

# TINNITUS

Also called ear **ringing, hissing, buzzing, clicking** or “noise inside my head”

Tinnitus is a very common ear problem. It is estimated that **1 in 5 people** in the general population have tinnitus, with twice as many over the age of 50. (About **60 million people** in North America) The most common cause is due to **some type of hearing loss**, such as age related nerve damage (we lose our high notes as we mature), **noise exposure** (people in the music industry, fire and police business and the military often complain of tinnitus) or **ear infections** (usually viral). Many **medications** cause tinnitus, the most famous of which is Aspirin. Other causes include **headaches, anxiety and depression**. Even too much ear wax has been associated with tinnitus! Rarely, some type of neurological disorder can cause the sounds.

## So what exactly is tinnitus?

Your ear send sounds into your brain as electrical signals inside the hearing nerve. The sounds around you go to a specialized part of the brain (Auditory Cortex) which then makes sense of what you are hearing. The inner ear and hearing brain are **organized like a giant piano** with each note receiving a separate nerve (piano string). If any of the keys or are damaged, **the brain attempts to “turn up the volume”** on the **entire piano** to hear those sounds better. (Only a **hearing aid** can turn up just the notes you need.) The result is a background noise which can be really irritating. It is a **built-in hearing nerve reflex to help you hear better**.

## What can we do about it?

**Currently, there is no cure or proven therapy for tinnitus.** That said, there are many “cures” on the Internet, many of which do help a lot of people. **The most important thing is to rule out anything dangerous. (That is why your doctor sent you to see me.)** In very rare cases (1 in 100,000) tinnitus can be caused by a brain tumor or some other serious disease. These can usually be detected on your **hearing test**.

Here are some things that have helped previous patients:

1. Try a **Vitamin B12** supplement (1,200 **micrograms** daily for 3 months)-- people with B12, **Zinc and Magnesium** deficiency suffer more with tinnitus. Try **Lipo-Flavonoids** (multi-vitamins for ears).
2. **Don't sleep in silence.** Tinnitus usually gets worse when it's quiet because the speakers in your brain get turned up. So give your ears something to listen to (a humidifier, quiet music or nature sounds).
3. **Decrease the stress in your life.** High stress clearly increase tinnitus.
4. **Hang in there.** In time, 60% of patients learn to “turn down the volume” of this reflex.
5. **Surf the Net.** If you find a cure out there, please let us know!

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dohm<sup>NSF</sup>

What serious sleep  
is all about.



- dual speed
- bright white finish
- gray switch
- raised silver medallion
- The Official Sound Conditioner of the National Sleep Foundation
- includes Sound Sleep Plan from the National Sleep Foundation



(BED BATH & BEYOND)



## PLAIN LANGUAGE SUMMARY: Tinnitus

### BACKGROUND

This plain language summary serves as an overview in explaining tinnitus and managing its symptoms. Tinnitus is a sensation of noise or ringing in the ears or head, when there is no real sound. Tinnitus (pronounced ten / ih / tus) affects 10-15% of adults in the United States. Some people experience tinnitus that goes away on its own. Other people have symptoms that last 6 months or longer and interfere with their life. The information in this summary is based on the 2014 Clinical Practice Guideline: Tinnitus. The guideline includes evidence-based research to support more effective diagnosis and treatment of tinnitus.

### WHAT IS TINNITUS?

Tinnitus can be heard in one or both sides of the head. The noises can sound like they are either from within or outside the head. Tinnitus sounds can include ringing, roaring, buzzing, clicking, beating, whooshing, whistling, humming, or other noises. The person may 'hear' their tinnitus all the time, or only in certain situations. Tinnitus can hurt a person's quality of life. Patients may experience symptoms at different levels of severity. Common patient complaints include difficulty sleeping, struggling to understand other's speech, depression, and problems focusing. These experiences could lead to problems with both work and family life.

### WHAT CAUSES TINNITUS? ARE THERE RISK FACTORS?

There are two types of tinnitus: Primary and Secondary. Primary tinnitus has an unknown cause. It may or may not be linked with hearing loss. Secondary tinnitus has a specific known cause. It may be such things like impacted earwax, or diseases or pressure behind the eardrum. Secondary tinnitus can also be related to Meniere's disease or ear nerve conditions. Tinnitus can be caused by more unusual or serious conditions. Some of these rare conditions include tumors, heart problems, or blood vessel problems.

Tinnitus can be seen at any age, in males or females, and in all ethnic groups. Tinnitus occurs more frequently in males, the elderly and non-Hispanic whites. There is a higher rate of tinnitus among military veterans. Tinnitus is also more likely to occur in people who are overweight, obese, or who have high blood pressure. Other risk factors include diabetes, high cholesterol, or anxiety disorder. Tinnitus is believed to be linked to long-term noise exposure. Exposure to noise, such as firearms or loud music, is also a risk factor.

### WHAT CAN YOU DO?

You should seek medical care after you notice symptoms which may help avoid misdiagnosis or delayed diagnosis. Tinnitus can be very upsetting, and it can even be associated with depression and anxiety. Tell your doctor if you are having a strong emotional response to your tinnitus. Tinnitus patients commonly have trouble sleeping (insomnia). Lack of sleep can reduce the ability to pay attention. It can also lead to anger, frustration, and other negative emotions. Some patients develop a fear of being in noisy places. It is important to tell your doctor if symptoms are affecting your daily life.

## HOW IS TINNITUS DIAGNOSED?

A doctor can diagnose tinnitus by reviewing your medical history and performing a physical exam. The examination may rule out other conditions. A doctor may look in the ears using a device called an otoscope (pronounced oh/ toe/ scope). This device allows for a good view inside the ear canal. Your doctor may also find other treatable conditions that are causing tinnitus. For example, earwax that is obstructing the ear canal can be removed. Fluid behind the eardrum can also be treated. Tinnitus frequently occurs in patients with hearing loss. Hearing tests are often done for people who have tinnitus.

## WHAT TREATMENTS ARE AVAILABLE?

Tinnitus may improve on its own, especially when it is mild and has lasted for less than 6 months. When treatment is needed, patients benefit from individualized treatments to help manage their symptoms. Hearing aids can improve a patient's quality of life by correcting any hearing loss. Hearing aids can also make the tinnitus less noticeable. Patients who have upsetting tinnitus may benefit from counseling and/or medications. Cognitive behavioral therapy is a form of psychotherapy that may be helpful for patients trying to cope with upsetting tinnitus. Sound therapy is sometimes a good option. Smart phones, CD players, MP3 players, and radios can be used for sound therapy.

Studies show that products such as Ginkgo biloba, melatonin, or zinc do not help patients with tinnitus. Therefore, these types of over-the-counter products are not recommended for treatment. Research shows that injected ear medications injected through the eardrum do not improve tinnitus. Studies also prove that treatments with magnetic stimulation do not improve the tinnitus. Therefore, these treatments are not recommended. There is not enough evidence to either recommend or discourage using acupuncture for treating tinnitus.

## WHERE CAN I FIND HELP?

Tinnitus is a symptom, not a disease. There are a number of options that can be offered for your relief. Your doctor can provide information brochures and can suggest self-help books. Also, your doctor can describe counseling and therapy options to you. Your doctor can also explain how medication manages the problem. You may also be referred to support associations and specialists.

*This plain language summary was developed from the 2014 AAO-HNSF Clinical Practice Guideline: Tinnitus. The multidisciplinary guideline development group represented the fields of otolaryngology—head and neck surgery, including, pediatric and adult otolaryngologists, otologists/neurotologists, a geriatrician, a behavioral neuroscientist, a neurologist, an audiologist, a radiologist, a family physician, a psychiatrist, an internist, a psychoacoustician, an advanced nurse practitioner, a resident physician, and consumer advocates. Literature searches for the guideline were conducted up through April 2013. For more information on Tinnitus, visit <http://www.entnet.org/content/clinical-practice-guideline-tinnitus>*

**SOURCE:** Tunkel DE, Bauer CA, Sun GH, et al. Clinical Practice Guideline: Tinnitus. *Otolaryngol Head Neck Surg.* 2014;151(S2):S1-S40

## About the AAO-HNS

*The American Academy of Otolaryngology—Head and Neck Surgery ([www.entnet.org](http://www.entnet.org)), one of the oldest medical associations in the nation, represents about 12,000 physicians and allied health professionals who specialize in the diagnosis and treatment of disorders of the ears, nose, throat, and related structures of the head and neck. The Academy serves its members by facilitating the advancement of the science and art of medicine related to otolaryngology and by representing the specialty in governmental and socioeconomic issues. The AAO-HNS Foundation works to advance the art, science, and ethical practice of otolaryngology-head and neck surgery through education, research, and lifelong learning. The organization's vision: "Empowering otolaryngologist-head and neck surgeons to deliver the best patient care."*

## Tinnitus Relief Apps - 'Tinnitus Alleviator' App

These apps will provide different types of therapy sounds to use for tinnitus relief. Some of these apps also include additional relaxation and sleep techniques for managing tinnitus.

App Name	Description	Availability
<a href="#"><u>Relax Melodies</u></a>	Select sounds and melodies and combine them to create your own mix to help you sleep.	Android, iOS
<a href="#"><u>Relax Noise 3</u></a>	Uses white, pink, or red noise to mask your tinnitus.	Android
<a href="#"><u>Tinnitus Balance App</u></a>	Create customized sounds and music to listen to when your tinnitus is most bothersome.	Android, iOS
<a href="#"><u>Tinnitus</u></a>	Uses the Tinnitus Retraining Therapy (TRT) method to habituate your mind to "tune out" the tinnitus.	Android
<a href="#"><u>StopTinnitus</u></a>	Creates a customized tone to "phase out" your tinnitus.	Android, iOS
<a href="#"><u>Tinnitus: The Cure</u></a>	An informational app that will help you learn about your tinnitus diagnosis and what you need to understand to overcome the disease.	Android
<a href="#"><u>White Noise</u></a>	Uses environmental sounds to create a relaxing atmosphere.	Android, iOS
<a href="#"><u>Tinnitus Relief</u></a>	This app gives you information about tinnitus and walks you through different relaxation exercises to give you tinnitus relief.	Android
<a href="#"><u>ReSound Relief</u></a>	Offers a combination of sound therapy and relaxation exercises to distract you from your tinnitus.	Android, iOS
<a href="#"><u>Beltone Tinnitus Calmer</u></a>	Offers a combination of sound therapy and relaxation exercises to distract you from your tinnitus.	Android, iOS
<a href="#"><u>SimplyNoise</u></a>	Features white, noise, and brown sound samples to help reduce tinnitus and stress.	Android, iOS
<a href="#"><u>myNoise</u></a>	Uses white noise, rain noise and binaural beats to create sound therapy noise generators.	Android, iOS
<a href="#"><u>Tinnitus Therapy</u></a>	Uses customizable sounds as sound therapy and sound masking to make your tinnitus less noticeable.	Android, iOS
<a href="#"><u>Whist</u></a>	Create custom sounds by adjusting volume, pitch, noisiness, and balance to help relieve your tinnitus.	Android, iOS
<a href="#"><u>Oticon Tinnitus Sound</u></a>	Choose from different sound types and create a sound plan to give your relief from your tinnitus when you need it.	Android, iOS
<a href="#"><u>Track Your Tinnitus</u></a>	This app helps you to track your tinnitus so you can find patterns and figure out how your tinnitus is associated with your daily activities.	Android, iOS
<a href="#"><u>Hear &amp; Tinnitus</u></a>	Use masked and modulated sounds as a sound therapy for your tinnitus.	Android, iOS
<a href="#"><u>Tinnitus Alleviator</u></a>	Users of this app listen to spectrally modified music designed to retrain the brain to ignore the ringing sounds and stop reacting negatively to them.	iOS
<a href="#"><u>Tinnitracks</u></a>	Web app which allows you to filter your music in order to use it for a new tinnitus therapy	Android, iOS