

Special Report: Tinnitus

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Introduction

I am writing this report in an effort to educate people tinnitus and the treatment options which are available to receive long term relief from this often debilitating condition.

Unfortunately there is a lot of confusion, even in the medical field, on how to treat this condition. I have seen many patients who have talked to their physician and have been told that they would have to “live with it” or simply get a shrug of the shoulders. I have also worked with countless patients who have wasted a lot of money on “herbal remedies”, often on fancy websites, that promise to silence the sound in their ears--only to be disappointed. If you are experiencing tinnitus, don’t despair – there is hope! I hope you find this report helpful.

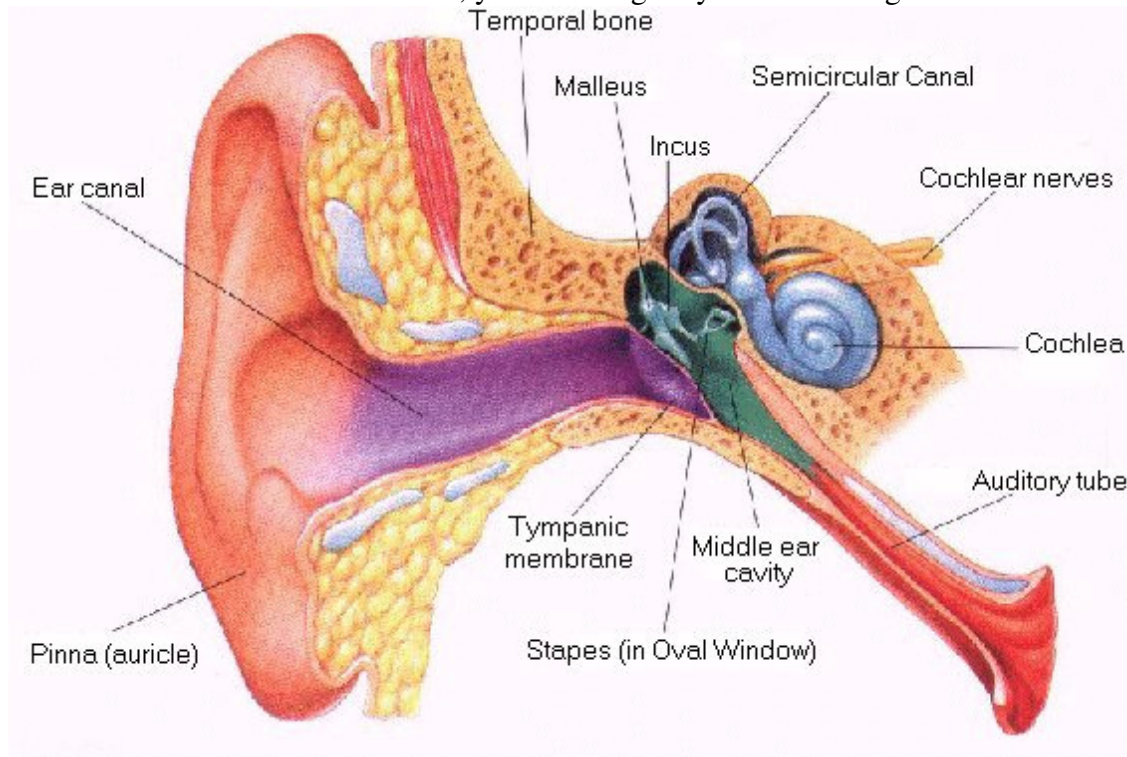
What is Tinnitus?

Tinnitus (pronounced both ti-NIGHT-us and TIN-i-tus) is the perception of sound in the ears where no external source of sound exists. Tinnitus can be a temporary condition, lasting only a few minutes, or it can be a long term condition which can last indefinitely.

In nearly all cases, the sound that the sufferer hears is only heard by that person. Tinnitus sounds different to every sufferer. Some words used to describe tinnitus include, “ringing,” “whooshing”, “crackling,” “static,” “screeching,” “buzzing,” and even “hissing.” The sound from tinnitus never includes words or melodies.

Causes of Tinnitus

To understand what causes tinnitus, you must begin by understanding how we hear.



The outer part of the ear, or auricle, acts as a satellite dish to capture sound and direct it into the ear canal. Once in the ear canal, sound waves cause the ear drum (tympanic membrane) to vibrate. This causes the three small bones in the ear the malleus, incus, and stapes to vibrate, which they in turn pass onto the middle ear cavity. As this signal gets transferred into the cochlea, the vibrations cause small hair cells to move. The movement of these hairs triggers an electrical signal which the 8th nerve carries to the brain to be interpreted as sound.

When tinnitus occurs, something causes the hair cells in the cochlea to transmit nerve pulses which the brain interprets as sound.

Often this happens because the cells in the cochlea are somehow damaged. The exact causes are unknown, but we do know that tinnitus often occurs when:

- Patients experience a sensorineural hearing loss. Exposure to loud noise damages and destroys the cells in the cochlea. 90% of tinnitus sufferers also experience some level of hearing loss. Hearing loss often worsens tinnitus. When the ear is not able to hear outside sounds as well, it becomes easier to hear “noise” within the ear.
- Patients take ototoxic medications. Certain drugs have tinnitus as a side effect. Often this is not permanent. You should discuss all risks associated with medications with your physician.

- Patients experience sinus or ear infections. Many people, especially children, experience tinnitus in conjunction with ear and sinus infections. This usually clears up along with the infection.
- Patients have a greater amount of ear wax than normal. Sometimes a prevalence of ear wax build up can trigger or exacerbate tinnitus. You should seek the care of a physician to remove the ear wax.
- Patients have experienced head or neck trauma.
- Patients have experienced jaw misalignment.
- Patients have experienced certain types of tumors.
- Patients have experienced diseases such as hypo- or hyperthyroidism, Lyme disease, and fibromyalgia. When tinnitus is caused by another disorder, treating the disorder oftentimes alleviates the tinnitus.

Prevalence of Tinnitus

Tinnitus is actually a common condition. The American Tinnitus Association estimates that over 50 million Americans experience tinnitus to some degree. Of those, over 12 million suffer severely enough to seek medical attention. About 2 million of those cases are severe enough that the sufferer can't function normally.

So why do some people simply experience tinnitus, while others are so severely impacted by the condition? Whenever the brain experiences a new sensation it must decide if it is important and paid attention to, or if that sensation can be ignored. The first time the brain hears tinnitus, the majority of people makes a note of it then tells the subconscious mind to ignore it. Other people will react negatively and will decide that the tinnitus needs to be monitored. The brain begins to listen for the tinnitus, which causes the patient to hear it more, which causes it to be heard even more – a vicious cycle begins. In addition to this cycle of listening to the tinnitus, other parts of the brain begin to get involved as well. The limbic system begins to cause the patient to have a strong negative emotion towards the tinnitus. The autonomic nervous system also begins to remain on “high alert” making it difficult to sleep or relax, which also causes the tinnitus to sound louder.

Treating Tinnitus

Neuromonics: The treatment utilizes a customized neural stimulus combined with specific music, delivered according to a coordinated program. The treatment is designed to interact, interrupt, and desensitize tinnitus disturbance for long term benefit. Neuromonics has been shown to reduce symptoms quickly and provide significant, long-term relief. This treatment has been shown to be effective for 90% of suitable tinnitus cases and is the only FDA cleared medical treatment for tinnitus.

Neuromonics therapy is completed by the patient for 2-4 hours per day while carrying out their daily activities. A specifically designed therapy is embedded into musical tracks and programmed into a device which looks like an mp3 or iPod. These musical tracks are designed to address the limbic system and autonomic nervous system as well as the

tinnitus. Most patients report immediate relief while using the therapy and complete relief within 6-12 months of therapy.

Hearing Aids: Many people notice tinnitus only when they are in a quiet environment. This happens because the ambient noise prevalent in day to day life covers up tinnitus. When something happens to cause hearing loss, there is less ambient noise to cover the tinnitus, thus making it appear louder. For many people, treating the cause of the hearing loss can completely or partially cover up the tinnitus. Hearing aids are most commonly used in conjunction with other therapies or in situation where tinnitus is present, but not causing a significant disturbance to the patient's life. A hearing exam performed by an audiologist can determine what type of hearing loss is occurring and he or she can recommend appropriate treatment.

Tinnitus Retraining Therapy: Tinnitus Retraining Therapy (TRT) was created by Dr. Pawel Jastreboff at Emory University. TRT teaches the brain to recognize that tinnitus is not a threat and can be ignored. TRT uses an ear level sound generator which the patient wears during all waking. The sound generator produces a soft hiss which when set appropriately mixes with the tinnitus and over an 18-24 month period of time the brain will learn to ignore the tinnitus. TRT is successful in treating tinnitus, however it takes a lot of effort on the patient's part and takes a long time to be successful.

Sound Therapy: Oftentimes, external sound can "mask" the tinnitus and help the brain to not pay so much attention to it. This can be something as simple as turning on a fan, a radio or a simple sound generator. Sometimes, an audiologist will prescribe a masking device which creates a constant sound in the ear. Masking therapy is a common "band aid" approach used by audiologists not trained in tinnitus therapy. While using the masker there is relief, however there is no long term reduction of tinnitus when the masker is not being used by the patient.

Alternative Treatments: There are many "natural" remedies for tinnitus. However, at the present time, the American Tinnitus Association has the following to say about these treatments:

"Some people have taken minerals such as magnesium or zinc, herbal preparations such as Ginkgo biloba, homeopathic remedies, or B vitamins for their tinnitus and found them to be helpful. Others have experienced tinnitus relief with acupuncture, cranio-sacral therapy, magnets, hyperbaric oxygen, or hypnosis. A few of these therapies have been researched in an attempt to verify the anecdotal claims. But the results have not conclusively identified these treatments as helpful for tinnitus. Your doctor might give you clearance to try them for tinnitus anyway given that they generally carry little risk to health and some people find them helpful." (American Tinnitus Association, <http://www.ata.org/professionals/tinnitus-treatments> November, 2009)

Drug Therapy: Many drugs have been researched and used to relieve tinnitus, but there is not a drug that has been designed specifically to treat tinnitus. Some drugs that have been studied include anti-anxiety drugs like Xanax, antidepressants like nortriptyline, antihistamines, anticonvulsants like gabapentin, and even anesthetics like lidocaine. All successfully quieted tinnitus for some people when using the medication. However, once the medication was out of their system the tinnitus returned.

	Neuromonics Tinnitus Treatment	Tinnitus Retraining Therapy	Cognitive Behavior Therapy	Hearing Aids	Maskers	Noise/Sound Generators	Drug Treatment
Treats symptoms (emotional, mental, quality of life, etc.)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Treats cause	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
Counseling/ Professional guidance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Potential for immediate relief	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Potential for long-term relief after treatment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
Convenient/ non-invasive during treatment	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
Short-term, prescribed treatment	<input checked="" type="checkbox"/>						
Proven effective	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					

Coping Therapies

There are many ways to cope with tinnitus. The following are some suggestions:

- Rest and relaxation. Tinnitus tends to be exacerbated when you are tired and under stress. Getting at least 8 hours of sleep each night along with relaxation techniques (such as yoga and deep breathing exercises) can help to lessen the effects of tinnitus.
- Limit caffeine, alcohol and sodium. These things have been shown to have adverse effects on blood pressure, which in turn makes tinnitus worse.
- Protect your hearing. Hearing-loss induced tinnitus gets worse as hearing loss increases. Protect your hearing by avoiding loud noises and wearing ear plugs in noisy environments.

When to Seek Professional Help

Ask yourself the following questions. If you answer yes to one or more, you should seek help from a certified ENT physician or an Audiologist.

Tinnitus often makes it hard for me to concentrate.

Yes No

I have trouble sleeping more than 2 nights a week because of tinnitus.

Yes No

I find myself more irritable with those around me because I am frustrated by the ringing in my ears.

Yes No

I avoid social situations because the increased noise and activity worsens my tinnitus.

Yes No

Tinnitus makes it hard for me to relax.

Yes No

Tinnitus causes me to feel frustrated.

Yes No

I feel like I have no control over my tinnitus.

Yes No

I feel more angry, anxious or irritable than I did before I suffered from tinnitus.

Yes No

Tinnitus interferes with my job or household responsibilities.

Yes No

I feel like I can't find any relief from tinnitus.

Yes No

Choosing and Seeing a Professional for Tinnitus Treatment

You should choose a medical professional (either an Audiologist or an ENT) who is experienced in tinnitus treatment. Make sure that the professional is licensed and qualified to provide the kind of treatment in which you are most interested. Neuromonics and TRT are only provided by certain audiologists and ENTs.

Tinnitus doesn't have to ruin or even rule your life. There is help available! Timpanogos Audiology is one of only two clinics trained in Neuromonics therapy, and the only clinic that is trained in both Neuromonics and Tinnitus Retraining Therapy in Utah. Our professionals will perform a detailed interview and in-depth diagnostic testing to determine how to best treat your tinnitus and deliver the relief you deserve. Don't lose any more time – call our office at 801-770-0801 today!

Tinnitus Information Resources:

American Tinnitus Association <http://www.ata.org/>

National Institute of Health <http://www.nlm.nih.gov/medlineplus/tinnitus.html>

Neuromonics <http://www.neuromonics.com>

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