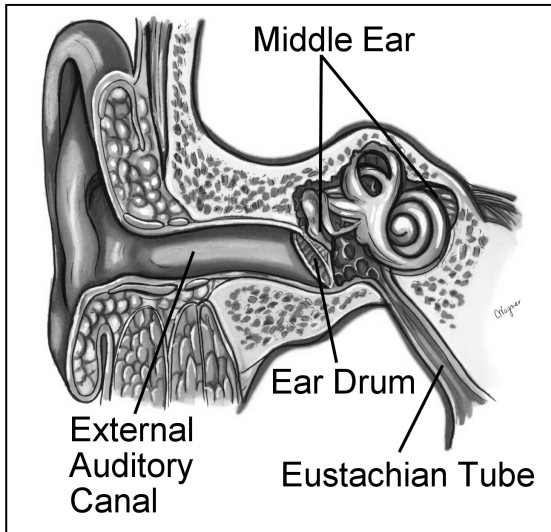


Tinnitus (Noise in the Ears)



Tinnitus is the perception of noise or ringing in the ears when there is no outside sound. It is very common, affecting about 1 in 5 people. Tinnitus is a symptom of many ear disorders rather than being a disease in itself. Most commonly it is associated with hearing loss which normally occurs with aging and noise exposure. While bothersome, it is not usually a threat to health. For most people, tinnitus will improve with treatment, either if the underlying cause is corrected or by masking of the noise to make the tinnitus less noticeable.

WHAT CAUSES TINNITUS?

In normal hearing, sound moves the ear drum which vibrates small bones in the middle ear. The bones vibrate the hearing organ (cochlea) which transforms the sound into electrical impulses which travel to the brain along the hearing nerve. The normal nerve of hearing has a background firing rate which the brain interprets as silence. When the hearing nerve or hair cells that detect sound are damaged, the brain understands the change in hearing nerve firing as sound when there is none (tinnitus).

The most common cause of tinnitus is damage to the hair cells of hearing or hearing nerve itself with age or noise exposure. Less commonly, tinnitus may have a cause which requires treatment:

- Outer or middle ear problems: ear wax, stiff bones of ear (otosclerosis)
- Inner ear problems: acoustic neuroma (rare benign tumor), head injury
- Medications linked to tinnitus: antibiotics (erythromycin, tetracycline etc), cancer drugs (cisplatin, vincristine etc), diuretics (frusemide etc), aspirin (high doses only), quinine
- Transmitted pulsations: carotid artery hardening, rarely vascular tumors

Although not the cause of tinnitus, the problem can be worsened by stress, fatigue and depression. Sometimes treatment of these conditions may improve tinnitus.

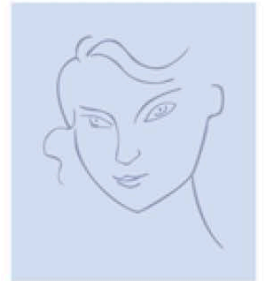
WHAT TESTS ARE REQUIRED?

Dr Iseli will carefully go over your medications and assess your exposure to noise. He will examine your ears and check the other nerves in the area to rule out any rare cause for tinnitus. Most patients will require a hearing test (audiogram) and many require an MRI scan to completely exclude any rare cause such as acoustic neuroma (benign, non cancerous brain tumor).

TREATMENT

Noise suppression

If no underlying cause is found, most patients can reduce tinnitus by covering it up with more pleasant background noises (these increase the firing of hearing nerves to correct the brain's abnormal perception). Generally, tinnitus is worst at night and so



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this is when noise suppression is most helpful. White noise such as soft music or a CD of waves or rainfall can be played while you are going to sleep.

For patients with hearing loss, hearing aids often improve tinnitus. In addition, tinnitus maskers can be added to the aid to produce a soft, white noise. Ask your audiologist (or see Australian Hearing if you are an aged pensioner) when discussing a hearing aid to try a tinnitus masker.

Healthy lifestyle

Tinnitus may be worsened by prolonged exposure to loud noise. When working in loud environments or listening to loud music, wear appropriate hearing protection (ear plugs, ideally over the ear hearing protection). Generally, tinnitus proves that you have had permanent damage to your hearing nerve and are at higher risk of further damage from noise.

Tinnitus is usually worse when you are stressed and have inadequate rest. Regular exercise can help with both stress and improving your sleep quality. Certain substances have been shown to make tinnitus worse including alcohol, caffeine, aspirin, and nicotine. See your GP to discuss smoking cessation and replace aspirin with paracetamol for pain. Try to limit caffeine and alcohol intake especially in the evening.

Medications

A number of medications also used for depression have been shown to help patients with persistent and particularly troublesome tinnitus. These include SSRI's (eg sertraline) and tricyclic antidepressants (eg amitriptyline). Each has benefits and potential side effects and should be discussed with your GP who will be very familiar with prescribing these medications. Note that they should be tried for at least 6 weeks before deciding if they have any benefit for you. All these medications do not cure the underlying condition but reduce tinnitus severity by their nerve stabilizing effects.

Acupuncture

Acupuncture has been proven to help many people with difficult to manage tinnitus. Many GPs perform acupuncture. Ask your GP to recommend someone near you who is skilled at acupuncture if you are interested in trying this treatment.

Support groups

Sharing your experience and learning from others with bothersome tinnitus is extremely helpful for many people. VicDeaf runs free group sessions for people with tinnitus. Patients with severe tinnitus often benefit from psychologist counseling to learn coping strategies when tinnitus is most disabling.



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