

## What Causes Tinnitus?

The exact cause underlying tinnitus is unknown. Tinnitus is not fully understood by audiologists and other hearing-health-care professionals. It is likely that there are many causes. Some of the *potential* causes are

- Conditions in the *outer ear* such as ear wax (cerumen), hair, or a foreign body touching the eardrum.
- Conditions in the *middle ear* such as vascular abnormalities, infection, otosclerosis, muscle spasms, Eustachian tube dysfunction, and benign tumors.
- Conditions in the *inner ear* such as damage due to noise exposure, presbycusis (hearing loss from aging), labyrinthitis (inner ear infection), Ménière's disease (involving hearing loss and dizziness).
- Temporary effects of high doses of medications such as anti-inflammatories (including aspirin, ibuprofen, and quinine), and sedatives and anti-anxiety agents; possible permanent effects from chemotherapy and chemotherapeutic agents.
- Vascular disorders, atherosclerosis, head or neck traumas, hormonal changes, and systemic disorders such as high or low blood pressure, diabetes, thyroid dysfunction, and other metabolic abnormalities.
- Trauma to the head, neck, cervical (neck) problems, temporomandibular (jaw joint) misalignment.

While the majority of tinnitus sufferers also have hearing loss, the presence of tinnitus does NOT necessarily mean that one is losing hearing.

## What Should You Do If You Have Tinnitus?

Consult an audiologist to evaluate tinnitus and develop your management program. Audiologists are professionals who can help you diagnose and treating many of the problems associated with tinnitus. The American Academy of Audiology's Consumer Web site, [www.howsyourhearing.org](http://www.howsyourhearing.org), contains a directory for finding audiologists in your area.

See your physician or refer to an otolaryngologist (ear, nose and throat specialist), to determine if your tinnitus is related to a condition that requires medical or surgical treatment.

Learn more about the nature of tinnitus and the options for managing and relieving your tinnitus and associated problems (anxiety, depression, sleep deprivation, etc.). The American Tinnitus Association (ATA) is an excellent source for information and also maintains a list of specialists.

To "Find an Audiologist" in your local area, visit [www.HowsYourHearing.org](http://www.HowsYourHearing.org).

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# Tinnitus

## Hissing, Roaring, or Ringing in the Ear



Tinnitus refers to the perception of sound in the ear that is not the result of an external sound. It is commonly described as a "hissing, roaring, or ringing" in the ear. It can be high pitched or low pitched, tonal or noise-like, and constant, pulsed, or intermittent. Tinnitus may begin suddenly, or may come on gradually. It can be perceived in one ear, both ears, or in the head.

## Who Has Tinnitus?

According to the American Tinnitus Association, as many as 50 million Americans experience tinnitus, yet only 12 million seek help for the condition.

Because tinnitus, like pain, is subjective, two individuals may report similar tinnitus characteristics yet be affected in significantly different ways. The severity of tinnitus and how it affects one's life is largely influenced by the individual's reaction to the tinnitus.

Many tinnitus sufferers report interference with sleep, concentration, and attention to detail. Some are depressed and anxious and may report additional problems at work or at home that compound the distress caused by tinnitus. Many people with tinnitus also suffer from hyperacusis, an inability to tolerate even moderate-level sounds. Most patients report a relationship between tinnitus and stress. The onset of tinnitus often coincides with a change (emotional, physical, or social) in one's life situation. Tinnitus might have both a biological and psychological component.

## What Can You Do to Minimize Tinnitus?

- Avoid loud noises
- Wear proper ear protection in noisy areas
- Control stress
- Avoid fatigue
- Limit salt intake
- Maintain good nutrition; certain disorders may be helped by limiting salt intake
- Reduce or eliminate alcohol and stimulants such as caffeine
- Exercise
- Educate yourself about tinnitus

## What Treatments Are Available for the Tinnitus Patient?

While there is no known cure for most forms of tinnitus, it is not true that nothing can be done about it.

Because tinnitus may be a symptom of a treatable disease, it is important to identify and resolve a cause before deciding on the management approach.

A variety of tinnitus management procedures are available. Some are universal procedures, but most are tailored to the individual. Many patients find relief from one or a combination of the following procedures (in alphabetical order):

### Counseling

Counseling should be part of any treatment plan. There are many forms of counseling. Usually, a trained professional will attempt to help the patient deal with the stress, distress, and distraction associated with tinnitus. One common form of counseling is cognitive-behavioral therapy, which is also used for patients suffering from chronic pain. The objective of this type of therapy is to help individuals identify and correct maladaptive behaviors and irrational beliefs that maintain their adverse reaction to the tinnitus.

### Hearing Aids

Amplification is among the most effective tools for providing relief from tinnitus. Hearing aids may help by amplifying speech and background sounds that reduce the loudness of the tinnitus or even mask it. In addition, they may help by relieving stress associated with the adverse impact of hearing loss on communication abilities.

### Masking

The use of an externally produced sound to cover up, inhibit, or alter production of tinnitus can offer relief for some tinnitus sufferers. There are several methods of providing masking, including tinnitus maskers (ear-level electronic sound-producing devices housed in a hearing aid case), tinnitus instruments (combination hearing aids and tinnitus maskers), tabletop bedside sound generators, or hearing aids. Recordings that provide various sounds also may help mask tinnitus. These can be used with either speakers or headphones.

### Medications

There is no single medication that works for all tinnitus patients. Some antidepressants and anti-anxiety medications address the problems associated with tinnitus and have proven helpful for certain patients. Always consult your physician concerning any drug or combination of medications you may be considering.

### Stress Management

Relaxation and biofeedback are examples of various techniques used to help deal with the stress of tinnitus. The close relationship between stress and tinnitus disturbance underlines the need to maintain one's composure and patience when trying to manage tinnitus.

### Support/Education Groups

Groups offer a forum for sharing experiences and useful tips with others. They may also offer emotional support to patients.

### Tinnitus Habituation (Retraining)

This technique is based on the brain's ability to learn. The two components of this method are directive counseling (education) and sound therapy. Some experts believe that with proper counseling, education, and understanding, the brain can relearn a pattern that removes the fear and deemphasizes the importance of the tinnitus. For the sound therapy component, a wide range of sound is presented through hearing aid devices at a soft enough level that the patient perceives the sound from the devices and the tinnitus. Eventually, the brain may relearn a pattern that deemphasizes the importance of the tinnitus.

### Alternative Approaches

There are no scientific studies showing consistent benefit for approaches such as hypnosis, acupuncture, homeopathy, vitamin supplements, chiropractic manipulation, though anecdotal reports indicate benefit for some patients. It should be noted that the FDA does not monitor many of these interventions, so caution should be exercised, and your physician should be kept apprised of any substances you are using.