Understanding & Managing ‘That’ Annoying Noise in your Head

The “How To” Guide on Understanding Tinnitus and What to Do When You Can Hear Sounds that No One Else Does!

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Introduction

This Digital Guide is designed to assist those who suffer from tinnitus to better understand the condition, its causes, triggers, and provide some information on how to successfully manage it. In particular, the information imparted is aimed at people whose only concern is their tinnitus and feel that it has a minimal to low impact on their quality of life. If you suffer from tinnitus in conjunction with other concerns such as hyperacusis (hypersensitivity to sounds) or hearing loss, this Digital Guide is a good starting point in your search for more information; however, it is recommended that you see a specialist for further diagnosis and treatment options. Please note that this Digital Guide does not, and cannot, provide any individual medical advice. As such, any information contained in this Digital Guide is not intended to be used as a substitute for individualised medical advice, diagnosis or treatment.

If you notice any significant changes in your hearing or tinnitus, or any other ear-related medical problems, it is strongly recommended that you contact your general practitioner (GP) or see an audiologist for correct diagnosis and appropriate treatment. Any medical concerns should be directed to your GP for treatment or referral to an Ear, Nose and Throat specialist.

Please contact an audiologist if you have any questions regarding the information contained in this eBook, or if you have any questions about tinnitus, hearing loss or hearing aids.
Tinnitus: An Overview

What Is Tinnitus?

*Tinnitus* tınitəs/tinədəs

Pronounced ‘*TIN-uh-tus*’ or ‘*tin-EYE-tus*,’ Oxford Dictionaries (n.d.) simply defines this condition as “ringing or buzzing in the ears.” To expand further on the dictionary definition, tinnitus refers to the experience of hearing a sound that other people cannot hear.

Most people perceive their tinnitus similarly to *environmental sounds*, most commonly as a ‘ringing’ or a ‘high-pitched tone.’ Other words often used to describe tinnitus include ‘hissing,’ ‘buzzing,’ ‘sizzling,’ ‘crickets,’ ‘white noise,’ and ‘electrical wire hum.’

However, some people report their tinnitus sounds **completely different** from any environmental sound. Everyone perceives their tinnitus uniquely, making it a personal sound perception.

If you have tinnitus you may have little understanding of what it is, why it occurs and what you can do about it. Understanding tinnitus and what causes it can help you to manage the condition. However, before you can understand the tinnitus, it's important to understand how your ear and hearing works.

“How Does My Ear Work?”

Your ear is much more than the visible part you see on the side of your face. It is divided into **three sections** – the outer ear, the middle ear and the inner ear. The outer ear consists of the ear canal and eardrum. Sounds travelling down the ear canal need to make it up to the eardrum, causing it to vibrate and send these sounds through to the middle ear. The middle ear is essentially an air-filled space behind the ear drum that contains a chain of three small bones (ossicles) which connect the ear drum to the opening to the inner ear.
When the eardrum vibrates, the ossicles continue to send the series of vibrations through to the fluid-filled space that is surrounded by bone and shaped like a snail’s shell in the inner ear (cochlea).

The vibrations from the middle ear causes the inner ear fluid to move, which causes the hair cells lining the inside of the cochlea to move. The hair cells are laid out in the cochlea like the keys on a piano, ranging from low pitches at one end to high pitches at the other end.

Hair cell movement causes an electrical impulse to be sent up the hearing nerve to the brain for the sounds to be processed. Therefore, hearing is about how the three sections of the ear work together to transmit sounds, but is also about how the brain works to process those sounds.

**How Is My Ear And Hearing Relevant To Tinnitus?**

Hearing involves a sound wave striking the ear drum and being transmitted through the 3 sections of the ear. Once the sound wave hits the inner ear, it is converted to an electrical or nerve impulse to be sent to the brain via nerve fibres for the sound to be heard.

Tinnitus is an audible sound to the individual; however, there is no sound wave transmitted through the ear. Instead, the nerve fibres are working in such a manner that the brain interprets the impulses as a particular sound. In this way, tinnitus is often referred to as a ‘phantom’ sound.

**What Causes Tinnitus?**

While the reason behind the extra nerve fibre activity that is perceived as tinnitus is still unknown, it is known that tinnitus can occur in conjunction with various conditions.

Tinnitus most commonly occurs when hearing loss is present. Often, this occurs as a result of damage to the inner ear hair cells, leading to sensorineural, or irreversible/permanent hearing loss. Hair cells can begin to deteriorate with age; however, hair cell damage can occur for other reasons. For example, exposure to loud noises can also cause damage to the hair cells and cause hearing loss and tinnitus, regardless of age.

However, not all hearing losses are sensorineural. Problems with the outer or middle ears can lead to conductive hearing losses, which is essentially a loss of hearing without the damage to the hair cells. Some conductive losses can be treated medically, with tinnitus reducing or stopping with treatment.

Conductive hearing losses can occur with ear infections or conditions such as otosclerosis (where one of the middle ear ossicles becomes fused, rendering it immobile).

Some more serious causes of hearing loss and tinnitus include Meniere’s disease (a condition that affects hearing and balance) and acoustic neuroma (a rare non-cancerous tumour that grows in and around the
hearing nerve). Interestingly, while surgical treatment in these cases often addresses the more critical aspects of these conditions, the tinnitus usually does not go away.

Even people with cochlear implants (an electrical device that is surgically implanted into the cochlea of a deaf ear when the hearing nerve is intact) report tinnitus. A cochlear implant converts any incoming sounds into electrical signal and sends them to the brain to be interpreted as sounds.

While more than 50% of people who reported tinnitus prior to cochlear implant surgery report an improvement in their tinnitus post-surgery, some people also report tinnitus onset post-surgery.

So it would appear that tinnitus can result any time the ear is invaded by hearing loss, disease or surgery. Additionally, certain drugs can also cause tinnitus.

On closer inspection, you will find that many patient information leaflets included with medication list tinnitus as a possible side effect (more than 200 prescription and non-prescription drugs).

In truth, the number of drugs that genuinely cause tinnitus is extremely small (less than 1 in 1000). In most cases, tinnitus brought on by taking these medications is temporary – once you stop taking the medication, the tinnitus disappears.

Additionally, drugs that do cause tinnitus usually only do so if taken in unusually large doses. Nonetheless, there are a small number of drugs, usually prescribed for serious illnesses, which have been known to cause tinnitus when taken in large doses.

These include:

- **Aspirin**
- **Quinine and other anti-malarial drugs**
- **Aminoglycoside antibiotics including streptomycin and gentamicin when administered by injection**
- **Cytotoxic drugs used for treating cancer**
- **Diuretics including loop diuretics**

If you do notice that taking certain medications result in an increase in your tinnitus, please do not alter your medication without first discussing it with your prescribing doctor.

Other reported causes of tinnitus can include trauma to the head or neck (whiplash, skull fracture, concussion etc), heart problems, strokes, thyroid disease, stress, diabetes, multiple sclerosis and TMJ disorder.

**How Common Is Tinnitus?**
A 2011 consumer survey of households in the United States found that 10% of the population reported tinnitus, with the incidence as high as 26.7% for people aged between 65 and 84 years of age (Kochkin, Taylor & Born, 2011).

However, tinnitus has been also described as a natural phenomenon by Heller and Bergman (1953). A study of 80 adults with normal hearing sensitivity found that when placed in an extremely quiet sound-treated room, 94% of participants reported audible tinnitus.

Most People are Generally NOT Aware they Have Tinnitus…

This survey suggests that most people experience tinnitus; however, the ambient noise levels of everyday living situations are high enough so that most people are generally not aware of it.

What Can Make Tinnitus Worse?

There are events or activities in our daily lives that can trigger tinnitus to worsen, often temporarily. Other than medications as previously discussed, other triggers include:

- **Diet.** Some people find that their tinnitus fluctuates with taking certain foods; alternately, others finds that those same foods improve their tinnitus perception. There is no evidence suggesting that certain foods cause or exacerbate tinnitus, so any accounts of this are personal idiosyncratic experiences. There is no way to test which foods exacerbate tinnitus in an individual; the only way of determining this is by elimination from and reintroduction to your diet to monitor any changes in tinnitus perception.

- **Caffeine.** It is commonly advised that if you suffer from tinnitus that you should avoid or limit your intake of coffee, tea and other caffeinated beverages. However, further research into this has shown that caffeine has no association with tinnitus. More accurately, it is the side effects of withdrawal from caffeine, such as headaches, that could potentially worsen any tinnitus (St Claire et al., 2010).

- **Alcohol.** Red wine, in particular, has come under much scrutiny when it comes to tinnitus. As with caffeine, there is actually little evidence to justify this belief. As with dietary considerations and tinnitus, trialling elimination and reintroduction
would assist in determining whether alcohol is associated with increased levels of tinnitus perception for any given individual.

- **Smoking.** Smoking has been proven to contribute to sensorineural hearing loss although its direct relationship to tinnitus is still unestablished. However, as hearing loss is related to tinnitus, it can be surmised that nicotine and tobacco intake could lead to increased tinnitus.

**Tinnitus and Your Hearing**

A common complaint with tinnitus sufferers is that their tinnitus interferes with their hearing. Many even feel that their tinnitus is the only reason behind the hearing difficulties. There is actually no evidence supporting or disproving that tinnitus causes hearing difficulties.

Age-related and noise-induced hearing losses are the most common types of hearing loss, resulting in a high frequency hearing loss (hearing loss predominantly in the high-pitched sounds of hearing). The consequence of losing the ability to hear high frequency sounds is that speech becomes difficult to hear in the presence of background noise.

This is because consonants like ‘f,’ ‘s,’ and ‘th’ that form important speech cues are high-pitched, soft sounds that can be easily masked by other sounds. Conversely, vowels are louder, low-pitched sounds that provide a listener with the volume of words and are not as easily covered up by competing sounds. The clarity of speech comes from hearing the consonant sounds, which can be easily covered up by even a small amount of background noise.

Therefore, someone with a high frequency hearing loss can easily hear vowel sounds but can have difficulties distinguishing words due to a loss of the consonant sounds.
This type of hearing loss generally occurs gradually, so when tinnitus is present (often apparent before hearing loss noticed), it is not uncommon to feel that the hearing difficulties are a side effect.

**As hearing deteriorates further over time,** it can be easy to become increasingly annoyed by your tinnitus and, as a consequence, every time you notice any hearing difficulties, your attention might shift to your tinnitus as the cause. This can result in an emotion response of frustration or anger which only increases as your attention focuses more and more on our tinnitus.

If you feel that your tinnitus is causing hearing difficulties, consider whether you only have difficulties hearing when there is background noise present. If so, it is likely you have a high frequency hearing loss and should consult an audiologist for diagnosis and treatment options.

If your tinnitus is, in fact, affecting your hearing, then you would notice hearing difficulties in all situations, not just when it’s noisy.

**Why Is Tinnitus Louder When It’s Quiet?**

A useful analogy about tinnitus is to consider it **like a candle in a room.** During the day when there are other sources of light around, the candle’s brightness is diminished. As it becomes darker, the candle light becomes more noticeable as there is less light to detract attention from it. In fact, when it’s dark, the candle is difficult to miss.

![Candle analogy](image)

**Tinnitus is objectively the same;** a ‘dimmer’ sound during the day when there are more ambient noises around us to detract attention from it, but more noticeable when it’s quiet, especially at night time, when there are lower levels of ambient noises around (remember Heller and Bergman’s (1953) study where 94% of the test subjects reported hearing tinnitus in an otherwise silent room).

**Because of this, tinnitus can affect sleep in different ways.**

Some people find that their heightened awareness of the tinnitus noise when it’s quiet can be annoying and distracting and this in itself prevents them from falling asleep. Others may be worried about their tinnitus – actively listening to and worrying about tinnitus can increase physical and mental tension, which deters the amount of relaxation required to fall asleep.
Alternately, some people also find their tinnitus more apparent in the mornings, as a slight ear blockage can be present on awakening and this can temporarily dull hearing and increase attention to internal sounds such as tinnitus (Tinnitus SA, 2014).

**Is There A Cure For Tinnitus?**

A Google search will generate numerous results on cures and treatments for tinnitus.

However, while there are certainly treatments that have helped to alleviate tinnitus in some people, there is no treatment that has been proven to be consistently effective in eliminating tinnitus.

Drastic treatment options in the 1990s included a surgery called cochlear nerve section (complete severing of the hearing nerve) to stop all sounds from reaching the brain. However, the stakes were high as this surgical option could result in total deafness with tinnitus relief, total deafness with no improvement in tinnitus perception, or even total deafness with louder tinnitus (Pulec, 1995).

This surgery is now mostly obsolete, although still performed as a radical management option to control vertigo in people suffering from Meniere’s disease. Less radical surgical approaches include microvascular decompression (surgically moving a vein off the hearing nerve).

A theory behind this is that when a vein presses on the hearing nerve, tinnitus can result. However, studies have shown that this option can lead to an improvement in tinnitus in some people, and no change or a worsening of tinnitus in others. Interestingly, those that reported an improvement in tinnitus intensity did not report any improvement in levels of distress about their tinnitus, which suggests that tinnitus annoyance is about more than just a perception of the sound itself (De Ridder et al., 2010). In fact, it is difficult to prove that tinnitus is caused by a vein compressing a nerve, as approximately 75% of people have this condition but do not report tinnitus (Tabachnick Sanders, 2003).

More recently, a small scale study combining nerve stimulation with auditory tones showed some improvement in chronic tinnitus sufferers; however, this improvement was not found in all test subjects (De Ridder et al., 2013).

Notably, many of these surgical options look at treating the ear. With their inconsistent success with improving tinnitus and tinnitus distress, the source of tinnitus is clearly not always at the ear, particularly the inner ear. Rather, the source of tinnitus can be found anywhere within the auditory system, starting at the outer ear, and extending up to the brain when the sounds are processed.

It is now widely agreed upon that tinnitus is most often generated somewhere in the brain, rather than in the ear (Henry, 2003). The root of the problem likely begins somewhere in the ear, with hearing loss, noise damage, medications or medical conditions that affect the hair cells of the cochlea. However, it would appear that while the diseased part of the ear sends the message to the brain, over time, the brain itself takes over generating the tinnitus signal.
So Why Is Tinnitus So Annoying?

The human brain is incredibly complex and is capable of learning and relearning information over the course of our lives. In fact, the brain can learn to condition itself to respond automatically to things around us. This conditioned response allows people to react automatically, without needing to consciously think about what is being done.

Conditioned responses include how we react to the sounds around us.

Considering the noisy world in which we live, the brain reacts differently to various sounds. It can place more importance on certain sounds and focus on them more, and less importance on other sounds and learn to ignore them.

While most people experience tinnitus from time to time, only a small percentage of people find it annoying, or even distressing.

The difference between those who aren’t bothered by their tinnitus and those who report their tinnitus as annoying or distressing is how they perceive it. It has been suggested that there are 3 stages of tinnitus emergence: generation, detection and perception and evaluation (Jastreboff & Hazell 1993).

1. **Generation.** The source of tinnitus is likely generated in the ear. The tinnitus sound itself is not the cause of the distress; rather the reactions that comes after this plays a large part in how we it is perceived.

2. **Detection.** The subcortex of the brain detects the tinnitus sound before beginning to process it.

3. **Perception and Evaluation.** The auditory cortex of the brain processes the detected sound and auditory memory recognises pattern of sounds as tinnitus. It then activates the limbic system which controls the detection and expression of emotion. How an individual reacts to their tinnitus affects how it is perceive. We can choose to hear the sound and ignore it, or hear the sound and associate it with negative emotions. It is these negative emotions forming at the onset of tinnitus that commences a cyclical pattern. The more a person is concerned about their tinnitus and focuses on its presence, the more prominent it becomes.
As McKenna (2004) aptly states, “tinnitus becomes problematic because it becomes associated with something negative.” The good news, however, is that it is possible to change how you think about your tinnitus – it doesn’t have to be something negative.

**How Can Tinnitus Be Treated?**

To state the obvious, the ideal way to manage with tinnitus is to turn off the sound; without the sound, the problem cannot exist. To be able to do so would mean that the tinnitus has been cured, yet we know that no single treatment method has been proven to consistently and safely achieve.

The next best option to turning off the sound would be to not pay any attention to it...

This is referred to as ‘habituation,’ which is the brain’s way of decreasing how it reacts to repeated stimuli (for example, sounds). Sound habituation can be learned by placing less importance on certain sounds, such as tinnitus.

How you perceive a sound depends strongly on positive or negative associations and reactions attached to it. The good news is that the brain is able to change how it reacts to sounds and learn to place less importance on a sound that have been previously perceived with negativity.

To this end, there are various tinnitus treatments aimed at managing individual reactions to tinnitus. The next section of this Digital Guide will focus on some of these treatment methods – remember, everyone responds to treatment methods differently, so what works for one person, might not work for the next.

Managing your tinnitus is about finding the treatment option that works for you.
Understanding Your Tinnitus

There are different methods focusing on managing your tinnitus. Please note that these methods are not designed to make your tinnitus quieter; rather they focus on managing your reactions to tinnitus without actually changing your tinnitus. The aim of these methods is to:

- Help you feel less stressed about your tinnitus
- Help control your emotional reactions to tinnitus
- Limit your awareness of your tinnitus
- Change your perception and negative feeling about your tinnitus
- Change how tinnitus affects your quality of life (sleep, concentration etc.)
- Assist you in understanding your tinnitus and managing your tinnitus to the point where you feel that no further help is required

Know Your Triggers

Whilst it has been established that tinnitus begins in the ear as a result of damage, disease or surgery, it has also been suggested that certain medications, diet, caffeine, alcohol, smoking and stress can temporarily worsen tinnitus in individuals.

Discovering your unique triggers can potentially help you to take control over your tinnitus.

If you notice that taking certain medications trigger your tinnitus to worsen, it is recommended that you discuss your concerns with your prescribing doctor. They will usually be able to offer an alternative medication and discuss any pros and cons about changing your prescription.

If you suspect that consuming certain foods or alcohol affect your tinnitus, you can try to remove it from your diet and then reintroduce it to see if it makes any noticeable difference.

However, it is not always easy to determine the exact culprit. It may help you to keep a detailed diary of what you have eaten or drunk to determine if there is any relationship between periods of bad tinnitus and individual foods and beverages.

If you suspect a particular product is aggravating your tinnitus, try avoiding it for a period of seven days. Then challenge your system by reintroducing and withdrawing it several times and note whether there is any change in your tinnitus.

Please note that tinnitus can tend to fluctuate, so it is best to repeat this test several times.
An important point to mention is that keeping track of food and alcohol intake to determine certain triggers can sometimes be counterproductive, as it does encourage monitoring of your tinnitus.

**Some people can find that this increases tinnitus perception.**

As mentioned earlier, caffeinated drinks can also tend to trigger tinnitus in some people; however, withdrawal and avoidance are generally not recommended. The most sensible advice regarding caffeine intake if you are a tea or coffee drinker is to maintain a constant intake and not vary from this. If you consume more caffeine than regularly, you may notice a temporary increase in tinnitus volume.

Remember, if something you enjoy turns out to be a tinnitus trigger for you, depriving yourself that particular food or beverage is not always the best solution. Rather, it is more important to acknowledge that your tinnitus will temporarily worsen, but also know that it will improve again.

There are other factors that can trigger tinnitus or temporarily worsen it, including exposure to loud sounds, lack of sleep/tiredness and stress. Discovering your unique triggers and being aware of them can help you know what to expect.

**Tinnitus And Stress**

As mentioned, tinnitus levels can tend to fluctuate. Another aspect that can explain the amount of fluctuation is your stress levels. If you are under a high level of stress, there is a higher chance that you will notice an increase in your tinnitus volume or frequency.

**Stress is experienced by virtually everyone** at different stages in their lives; however, rather than focusing on stress as a negative thing, a certain amount of stress can actually assist in focusing on the task at hand (Mills, Love & McKenna, 2014).

Stress experienced on a short-term basis is normal, even healthy. Stress experienced long-term, however, can have an adverse effect, not only on your body and mind, but affect your tinnitus as well. Although it is unclear whether stress causes the onset of tinnitus or is more of a contributing factor, it can be common for tinnitus to commence or worsen during periods of high stress. The tinnitus in itself, then, can also affect your levels of stress, perpetuating a vicious cycle.
To understand the relationship between stress and tinnitus, we need to look at how the brain pays attention to information around us.

We are constantly surrounded by sounds, smells, sights – innumerable pieces of information for the brain to process. It’s impossible for the brain to focus on everything going on around you, so it is more selective about what it focuses on and all other information, considered repetitive or insignificant, is filtered out. Take, for example, a ticking clock.

This is a familiar sound, so the brain chooses not to react to it and ignore it until you consciously pay attention to it. Essentially, you get used to it (habituate). If any information (such as tinnitus) is considered threatening, it can lead to increased stress and can be difficult to habituate to.

In fact, it is common to become more sensitive to the perceived threat (tinnitus).

If you perceive your tinnitus as threatening, your brain will continue to focus on it and, during this process, start paying less attention to other things. Focusing on tinnitus can lead to it being perceived as louder and more annoying/distressing.

This reaction explains why tinnitus can start or become worse in times of increased stress.
Whilst it is almost impossible to eliminate stress from your life, relaxation can be used as a coping mechanism to reduce stress levels. Everyone has different activities that they find relaxing, and setting aside some time to relax daily can help.

Relaxation will not likely have an immediate effect on improving your tinnitus – most people find that it does help, but requires time and practice. Changes in behaviour can also help lower stress levels; for example, making time for yourself, physical exercise, talking to family, friends or to a counsellor, or setting aside time to do things you find enjoyable.

**How Do You Rate Your Tinnitus?**

If you’re unsure whether you have any hearing problems in conjunction with your tinnitus, or are undecided on whether you’re more concerned about hearing difficulties of your tinnitus, the following *Tinnitus and Hearing Survey* (adapted from Henry et al., n.d.) is designed to help you reflect on this. It contains 2 sections which investigate tinnitus problems and hearing problems.

Select answers from 0-4: 0 = No, not a problem, 1 = Yes, a *small* problem, 2 = Yes, a *moderate* problem, 3 = Yes, a *big* problem, 4 = Yes, a *very big* problem.

Add up the total for each column and then add the total for each section for your final score.

If the grand total for section A is greater than for section B, then you likely have more trouble with tinnitus than with hearing.

If the grand total for section B is greater than for section A, then you appear to have more trouble with hearing than with tinnitus. It is recommended that you see an audiologist for further diagnosis and appropriate treatment.

### A. Tinnitus

<table>
<thead>
<tr>
<th>Over the last week, tinnitus kept me from sleeping.</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over the last week, tinnitus kept me from concentrating on reading.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Over the last week, tinnitus kept me from relaxing.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Over the last week, I couldn’t get me mind off my tinnitus.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Total of each column: _______ _______ _______ _______ _______

**Grand total of section A:** __________________________

### B. Hearing
<table>
<thead>
<tr>
<th>Over the last week, I couldn’t understand what others were saying on TV or in movies.</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over the last week, I couldn’t understand what people were saying on TV or in movies.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Over the last week, I couldn’t understand people with soft voices.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Over the last week, I couldn’t understand what was being said in group conversations.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Total of each column: __________ __________ __________ __________ __________

Grand total of section B: ______________________
Taking Control Over Your Tinnitus

The Good News is that it is possible to take control over your tinnitus by managing your reactions to it.

You may have mentioned your tinnitus to others and have been told that “nothing can be done about it – learn to live with it.” However, this is often counterproductive advice and can, on occasions, be enough to convert a person from someone who experiences tinnitus to someone who suffers because of it. This type of negative advice is best ignored, as there is a lot that can be done to manage and control tinnitus.

While there is no way to repair damage and disease to the ear at this stage, it is possible to modify the way in which the brain detects and responds to tinnitus.

In effect, it is possible to retrain the brain to classify tinnitus as a non-important signal, allowing you to habituate (automatically ignore it). In order to achieve this, you need to unlearn any conscious and subconscious negative associations attached to tinnitus perception. The goal of retraining your brain to react differently to your tinnitus is to feel better even though the tinnitus itself does not change.

How Is It Possible To Manage Reactions To Tinnitus?

First and foremost, education about tinnitus is important.

Understanding that the tinnitus itself is not a disease but rather a symptom that can be managed is the first step. For many people, this can be enough to realise that nothing more needs to be done.

Others many need more assistance to manage their tinnitus. This can come in the form of sound-based therapy. Sound-based therapy is, as the name implies, the use of sounds to stimulate the brain in order to rehabilitate the ear.

There are different tinnitus treatment options that include sound-based therapy such as tinnitus masking, Tinnitus Retraining Therapy, Neuromonics Tinnitus Treatment and Progressive Tinnitus Management.

For a small percentage of tinnitus sufferers, education and sound-based therapies aren’t enough. Counselling and psychotherapy can be helpful in these instances.

These people tend to consider their tinnitus as severe with a high impact on quality of life, and commonly suffer from hypersensitivity to sounds in conjunction with tinnitus.

Seeing a specialist for further assistance is highly recommended in these instances, as tinnitus self-management methods often won’t be of enough assistance. Seeking professional help can help to address any deeper concerns or issues.
Education about tinnitus has been covered in the earlier parts of this Digital Guide. The following sections will focus on sound-based therapies and changing your thought patterns and feeling to manage tinnitus and associated reactions.

There are different ways to use sound to manage tinnitus, as well as different ways to change your thoughts and feelings to cope with tinnitus. Everyone needs different amounts of help when it comes to managing tinnitus, as each individual is unique in their circumstances.
Using Sound to Control Tinnitus

A main goal of tinnitus management is to limit your awareness of tinnitus.

Sounds can be used to manage tinnitus – having sound around you can help to distract you from the tinnitus noise and redirect your attention elsewhere to effectively minimise your awareness of your tinnitus.

Using The Sounds Around You To Manage Your Tinnitus

There are different types of sounds present in your everyday environment that can be used with varying effect to help mask your tinnitus:

- **Background sounds.** These sounds help to reduce the contrast between tinnitus and a quiet environment, making it easier to ignore tinnitus. These sounds can be helpful because our brains are wired to notice contrast. Tinnitus in a quiet room stands out, so adding background sound can reduce this contrast, making it easier to ignore. Background sounds include any sounds that are neutral, i.e. not soothing or interesting, such as radio static, electric fan, white noise, traffic noise, fountain noise and wind noise.

- **Soothing sounds.** Soothing sounds are sounds that make you feel more relaxed as soon as you hear them. These sounds can help reduce any stress or tension caused by tinnitus, and include running water, ocean waves, wind chimes, insect sounds, soothing voices and relaxation music.

- **Interesting sounds.** These sounds keep your attention and, in doing so, help to shift focus away from tinnitus. These types of sounds can be helpful when you do not need to concentrate on something else or when you want to relax or sleep (although this might not be helpful for everyone). Examples of interesting sounds include talkback radio, audio books, whale sounds, bird calls and music (other than relaxation music).

What Sounds Work Best For You?

It takes trial and error to learn what works best for you. The best way to begin with sounds you already have access to in your day-to-day environment or any sound sources such as music, radios, electric fans (anything that can be used to create a sound).

Don’t despair if your first attempt doesn’t succeed; this is a process of learning what is helpful for you and making changes to improve your sound-based therapy plan.

If you’re trialling background sounds, ensure you set it at a comfortable level, where it blends in to become a natural part of your day.
Think back to the candle analogy discussed earlier in this eBook. Just like candlelight seems brighter when its surroundings are dark, tinnitus can be more noticeable when there is less noise around. This is known as contrast reduction. Hearing tinnitus on its own can be distracting. Adding background sound to an environment reduces the contrast between the tinnitus and the background. This makes it easier for the brain to ignore the tinnitus because there are other sounds in the room. The tinnitus sound itself doesn’t change; rather, it is our perception of it that changes.

Please note that sometimes background sounds can help immediately, or it can also takes weeks or months before you notice any effect, so don’t give up too quickly. To find out which background sounds are the most helpful, spend a few moments in a quiet room before turning on some background sound (ensure that this sound is something neutral or pleasant). Adjust the volume to a comfortable level and note any reduced contrast.

If you’re listening to soothing sounds, document the sound used, the level of volume you find the most soothing and how much stress and tension relief it provides from 0 to 5 (no relief to complete relief). No relief means that there is no change in the stress and tension you feel because of your tinnitus. Complete relief means that when listening to that particular soothing sound, you feel that any stress and tension caused by the tinnitus completely disappears.

To see whether interesting sounds work to mask your tinnitus perception, use a scale to rate how well a particular sound keeps your attention away from your tinnitus.

As with background and soothing sounds, it may take time and patience to discover the sounds that work best for you. Begin by selecting a sound that you think is interesting enough to keep your attention and listen to that sound for 1 minute. Then document the percentage of attention focused on the sound while listening to it.

You may discover that using different types of sounds in different situations is the most helpful. To help determine where to begin, consider the situations that you find your tinnitus most noticeable (falling asleep...
at night, staying asleep at night, waking up in the morning, working at your computer, relaxing in your recliner, reading etc).

Then decide which type of sound might be the most suitable for that situation. For example, if you’re trying to fall asleep, then soothing or background sounds may be more helpful than interesting sounds.

**Using Sound-Generating Devices To Manage Your Tinnitus**

If the sounds around you aren’t enough to assist with your tinnitus annoyance, there are sound-generating devices available for purchase. These include some store-bought devices such as environmental sound machines, sound generators used in Tinnitus Retraining Therapy and hearing aids.

Environmental sound machines include wearable sound generators, bedside sound generators and, in this day and age, Smartphone Apps. The types of sounds provided by sound machines include natural sounds, white noise or gentle music.

The type of sound suitable depends on your individual circumstances and personal preferences. When using these devices adjust the volume to a comfortable level. Some devices also include a timer to automatically turn off, which can be beneficial if using sound-based therapy to fall asleep. Some examples of Smartphone Apps currently available include: ‘iSuppress’ (uses modulated noise bands to mask tinnitus), ‘SleepStream2 Pro’ (provides a mixture of soothing and interesting sounds that can be individual adjusted), ‘Hearing & Tinnitus’ (uses masking and modulated sounds) and ‘Tinnitus Breaker (Masker)’ (includes 5 types of masking noise with left/right independent volume adjustments).

**Using Hearing Aids To Manage Your Tinnitus**

Hearing aids are often helpful for addressing not only hearing loss, but tinnitus. Many people with hearing loss and tinnitus discover that the amplification provided by hearing aids to correct their hearing loss can often be enough to also successfully manage their reactions to tinnitus and tinnitus distress. This is achieved as the hearing aids increase background sound (contrast reduction), make it easier to hear soothing sounds (reduces stress) and make it easier to hear interesting sounds (shifts attention) and make difficult listening situations less stressful.
Hearing aids have also proven to be useful in managing tinnitus in people with normal hearing. In these instances, they are not used to amplify sounds to correct a hearing deficit, rather, they are utilised because they feature a tinnitus masker.

Not all hearing aid models have this feature, and not all tinnitus maskers sound the same, so consulting an audiologist is recommended. Just as with people with hearing loss, hearing aid tinnitus maskers can be used to manage reactions to tinnitus by introducing sound (musical tones, white noise, pink noise, speech noise etc). Please note that this type of sound-generating device does not suit everyone – for the tinnitus masker to be successful, you must find the type of sound soothing or neutral.

The benefit of using a hearing aid tinnitus masker in lieu of other sound-generating devices is that it is small, discreet and portable. An audiologist can carry out appropriate tests to determine whether a hearing aid with a tinnitus masker would likely be beneficial for you.

Hearing Aids With Tinnitus Maskers – One Ear or Two?

If a hearing loss is present in one ear only, audiologists only prescribe one hearing aid. When it comes to hearing aids with tinnitus maskers for tinnitus sufferers, masking the affected ear only can be effective. However, the tinnitus can often then be perceptible in the other ear.

What actually happens in these instances is that the tinnitus has likely been present in both ears all along, but only noticed on the louder side. By using a hearing aid (with or without tinnitus masker) effectively on this side, the dominant sound is masked, but the softer tinnitus in the other ear becomes audible. Therefore, using tinnitus maskers in both ears is highly recommended. Stimulating both ears is important – once tinnitus goes beyond the inner ear, both ears are connected to each other through the brain, so stimulating the entire auditory system can provide better results.

Other sound-based therapies

There are specialised treatments provided by companies such as Australian-based Neuromonics Pty Ltd who promote the Neuromonics Tinnitus Treatment (NTT) method. NTT was previously known as acoustic desensitisation therapy. All training, materials, wearable devices and support for NTT comes from Neuromonics Pty Ltd. The wearable device is similar to an MP3 player and plays Baroque and New Age music. The company customises each device to adjust for any hearing loss. Early stages of treatment introduces a wide-band noise to the music, with the objective of attaining a "sense of relief and control over the tinnitus, and promote a reduction in general anxiety levels" (Davis, 2006, p. 149).
Tinnitus Retraining Therapy (TRT) is provided by specially-trained clinicians (usually audiologists). This method has two basic components – educational counselling and sound-based therapy. The purpose of the in-depth counselling is to remove any fears associated with the tinnitus (Jastreboff, Gray & Gold, 1996).

Sound-based therapy focuses on enriching the sound environment at all times with soft and pleasant background sound. People who are more bothered by their tinnitus are advised to wear ear-level devices (similar to hearing aids with tinnitus maskers) daily for a period of one year. Unlike tinnitus maskers, TRT is not designed to give a sense of relief. Rather, you will still hear your tinnitus clearly, but with constant background sounds.

This helps to reduce the contrast between the tinnitus and quiet environments. In this manner, you are retraining your brain to stop reacting to the tinnitus (habituation).

Sound-based therapy is a good starting point in tinnitus management as it is one of the most simple and practical things you can do for yourself. However, even though it can play an important role in managing tinnitus, it’s important to be aware that it can often not be enough of a help on its own. Combining sound-based treatment with other therapy (like TRT) is recommended for the best outcome.
Changing How You React to Tinnitus

Imagine that you are sitting in a quiet office working when a car alarm goes off. You notice it, but don't pay much attention to it as a car alarm going off is a common sound. However, if the alarm continues, the sound can distract you from your work. Constant tinnitus has been compared to an endless car alarm – an unwelcome sound that cannot be turned off. The tinnitus sound gets your attention, and if it is perceived as a threat, it will keep your attention. The more attention you pay to the tinnitus, the more it tends to become a problem. Some people feel that the lack of control over their tinnitus is the reason why it becomes a problem. It can be easy to become frustrated, discouraged and angry about the lack of control over this phantom sound. The real challenge is to function despite this sound.

As mentioned earlier, there is no cure for tinnitus, and many people usually end up feeling worse when they attempt to quieten their tinnitus; using sound can help you to feel better, but managing your reactions to your tinnitus can help with habituation for long-term results.

Managing Tinnitus Triggered By Stress

Stress can commonly increase tinnitus intensity; however, it is possible to manage both. Thoughts are extremely important in influencing how one feels. It can therefore be useful to pay attention to your thoughts and consider whether they are helpful or counterproductive. Managing stress and tension by changing behaviour can also help to manage tinnitus intensity.

Focusing on your breathing (deep breathing) and imaging a calming and peaceful place (imagery) can help to slow down your body, take your mind off your tinnitus and help you to feel more relaxed and calm. By taking time for deep breathing and imagery to reduce your stress and tension levels, tinnitus can not only reduce in intensity, but you will find that you can think and function more effectively.

Some tips for deep breathing are:

- **Find a relaxing place where you will not be disturbed**
- **Make sure that you are sitting or lying down in a comfortable position**
- **Turn on a soothing sound – avoid silence**
• Breathe in slowly through your nose (over a count of three), hold that breathe for a count of two, and then exhale through your mouth over a count of three

Some tips to use for imagery are:

• Choose a place you feel that is calm, peaceful and safe
• Imagine the sights (beach, forest, garden etc.)
• Imagine the smells (ocean, pine, flowers, food etc.)
• Imagine the sounds (birds, ocean waves etc.)
• Imagine what you can feel (cool breeze, sun, sand beneath your feet etc.)
• Imagine the taste (salty air, water, fruit etc.)

You can measure the level of relief from stress and tension following deep breathing and imagery using the same scale used for documenting the relief provided by listening to soothing sounds to track your progress over time.

Managing Tinnitus By Changing Your Lifestyle

Taking the time to do something that you enjoy has been shown to distract from tinnitus awareness. This sentiment has been eloquently expressed by an anonymous post on www.icanlivewithmytinnitus.com (2014):

“Think back on the last period of time that you were able to forget about your tinnitus. It may have been a brief moment, a few minutes or a couple of hours.

Now, think about what you were doing at the time. Chances are you were engrossed in a positive experience. You might have been working on an important project, helping someone, engaged in a conversation, playing with your kids or grandkids, working out, listening to some good music or reading a great book. Whatever it was, you focused on the experience and not your tinnitus.

Now, think back on the last period of time that your tinnitus really bothered you. What was going on during this period? Were you stressed out, tired, trying to unwind during a hard day at work, feeling sorry for yourself? All of these things will make your tinnitus louder, so think of it in a more positive light. When your tinnitus is really bad, let it be a reminder that something is out of balance in your life. Slow down, get plenty of sleep and exercise, and seek out some of those positive experiences that make your life enjoyable… If you had been born with tinnitus, it would not bother
you today because it would seem normal to you. It would be another sign of life, no different than
the sound of your heartbeat.”

Doing things **you enjoy can help your state of mind** (more positive feelings), distract you from your tinnitus
and help you feel better overall.

Some people feel that they can't enjoy life again unless their tinnitus is quieter or gone...

This feeling in itself can mean that they stop doing many of their usual activities. **This then makes it more
likely that they will focus more on their tinnitus**, and increase the likelihood of feeling unhappy (please
note that hearing loss can also lead to a decrease in enjoyable activities – consulting an audiologist and
addressing the hearing problem can help to overcome this particular barrier).

Activities that you enjoy can help you enjoy life and, effectively, be more distracted from focusing your
attention on your tinnitus. It can, initially, feel like you have to relearn how to enjoy these activities in the same
manner you did before noticing your tinnitus; however, you can learn to enjoy these activities again over time.

**What you do has great power over how you feel...**

Consider the tasks that fill your typical day – are they activities that you feel you *have* to do, or activities that
you *like* to do? An effective way to increase the number of enjoyable activities in your life is to plan ahead.
Simple enough to say, but actually more difficult to put into action, as it is common to want to wait until you
feel better before you do something. **This can lead to not doing anything at all.** Making the time to do
something enjoyable gives you something to look forward to. It can be difficult to fit everything into a busy
schedule, but planning something enjoyable at least once per day ensures that it can become part of your
routine and can also help to manage stress.

**Changing Thoughts And Feelings About Tinnitus**

In the same way that what you *do* can change how you feel, what you *think* can also affect how you feel.

Conversely, what you think can affect how you feel, and these feelings can affect your health. Stress and negative feelings
can lead to health problems.

A bit of stress is normal, and even healthy, to function. The
reason behind this is that when you are stressed, your brain releases hormones that increase your heart rate,
blood pressure and muscle tension. Small amounts of these hormones can help you to react in emergencies;
however, too much over prolonged periods of stress can lead to an increased likelihood of suffering from
colds, heart disease and other health issues (Mills, Love & McKenna, 2014). It is for this reason that learning
how to change your thought patterns that lead to negative feelings is important, particularly if your tinnitus worsens when stressed.

It is possible to change your automatic thoughts and response to tinnitus so that it becomes something that is helpful rather than detrimental.

Everyone has thoughts which are unhelpful (known as ‘thought errors’) at times. However, some people fall into the habit of thought errors, which then cause them to feel sad or upset.

If you are aware of your most common thought errors, you can stop and correct your thinking. For example, imagine hosting a dinner party where your guests haven’t turned up on time. If you think “it’s rude that they’re late,” then you will feel angry about this.

Thinking “maybe they’ve been in an accident,” might cause you to become worried or anxious; yet thinking “this will give me some extra time to tidy up before they arrive,” can give you a sense of relief instead. In all 3 scenarios, the event itself hasn’t changed, but the thoughts are different. How you feel is a result of your thoughts about the situation, rather than the situation itself.

What Are Thought Errors?

It might seem like a difficult task to control negative feelings. However, your thoughts determine the feelings you experience.

While you cannot change events, you can control the way in which you think about them. This includes how you think about your tinnitus. Changing your thoughts about your tinnitus will have a direct correlation to changing your feelings and reactions to it.

Thought errors can occur for any situation, and it is these negative thoughts that can lead to feelings of frustration, hopelessness, anxiety, anger and even depression. Some common thought errors about tinnitus and how to correct them, adapted from Henry et al. (n.d.) include:

- **Over-simplifying** (perceiving one bad situation as an ongoing inescapable pattern)
  
  *Example:* “My tinnitus kept me awake all night last night. This is going to happen every night.”
  
  *Corrected thought:* “Although my tinnitus kept me awake last night, I can eventually fall asleep most nights in spite of it.”

- **All or nothing** (thinking of things as black or white)
  
  *Example:* “If my tinnitus is bad when I wake up in the morning, it means I will have a bad day.”
  
  *Corrected thought:* “I can still try to enjoy my day despite my tinnitus being loud.”

- **Focusing on the wrong details** (focusing on a single detail rather than looking at the bigger picture)
  
  *Example:* “It was hard to enjoy myself when out at dinner because of my tinnitus.”
  
  *Corrected thought:* “My tinnitus was loud at dinner, but it was great to catch up with friends.”
• **Exaggerating** (thinking something is more important than it actually is)

  *Example:* “My tinnitus makes me so cranky that no one wants to be around me.”

  *Corrected thought:* “Sometimes I can be in a bad mood, but other times I’m not. It’s great to have friends who know and understand me.”

• **Under-estimating** (thinking something is less important that it really it)

  *Example:* “Even though I’ve learned to fall asleep despite my tinnitus and started using sounds to help mask my tinnitus, I’ll never learn to cope with it.”

  *Corrected thought:* “I can learn to manage my tinnitus by making small changes. Even though it may never go away completely, I don’t notice it as often as I used to.”

• **Jumping to conclusions** (thinking something is unpleasant even though there is no evidence to support it)

  *Example:* “My tinnitus kept me awake last night so I was tired when catching up with friends today. They probably thought I was boring.”

  *Corrected thought:* “It was challenging getting through today because I was so tired. I told my friends I didn’t sleep well because of my tinnitus keeping me awake and they were understanding and supportive.”

• **Assuming the worst** (thinking something is worse than it is in reality)

  *Example:* “My tinnitus will make me deaf.”

  *Corrected thought:* “I’ve been told that my tinnitus won’t make me deaf – it just feels strange to hear it all the time and not know why.”

• **Blaming** (blaming others for your problems or blaming yourself for others’ problems)

  *Example:* “My tinnitus probably wouldn’t be so bad if my family was more supportive.”

  *Corrected thought:* “It would help me if my family was more supportive, but I need to work at managing my tinnitus.”

• **Making it personal** (perceiving yourself as the cause of a negative event when you’re not responsible)

  *Example:* “I couldn’t enjoy myself at today’s picnic because of my tinnitus. It was my fault that everyone else had a bad time as well.”

  *Corrected thought:* “It was difficult to enjoy myself at the picnic today because my tinnitus was bad. No one can have fun all the time.”

• **Labelling** (attaching a bad label to yourself or others)

  *Example:* “I must be a weak person because I can’t deal with my tinnitus.”

  *Corrected thought:* “Sometimes tinnitus is hard to deal with. I do my best to stay healthy and active and to manage my tinnitus. My tinnitus can still bother me at times, but this is normal.”

• **Emotional thoughts** (thinking that how you feel is the way things really are)

  *Example:* “I feel all alone because no one else know what I’m going through with my tinnitus.”
Corrected thought: “I can explain to people what I’m experiencing with my tinnitus so that they can be aware of what it’s like for me.”

- “Should” statements (thinking that you “should” or “shouldn’t” try to do hard tasks, making yourself feel guilty)
  
  Example: “I shouldn’t have to deal with tinnitus at this stage of my life.”
  
  Corrected thought: “Although I wasn’t expecting tinnitus, I can manage and cope with it.”

How Can You Correct Thought Errors?

You can use the following steps to help identify and change your thought errors about tinnitus:

1. **Identify the event/situation.** What were you doing or what was happening when you started to feel bad?

2. **Identify your thoughts.** Do you remember what you were thinking just before you started feeling bad or upset? It may have been a single thought, or many thoughts. Choose the thought that made you feel the worst.

3. **Identify your feelings.** Do you remember how you felt at the time, e.g. sad, angry, frustrated, annoyed or disappointed?

4. **True or false?** Consider whether there was any truth to what you were thinking. Can you identify any of the thought errors listed above?

5. **Changing your thoughts.** Think of a new thought about that event/situation that is more conducive to positive feelings. Consider the advice you might give to a friend in the same situation to help you come up with some positive thoughts.

6. **Identify your new feelings.** As you practice applying corrected thoughts, pay attention to how you feel. Are you as aware of your tinnitus? Are you as annoyed by your tinnitus?

You may feel it helpful to write down the situations and thoughts that need correcting and what your corrected thoughts are for those events. Make notes on what works and what doesn’t work for you and keep persisting as corrected thoughts can become more useful over time. Please note that changing negative thoughts into positive ones can take time to work effectively. With patience and practice, it will feel more natural to think positively. To make this easier, any corrected thoughts should be easy to remember (keep it concise) and thoughts that you believe are true and apply to your situation.
**Final Thoughts on Managing Tinnitus**

If you’d like to investigate your tinnitus further, seeing an audiologist can be useful.

**Check Whether the Hearing Clinic offers Any Form of Tinnitus Assessment**

An audiologist can check your ears and hearing as well as perform some tests to determine the pitch at which you hear your tinnitus, how loud you perceive your tinnitus and whether your tinnitus sound can be masked.

An audiologist would be in the best position to recommend whether or not you might benefit from using hearing aids (if a hearing loss is present), using sound-based therapy, or whether you should seek further counsel about your tinnitus, see your general practitioner or be referred to an Ear, Nose and Throat specialist.

**However, help with tinnitus begins with education.**

Understanding what causes tinnitus can help you to realise that despite the sound, it is non-threatening in itself. For many people, this is enough and nothing else needs to be done. For others, tinnitus can become more annoying, and many of the emotional problems relating to tinnitus are a direct result of how you react to the tinnitus sound.

Your thoughts and actions can start off as a conscious reaction and become more automatic over time. The source of tinnitus distress is not the tinnitus sound itself, but the manner in which you perceive and react to it. Using sounds to mask tinnitus, changing lifestyle behaviours and changing negative thought patterns can help you to successfully manage your tinnitus so that although the tinnitus sound itself doesn’t change, how you think about and react to it does.

Managing your tinnitus is possible – you just need some patience and perseverance to work out which sounds, what lifestyle changes and what thoughts work best for you.
About Value Hearing & Tinnitus Solutions

Value Hearing & Tinnitus Solutions has been in business since 2009.

The company began as one clinic in Perth, but has grown from strength to strength every year, always looking for opportunities to expand.

There are currently 6 conveniently-located clinics across Australia – Perth, Sydney, Chatswood, Brisbane, Robina and Melbourne. All of the hearing specialists at Value Hearing & Tinnitus Solutions are experienced audiologists and members of Audiology Australia (formerly known as the Audiological Society of Australia), and collective have over 60 years of clinical experience.

Value Hearing & Tinnitus Solutions has a friendly and extremely capable front-of-house team that will assist in guiding you through your experience.

As well a comprehensive hearing assessment, Value Hearing & Tinnitus Solutions also offers a comprehensive tinnitus assessment. Our audiologists have undergone additional training to be able to offer specialised services in tinnitus management. If a hearing loss is also present, they can offer a range of hearing aids that can suit your hearing loss, assist in managing your tinnitus and suit your lifestyle. Even if you have normal hearing, our audiologists can discuss ways to manage your tinnitus or recommend further treatment with other specialists, depending on your situation.

Call Value Hearing & Tinnitus Solutions on 1300 586 104 to see if you qualify for an individualised and Comprehensive Tinnitus Assessment for only $270. This assessment will help you discover potential causes of your tinnitus and also leave you with actions you can take to reduce your tinnitus annoyance.

Let Value Hearing & Tinnitus Solutions provide the best possible service and products for you.

Take the next step and book in now for a Tinnitus Assessment - call us now on 1300 668 510 or visit our website at www.valuehearing.com.au
References


