to the individual.

Call (08) 9390-8811 today to arrange a hearing evaluation and consultation.

- **Stress and fatigue:** Elevated stress and a poor sleep can make tinnitus worse.
- **Caffeine:** Tea, coffee, cola, and chocolate can all increase the severity of tinnitus, along with food and drinks containing quinine.
- **Smoking:** This can cause tinnitus by restricting the blood flow through your ear canal and limiting the supply of Oxygen.
- **Alcohol:** Red wine and champagne are well known for triggering tinnitus.
- **Pregnancy, anemia and an overactive thyroid** can cause certain types of tinnitus.
- **Jaw joint misalignment** or muscles of the ear or throat "twitching" can cause a "clicking" type of tinnitus.

COMMUNICATION TIPS

Communicating with people with hearing loss is often difficult and frustrating for BOTH sides of the conversation. Here we have provided some tips to help minimise this frustration.

For people with hearing loss

Don't guess what people are saying

Don't deny your hearing difficulties. It is much better to be thought of as being 'hard of hearing' than of being misunderstood as having a reduced mental capacity, because of difficulty keeping up with what is being said.

Stay positive

A positive attitude shown to people you communicate with will greatly improve their willingness to meet you half way.

Ask for help, the right way.

You could say: "Can you speak up... you are not speaking clearly enough".

But you will get a better response if you say: *"Sorry, I have a little trouble hearing. Could you speak up a little?"*

Be specific in the help you ask for.

Be specific when explaining how others can help. Tell them you can miss things if you don't know who is talking. Ask them to get your attention before they start to talk.



Explain when it becomes hard to hear more than one person talking at the same time.

Tell them that you read lips, so it's important for you to be able to see their face.

If you didn't hear something, don't just say "What?" or "Huh?". Tell them what you DID hear and ask them to repeat the part you missed. For example say: "I heard you are going on a trip, but I missed when you are leaving."

Pick your best spot

Choose a position that's quiet and has good lighting. If you hear better in your left ear, consider that when choosing your position. Say, "I don't hear well in noisy situations. Can we move over to this quiet corner?"

Pay attention

Concentrate on the speaker. Even people with normal hearing use visual cues of facial expressions, body language and lip movement to help them understand better.

Show appreciation

When someone goes out of their way to help you, be sure to tell them how much you appreciate their help.

Talking to someone with hearing difficulties

Be supportive

Accompany someone with hearing loss to their hearing evaluation and other hearing care appointments. As you are doing now, improving your knowledge about hearing loss also leads to better communication and understanding.

Get the listener's attention

Say the person's name before you start talking to get their attention.

Do not shout!

Shouting distorts the face and makes you look angry.

Speak clearly and moderately

Say the "ends" of all your words. Rather than "How'r ya feelin t'day?" say "How are you feeling today?"

Do not cover your mouth

Objects in front of the mouth, or food in the mouth, impede speech-reading.

Use gestures when talking

Gestures help with understanding. For example, if asking "what time is it?", point to your watch.

Rephrase rather than repeat

If you were not understood the first time, try saying it a different way.

Be patient

It is just as frustrating for the people with hearing loss as it is for you when there is a breakdown in understanding; share the responsibility.

Environmental Tips

Reduce background noise

- Turn off radio / television / stereo.
- Suggest moving to a quiet location.
- Reduce the distance between you and the listener.
- Do not try to talk to the person from a different room.

Good lighting is essential

Light should be on the speaker's face, not shining into the listener's eyes.

Listeners with hearing loss draw visual cues from the lips and face, as well as gestures ■

OVERCOMING THE COSTS OF HEARING LOSS

According to recent research from the Harvard Medical School¹, addressing hearing loss can provide the secret to happiness for you and your loved ones.

What can make those you love truly happy? Is it fame, fortune, or good looks? No, it's you!

A Harvard Medical School study has revealed that close bonds with others is the secret to happiness and longevity.

Robert Waldinger, study director and professor of psychiatry at Harvard Medical School, explains:

“Those who kept warm relationships live longer and happier.”

Alternatively, “Loneliness kills,” he said. “It’s as powerful as smoking or alcoholism.”

Over time, hearing difficulties lead to feelings of isolation and frustration. People will start making excuses to avoid noisy environments and social settings.

Hearing loss is also linked to increased risks of depression, memory and concentration decline, and early-onset dementia.

Despite the social impacts and hidden costs of hearing



Overcoming loneliness: Taking steps towards better hearing leads people to feel younger and happier.

loss, hearing aid adoption remains low. Slower adopters state ‘price’ as one reason for persisting without hearing aids.

Lys Allison, Director of Audiology, believes that low adoption rates are regrettable, especially given the reactions from those who addresses their hearing difficulties.

“The Harvard Medical School study supports what we see... Clients feeling more confident, younger, happier, and more connected to their community as a result of better hearing.”

If you believe that hearing loss may be affecting your life, it is time to do something about it.

Art of Hearing are offering free hearing checks* to adults.

Call (08) 9390-8811 to book your appointment

* Complimentary hearing check only for persons over 26 years of age. Does not include a report. See clinic for details.

“BUT, I’M TOO YOUNG FOR HEARING AIDS?”

Hearing loss doesn’t discriminate based on perceptions of youthfulness or sexiness. Therefore, we should disregard any vanity issues and honor our health and wellbeing by addressing hearing loss early.

It’s common for people to think “*I’m still too young for hearing aids*”, but our clients usually wish they’d done something sooner. Recent research backs this client feedback.

Sensory deprivation – “Use it or lose it”

One study⁵ compared people who were fitted with hearing aids for both ears against others fitted with a single hearing aid. Scientists found that a person’s ability to understand speech deteriorated faster in an unaided ear than one fitted with a hearing aid. If the period without a hearing aid is long enough then full advantages of stereo hearing may never be attainable. That is, “*If you don’t use it, you may lose it.*”

Neural plasticity – “Use it or it’ll start doing something else”

First-time hearing aid wearers, and those with more severe hearing losses, may say something like “*it sounds tinny*”. This is due to changes in the brain that occurred when it was deprived of sounds, rather than the sound quality of the hearing aid.

Sounds are processed by neurons that are “wired” to process them at specific frequencies. When neurons are denied sound, the brain will reprogram those neurons to do something else. In simple terms, “use it, or it will start doing something else”.

This has led to three key improvements in the field of hearing care:

1. Early intervention will produce the greatest long-term benefit and satisfaction for wearers of hearing aids.
2. Aural rehabilitation is often necessary, particularly when fitting hearing aids to someone who has lived with hearing loss for a long time.
3. Clinicians need to manage the expectations of first-time wearers.

Book a hearing evaluation by calling (08) 9390-8811 ■



UNDERSTANDING YOUR HEARING TEST RESULTS

Hearing tests are painless, non-invasive, and simply involve sitting in a soundproof booth and listening to tones played at a range of frequencies important to human hearing. The softest sounds you can hear are plotted on a graph called an audiogram. We'll now explain how to interpret an audiogram.

Frequency (Hz)

The horizontal axis represents the frequency, or pitch, measured in Hertz (Hz). They are arranged from low-pitched on the left to high-pitched on the right. Each vertical line represents a different frequency being tested.

Volume (dB)

The vertical axis represents the intensity (loudness) of tones that are played during your hearing test, measured in decibels (dB). The softest sounds are at the top of the chart and the loudest sounds are at the bottom.

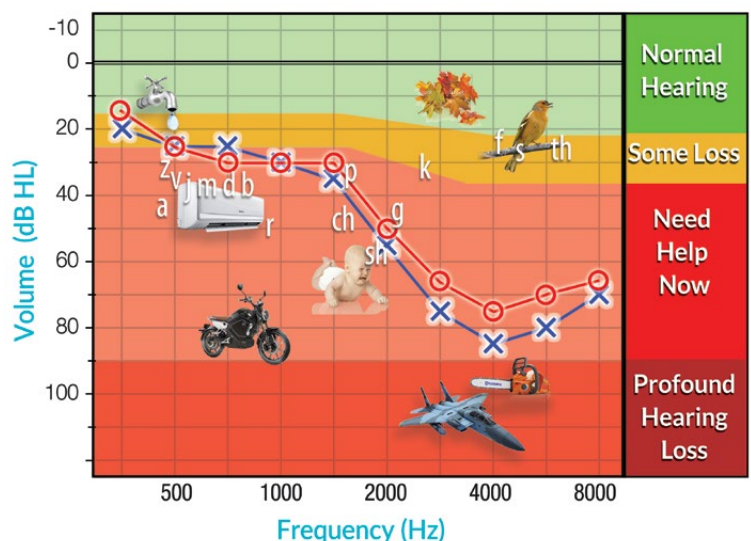
Hearing thresholds

The audiogram plots the softest sound that you can hear at each frequency. "X" is used for the left ear and "O" represents scores for the right ear.

Scores are compared to results obtained from persons with normal hearing (i.e. no hearing loss), shown at the 0dB line.

Sometimes the audiogram will also show bracket symbols "[" and "]". These represent scores based on bone conduction tests, which bypass the outer ear and middle ear.

AUDIOGRAM



Interpreting an Audiogram

In the example above, the individual's audiogram illustrates a severe high-frequency hearing loss, in both ears.

Sounds that appear above the individual's hearing thresholds, shown by red lines (right ear) and blue lines (left ear) will be inaudible. This includes speech sounds above the thresholds.

This individual will miss important parts of words, making conversations difficult to follow in noisy environments. Many environmental sounds will be inaudible, such as birds chirping and rustling leaves.

Characteristics of audiograms

The following characteristics of the audiogram will be used to explain the results of your audiogram.

DEGREE OF HEARING LOSS

Traditionally, the audiology community has described hearing loss using categories such as: ‘normal hearing’, ‘mild hearing loss’, ‘moderate hearing loss’, ‘moderately-severe hearing loss’, ‘severe hearing loss’, and “profound hearing loss”.

However, such terminology can be misleading. Even mild hearing losses can have a significant impact on peoples’ lives. Low frequencies (125 dB - 1000 dB) determine a person’s perception of speech volume, while high frequencies affect speech clarity.

High-frequency elements of speech include sounds such as “f”, “ph”, “th”, “s” and “t”. As these sounds are difficult for someone with high-frequency loss to hear, they may often mistake what someone has said.

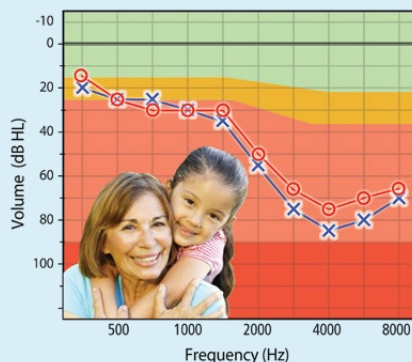
For this reason, many people with greater losses in the higher frequencies commonly feel that: *“I can hear OK – it is just that people sound like they’re mumbling.”*

Speech Tests

While audiograms are very useful tools, they cannot provide the total picture of how hearing loss may impact someone’s life. Speech tests are used to determine how clearly someone can understand speech, when visible cues such as lip-reading are removed.

They involve using common lists of words played (or spoken) at a constant volume that is appropriate to the client’s hearing loss. The client responds by guessing the word that was spoken and correct and incorrect answers are tallied. ■

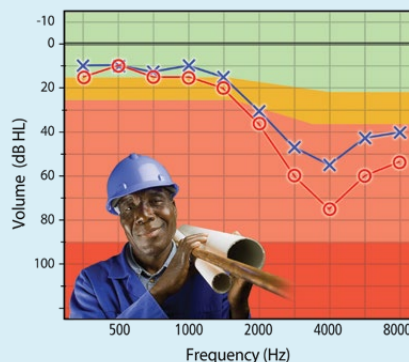
Common Audiograms



Valeria (Grandmother) - 72 years.

Valeria’s hearing loss is related to the aging process, and is known as “Presbycusis”. This is caused by the degeneration of hair receptors within the cochlea.

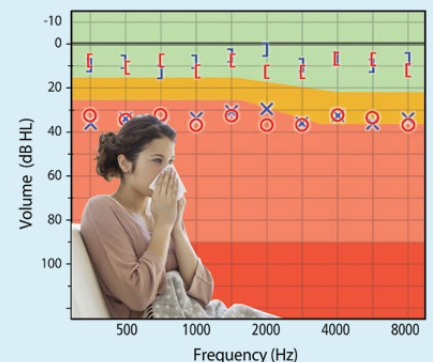
Before she was fitted with hearing aids, Mary found conversations with her grandchildren particularly difficult – especially at large family gatherings.



Bill (Builder) - 59 years.

Bill has worked as a carpenter for over 40 years and admits to rarely using ear protection for much of that time.

His sharply sloping loss in the higher frequencies can be attributed to damage produced by electrical saws and other equipment that he has used in his job.



Amanda (Accountant) - 23 years.

Amanda’s nasty flu has led to fluid gathering in her middle ear. This is causing a problem with the passing of sound through her middle ear. This is evidenced by normal hearing scores for bone conduction tests, represented by the “]” and “[”, but impaired air conduction results shown by “X” and “O”.

HEARING AIDS

Modern hearing aids include incredibly advanced and sophisticated technology to help people with hearing loss follow conversations and enjoy music, nature, and life's sounds with comfort and clarity.



If your hearing evaluation and consultation indicates that you're living with a significant sensorineural hearing loss, then your hearing care professional is likely to recommend digital hearing aids. Thankfully, modern hearing solutions are nothing like the large and clunky solutions from days gone by!

Sound amplification

The most basic function of a hearing aid is to amplify sound. The introduction of digital technology to hearing aids in the late 1990s has enabled hearing aids to do this in increasingly sophisticated ways.

In-the-Ear Models

Hearing aid models

Hearing aids are available in an extensive range of colours and sizes. These pictures show some of the more common hearing aid models.

IIC
Invisible-in-Canal



Smallest custom-fitted hearing aid that, due to its small size, can sit further inside the ear canal.

Mild to moderate hearing loss.

Size prevents the availability of features such as directional microphones, and direct Bluetooth® connectivity.

CIC
Completely-in-Canal



Very small case that sits just inside the ear canal.

Mild to moderate hearing loss.

Fits inside the ear canal, making it practically invisible.

Size prevents the use of directional microphones, unless both devices are connected via Bluetooth®.

ITC
In-the-Canal



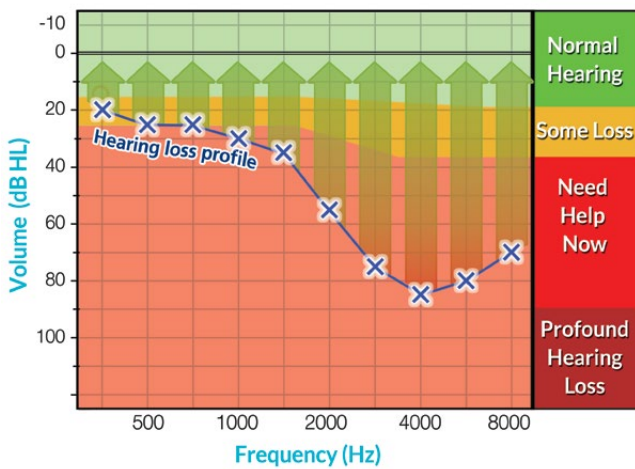
Small case that sits inside the ear canal and outer ear.

Mild to moderately severe hearing loss.

Slightly larger case allows for more features, including directional microphones.

Allows for manual changing of programs with a switch.

HOW HEARING AIDS AMPLIFY SOUND



Individuals have unique patterns of hearing loss. As sound enters the hearing aid, it is broken into multiple frequency bands – up to 64 different frequency bands in the most sophisticated solutions!

Each band is then amplified by the amount necessary to return an individual’s hearing to normal levels at that band.

Noise reduction

People with hearing loss can struggle following conversations in the presence of background noise – such as traffic, air conditioners, or ambient noise from a crowded room.

Modern digital hearing aids can tell the difference between speech and background noise.



Behind-the-Ear Models

ITE

In-the-Ear



Larger case that sits in the ear.
Mild to severe hearing loss.
 Largest in-the-ear model of hearing.
 The most full-featured and powered in-the-ear model, including directional microphones and volume control.

Open

Open fit, behind-the-ear



Small external case that sits behind the ear, making it practically invisible.
Mild to moderate hearing loss.
 Ear canal is open for a natural sound quality.
 Many colour options.
 Good for users susceptible to more earwax, as design keep electronics away from the ear canal.

RIC

Receiver-in-the-Canal



Smallest external hearing aid, as the receiver is located at the end of the tube inside the ear.
 Practically invisible.
Mild to severe hearing loss.
 Also leaves the ear canal open for a natural sound quality.
 Many colour options.

Power

Power hearing aids



Profound hearing loss.
 More powerful solutions that provide the greatest levels of amplification.
 Larger case worn behind the ear.
 Full-featured hearing aids, including option of a volume control.
 Many colour options.

The hearing aid amplifies speech sounds and reduces amplification of background noise at each frequency band. This improves listening comfort for hearing aid users along with their ability to better understand speech in noisy environments.

Directional microphones

TRADITIONAL HEARING AIDS

Following conversations in noisy environments can be a tremendous struggle for people with hearing loss. Typically, most conversations are with people who are facing each other, while distracting background noise will come from the sides and behind us.

Modern digital hearing aids pinpoint the location of sounds by using multiple microphones and gauging the difference in the time that it takes sounds to reach each microphone – despite microphones being only fractions of an inch apart!

Greater amplification is applied to the “main” sound, like speech, coming from the front, while suppressing sound from the sides and behind. Directional microphones are very beneficial in noisy situations, such as restaurants.

A NEW APPROACH

The latest and most technologically advanced hearing aids allow wearers to always hear certain sounds clearly, such as music, someone speaking, and birds singing, regardless of the direction that these sounds come from.

Hearing aids with this capability will constantly scan the environment in 360 degrees and pick up and amplify desired sounds instantly.

Feedback Cancellation

Historically, the whistling sound (feedback) that many hearing aid users encountered was both uncomfortable and embarrassing. This was caused when the hearing aid’s microphone picked up amplified sound.

As you may know, sound travels in waves. The digital hearing aid can now detect the frequency of the wave shape that is causing the feedback and counteract it within fractions of a second. So, there will be no annoying and embarrassing whistling from your hearing aid.



Directional microphones enable greater amplification of sounds, including speech, coming from the direction the wearer

Soundwave of feedback entering the hearing aid.

Mirrored soundwave generated by feedback canceller.

No feedback. No sound.

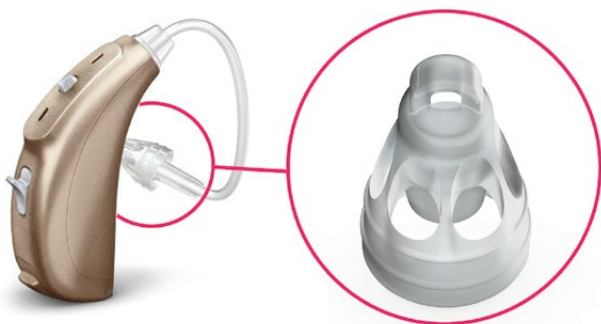


Feedback cancellation: The hearing aid produces a mirror image of the feedback sound wave, silencing feedback instantly.

Open-fit acoustics

In the past, hearing aid wearers often experienced a “talking in a barrel” sensation, which can be simulated by blocking your ears with your fingers and listening to the sound of your own voice.

Modern “open fit” hearing aids do not block the natural passage of sound through the ear canal. Instead, they have very thin tubes that enter the ear canal and smaller cases that rest behind the ear, which also makes them barely visible to others. The result is a far more comfortable, clear and discreet solution for today’s hearing aid wearer.



Open fit: The dome that sits in the ear is open, enabling sound to pass in and out of the ear canal.

Multiple and automatic programming

Advanced hearing aids allow the user to change the settings by pressing a small button on the device or via a remote control, or smartphone application.

AUTOMATIC PROGRAM SELECTION

Ease of use is a very important feature of the world’s leading hearing solutions. The most advanced hearing aids constantly listen to the

environment and adjust the hearing aid’s settings smoothly and automatically, without the wearer needing to touch or think about their hearing aids.

Connectivity to smartphones and entertainment devices



Stay connected: Bluetooth technology has allowed hearing aid wearers to listen to phone calls, music, movies, and television in clear, stereo sound.

Wearers are increasingly looking for solutions to improve their ability to use their hearing aids more effectively in partnership with their smartphones, digital radio, televisions and personal devices (e.g. iPods, tablets).

In response, manufacturers used Bluetooth technology to stream sound from the external devices directly into the hearing aids in stereo

Rechargeable

Another significant development in hearing aid technology has been the move towards rechargeable solutions, which remove the hassle of inserting and disposing of batteries ■



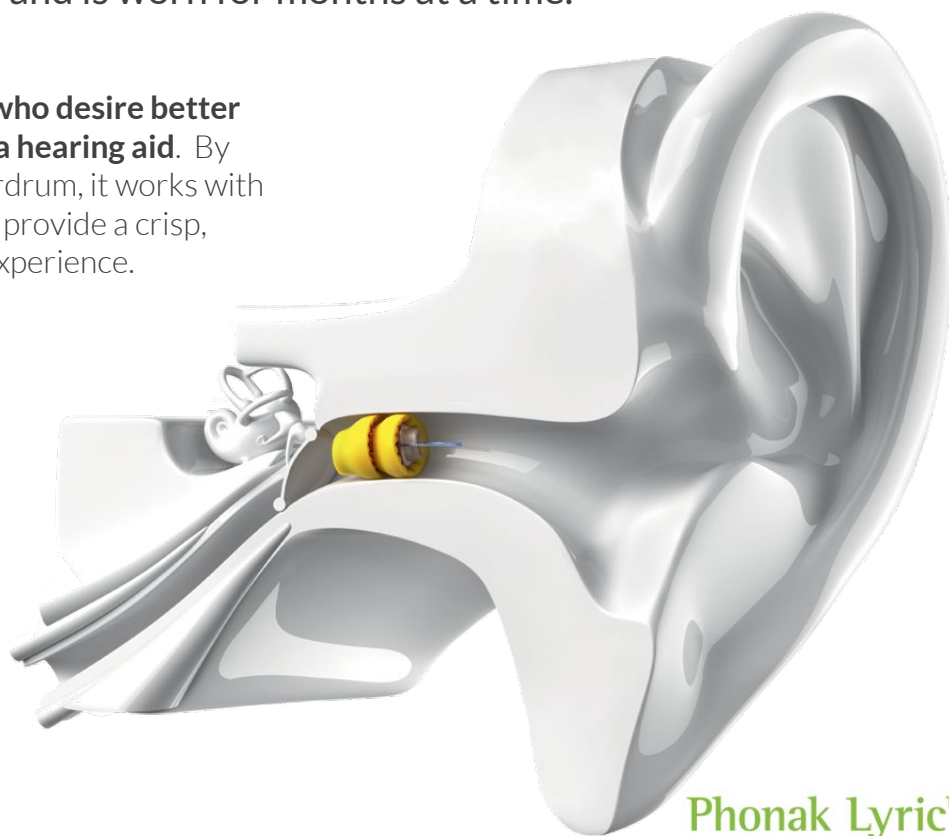
LYRIC IS 'OUT OF SIGHT' AND 'OUT OF MIND'

Phonak Lyric is the world's only 100% invisible hearing aid. It delivers natural, rich sound and is worn for months at a time.

Lyric is perfect for people who desire better hearing, but don't want to a hearing aid. By being placed close to the eardrum, it works with nature's design of the ear to provide a crisp, clear, and natural listening experience.

Unlike traditional hearing aids, Lyric is worn for months at a time including showering, exercising, wearing headphones, and sleeping.

There is also no maintenance, nor batteries to change. You'll may soon forget that you're even using Lyric, even though you're catching every word and rediscovering the richness of music.



24/7 BENEFITS OF LYRIC

100% invisible

Placed in your ear canal, Lyric remains completely invisible to the world.

Clear and natural sound

Lyric works with nature's design of the ear to understand the direction of and delivers a crisp, clear, and natural listening experience.

No daily maintenance, nor batteries to change

Wear and forget Lyric for months at a time.

Improved self-esteem

Lyric patients report experiencing higher self-esteem than those who wear a traditional hearing aid*.

24/7 tinnitus relief*

If you suffer from "tinnitus, Lyric can be very effective in relieving symptoms and improving sleep quality.



Wear and forget: When fitted, you will still be able to shower, wear headphones, exercise, sleep, and seek out adventure without removing your Phonak Lyric devices.

You subscribe to 24/7 hearing.

Lyric use up their batteries so slowly, so we'll only need to replace your devices every few months. For this reason, Lyric uses a subscription model. Rather than paying everything for Lyric upfront, you only need to commit to your subscription as long as you remain 100% satisfied.



Try Lyric risk-free for 30 days.

Experience invisible, hassle-free hearing.

You can try Lyric for one month without any risk or cost. After the trial, you can decide if you want to enjoy all the benefits of Lyric with a subscription.

Call us today on (08) 9390-8811 and find out if Lyric is right for you!

HEARING SERVICES PROGRAM

The Hearing Services Program provides free hearing tests and hearing aids* for pensioners and veterans and is offered through hearing care providers such as Art of Hearing.

Vouchers

The following are eligible for a voucher if they are an Australian citizen or permanent resident 26 years or older:

- Pensioner Concession Card holder.
- Department of Veterans' Affairs Gold Card holder.
- Department of Veterans' Affairs White Card holder issued for specific conditions that include hearing loss.
- Receiving a Sickness Allowance from Centrelink.
- Dependent of a person in one of the above categories.
- Member of the Australian Defence Force.
- Referred by the Disability Employment Services Program.
- NDIS participant with hearing needs, referred by a planner from the National Disability Insurance Agency.

Benefits of the Program

Most services and hearing aids under the program are free. There may also be situations where you will be asked to pay additional costs:

- "Top-up" devices: You may contribute to the cost of more advanced hearing aids.
- Service, repairs, and batteries: With an optional annual maintenance fee.
- Replacement for loss or damage.*

How do you apply?

If you believe that you may be eligible, call Art of Hearing and we can confirm your eligibility and assist with an online application.

* Conditions apply.



OTHER FINANCIAL ASSISTANCE

Health insurance, payment plans, and Workers Compensation can help to cover the cost of hearing aids and hearing services.

Private Health Insurance

Many private health funds offer rebates on the cost of hearing aids as part of their extras and premium plans. You can be covered for up to \$1,000 per hearing aid every three years.

We strongly recommend that you check with your insurance provider.



Payment Plans

When you seek help with your hearing, we want to ensure that you have access to solutions that will best suit your needs. Art of Hearing offer a range of financial terms. Ask us for for information.



Compensation for industrial hearing loss

Until recent times, the damage caused by working in noisy environments was not fully appreciated by many employers. As a result, Australians working in factories, the building industry, mining industry, and other noisy workplaces were rarely provided with ear protection and hundreds of thousands of people have subsequently incurred occupational hearing loss.

The state government provide a scheme for employees who have incurred occupational hearing loss with access to compensation,

which can be used for treatments such as hearing aids . This scheme is administered by Worksafe Western Australia.

If you would like advice regarding a claim for occupational hearing loss, call Art of Hearing on (08) 9390-8811 to make an appointment.





Hear every story, catch every joke, and engage in every conversation.



THE ART OF
HEARING
INVISIBLE HEARING SOLUTIONS



(08) 9390-8811



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Mt Nasura WA 6112

Riverton

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Cnr of Willeri Drive and High Road
Riverton WA 6148

Hillarys

Shop 283, Whitfords S/C
Whitfords Ave,
Hillarys WA 6025

Kardinya

Ste 6, Kardinya Commercial Centre
8/17-23 South Street
Kardinya WA 6163

Kwinana

Shop T55, Kwinana Market Place S/C
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