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Tinnitus: Common, Constant, Incurable — but Very Manageable

Tinnitus is a fairly common medical malady that afflicts many people in mild forms, although they may not always be aware of it. As many as 50 to 60 million people are affected by a phantom ringing, whistling, or buzzing noise that is usually only perceived by them. A much smaller percentage (usually 1 to 2 percent) describes the condition as debilitating and, although there is no cure, must seek treatment to see a significant impact on their condition and to live a normal life.



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Most of the time, the cause of tinnitus is unclear. In the absence of damage to the auditory system (such as head or neck trauma), things like jaw-joint dysfunction (TMJ), chronic neck-muscle strain, and excessive noise exposure have been suggested as causes. Certain medications can also cause tinnitus, which, in this case, can either disappear again after usage of the medication ends or can cause irreparable damage that results in permanent tinnitus. Other causes may be wax buildup, cardiovascular disease, or a tumor that creates a strain on the arteries in the neck and head. These tumors are usually benign.

When noise is properly filtered, the ears and brain ignore some sounds; people with normal hearing typically perceive about 30 percent of external sounds consciously, while the rest unconsciously fades away. Tinnitus sufferers often find that undesired sounds can become amplified. Intense stimulation of the auditory nerve over a long period of time can result in residual sensory perception — a sound or tone that continues even after the stimulating factor is gone. These sounds can manifest in a number of ways:

- **Subjective tinnitus:** The most common form of tinnitus. Symptoms can only be heard by the affected individual and are usually caused by exposure to excessive noise. Subjective tinnitus can appear and disappear suddenly, and may last three to 12 months at a time. In some severe cases, it may never stop.
- **Neurological tinnitus:** Usually caused by a disorder such as Ménière's disease that primarily affects the brain's auditory functions.
- **Somatic tinnitus:** Related to the sensory system. This form is caused, worsened, or otherwise related to the sensory system.
- **Musical tinnitus:** Also called musical hallucinations or auditory imagery, this type is less common. Simple tones or layers of tones come together to re-create a melody or composition. Musical tinnitus tends to occur in people who have had hearing loss and tinnitus for some time, though people with normal hearing or increased sensitivity to sound can also have musical hallucinations.
- **Pulsatile tinnitus:** A rhythmic tinnitus that aligns with the beat of the heart, and usually means a change of blood flow to the vessels near the ear, or an increase in awareness of the blood flow to the ear.
- **Low-frequency tinnitus:** Perhaps the most confusing type of tinnitus because sufferers aren't sure whether the sound is being produced internally or externally. Often the tones correspond to the two lowest octaves on a piano and are described as a humming, murmuring, rumbling, or deep droning. This type of noise seems to affect people most strongly.

- **Objective tinnitus:** A rare form of tinnitus that may be caused by involuntary muscle contraction or vascular deformities. When the cause is treated, the tinnitus usually stops entirely. This is the only form of tinnitus that can be heard by an outside observer, and the only type that has the possibility of a permanent fix.

Tinnitus can be managed through strategies that make it less bothersome. No single approach works for everyone, and there is no FDA-approved drug treatment, supplement, or herb proven to be any more effective than a placebo. Behavioral strategies and sound-generating devices often offer the best treatment results; this is partially why distracting the individual's attention from these sounds can prevent a chronic manifestation. Some of the most effective methods are:

- **Cognitive behavioral therapy (CBT):** Uses techniques to relax and restructure the way patients think about and respond to tinnitus. Sessions are usually short term and occur weekly for two to six months. CBT usually results in sounds that are less loud and significantly less bothersome, with overall quality of life improved.
- **Tinnitus retraining therapy:** Effective based on the assumption that the tinnitus results from abnormal neuronal activity. This therapy habituates the auditory system to the tinnitus signals, making them less noticeable or bothersome. Counseling and sound therapy are the main components, with a device that generates low-level noise that matches the pitch and volume of the tinnitus. Depending on severity of the tinnitus, treatment may last one to two years.
- **Masking:** Use of devices generating low-level white noise that can reduce the perception of tinnitus and what's known as residual inhibition. Tinnitus is less noticeable for a period of time after the masker is turned off. A radio, television, fan, or other sound-producing machine can also act as a masker.
- **Biofeedback:** A relaxation technique that helps control stress by changing bodily responses to tinnitus. A patient's physiological processes are mapped into a computer, and the individual learns how to alter these processes and reduce the body's stress response by changing their thoughts and feelings.

Treatment options are legion but vary in effectiveness depending upon type of tinnitus. Research shows more than 50 percent of tinnitus sufferers also have inner-ear hearing impairment. While hearing aids act as an effective relief method for those with tinnitus by amplifying external sounds to make internal sounds less prevalent, they are not the only method. Careful diagnosis by a professional with years of experience creating solutions for tinnitus sufferers is essential. ■