What Causes Tinnitus and How to Prevent It Transcript

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What Tinnitus Is

"What Causes Tinnitus and How to Prevent It" The term tinnitus comes from the Latin word tinnire, which means "to ring." Individuals experiencing tinnitus report an unspecified acoustic sound like ringing, but also buzzing, clicking, and other noises.

The global impact of tinnitus is wide-reaching, with an estimated 740 million adults affected, and of those people, over 120 million perceive tinnitus as a major problem in their lives.

This suggests the magnitude of tinnitus is similar to other leading causes of years lived with a disability, like hearing loss, migraine, and low back pain.

Possible Causes and Mechanisms

While tinnitus occurrence is associated with increasing age, it also affects younger age groups, about 10% of adults under 45, 14% of adults age 45-64, and even children and adolescents report tinnitus symptoms.

The tricky thing about defining tinnitus is that no one else but the patient can hear it, it's a phantom sound, a sort of hallucination of the auditory sensory system, with high variability between affected individuals, and even varying over time for an individual person.

For example, one person with tinnitus might perceive whistling or ringing, while another perceives roaring or crackling. There could be a single tone or a combination of different tones.

Now, in rare cases, it may not be a phantom, but rather actual bugs living in your ear canals. So, make sure you have someone look in your ears before making a tinnitus diagnosis.

The current understanding of tinnitus is that it is a complex condition with multiple factors contributing to its origin. But the exact causes and underlying mechanisms remain unknown.

One hypothesis is that it's triggered by damage to the cochlear cells, the tiny hair-like cells that help convert sound vibrations into electrical signals in our ear which allows us to hear.

That damage might come from loud noises, medicines toxic to the ear, aging, or other insults.

Risk Factors and Prevention

Other potential causes include hearing loss, dysfunction in the somatosensory system (which helps your body feel and understand the world through physical sensations), and dysfunction in the brain's sound-sensing regions.

The evidence for tinnitus risk factors is low but not nonexistent. Hearing-related factors, like hearing loss, are consistently found in observational studies.

Beyond avoiding loud noises that damage hearing, are there any modifiable lifestyle-related factors to prevent getting tinnitus in the first place? Smoking is consistently associated with tinnitus in cross-sectional and cohort studies.

Some medications, like macrolides, a type of antibiotic, are associated with risk, with higher use adding up to higher risk. Macrolide drugs typically have "-mycin" at the end of their names, so, things like erythromycin, clarithromycin, and azithromycin.

That is not to say people shouldn't take antibiotics when they need them, but it is a reminder to prescribe and use them judiciously. What about mobile phone use?

Not supported by the evidence. Caffeine intake? Also, no indication of risk and maybe even protective, along with other dietary factors like high intake of fiber and fruit.

About how much might you need to eat for a protective effect? In one 10-year follow-up study, people who consumed more than 3.6g of fruit fiber/day, so that's about one medium apple or orange, or more than 4.

Related Conditions and Treatment Overview

2g of cereal fiber/day, equivalent to about a cup of cooked whole grain pasta, had over a 50% lower risk of developing tinnitus over 10 years. Also, don't eat undercooked pork, as it can give you a brain infection that can result in long-term hearing problems due to streptococcus suis, a bug profiled in one of our videos on zoonotic animal-to-human diseases.

Tinnitus is also related to various headache and pain syndromes. And co-occurrence with temporomandibular disorders like TMJ is common. But it's unclear if these comorbidities are risk factors or consequences of tinnitus.

For those experiencing chronic tinnitus, the efficiency of available treatment is debatable, often compelling the clinician to convey the message that "you may have to learn to live with it." But instead of saying, "You will have to live with it," let's consider the evidence of the best available options.

Treatments people try include everything from cognitive behavioral therapy to medications and dietary supplements. In this four-part series, I'll cover evidence for what works, what doesn't, and what might benefit someone with tinnitus.