

Clinical Tidbits

...for Physicians

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Tinnitus: Clues About This Mysterious Disorder

Tinnitus is defined as the perception of a sound in the ears in the absence of any physical sound in the environment. Tinnitus is commonly known as “ringing in the ears”. Over 50 million Americans have tinnitus, and 12 million Americans are disturbed enough by it to seek medical and audiological attention. Over 2 million Americans are debilitated by it on a day-to-day basis, and cannot function “normally”. (1)

Tinnitus is usually initiated by damage to the auditory system, typically to the hair cells of the cochlea, inside the inner ear. This most often occurs secondary to the aging process, but also very commonly occurs following excessive noise exposure. Examples of sounds loud enough to cause tinnitus and hearing loss are: over-amplified music whether via live or recorded music through headphones or loudspeakers, loud explosions or blasts, firearms use, occupational exposure, use of power tools or heavy machinery, or any other excessively loud sound.

There are many treatments for tinnitus, of varying quality and efficacy. Recent studies indicate that sound-based therapies, audiological counseling, and psychological therapies, particularly Cognitive Behavioral Therapy (CBT), are the most evidence-based treatments. There are many new and investigative therapies that are being proposed and researched.

Tips for Managing a Patient Who Complains of Tinnitus

1. During the medical evaluation of the ears, look out for wax impaction, foreign body in the ear canal, ear infection or other visible, acquired pathology of the eardrum or middle ear space.
2. Send the patient for a complete audiological assessment to an audiologist with expertise in tinnitus. Tinnitus is most commonly a secondary effect of hearing loss. Rarely, tinnitus, especially unilateral tinnitus, can signal a tumor or other middle ear or retrocochlear pathology in need of evaluation.
3. If a medical cause is suspected, consider an ENT or otology referral to someone with expertise in tinnitus, especially if a medical cause is suspected.

Modern theories of tinnitus etiology and chronicity propose several different mechanisms for the persistence of tinnitus following damage to the auditory system. Most theories generally involve the idea that damage to the auditory system causes abnormal spontaneous or abnormally synchronized neural firing at lower or higher levels of the central auditory system. The abnormal neural firing patterns are then interpreted by the auditory cortices as sound, in the absence of a physical sound, producing the percept of tinnitus.



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