

# The Hidden Impact of Napping on Tinnitus

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## STORY AT-A-GLANCE

- › Tinnitus affects 14% of the global population, causing persistent ear noises like ringing or buzzing despite the absence of external sounds. Common causes include hearing loss, prolonged noise exposure, ear infections and certain medications
- › Recent studies reveal complex relationships between sleep and tinnitus symptoms, with naps increasing tinnitus loudness and disrupting sleep quality
- › A February 2023 study found that sleep-intermittent tinnitus (SIT) patients experienced significantly reduced REM sleep, correlating with increased fluctuations in tinnitus symptoms
- › To get uninterrupted REM sleep and better manage tinnitus, optimize your sleep environment by minimizing electromagnetic field (EMF) exposure, keeping your room cool and incorporating soothing sounds like pink noise
- › Protect your hearing by limiting noise exposure, using ear protection, reducing personal audio device use and supporting auditory health with nutrients like magnesium, vitamin C and CoQ10

Tinnitus is a condition that affects a large portion of the population, characterized by the persistent perception of noise or ringing in the ears. This sound manifests in various forms, including ringing, buzzing, hissing or clicking, varying in pitch and loudness. Rather than being a disease itself, tinnitus is a symptom of an underlying issue within the auditory system.

One of the most common causes of tinnitus is hearing loss, often from prolonged exposure to loud noise, which damages the hair cells in the inner ear. Damaged cochlear hair cells send erratic signals to the brain, which perceives them as sound even when no external sound is present. Other triggers include ear infections, earwax buildup, age-related auditory changes, Meniere's disease, temporomandibular joint (TMJ) disorders and certain medications.

According to research published in *JAMA Neurology*,<sup>1</sup> tinnitus affects about 14% of the global population, with 2% experiencing severe symptoms. In the United States alone, the economic burden of tinnitus exceeds \$15 billion annually, encompassing both direct medical costs and indirect costs such as lost productivity. In 2020, over 2.3 million U.S. veterans received compensation for tinnitus-related claims, totaling an estimated \$2.75 billion in costs.<sup>2</sup>

Beyond the immediate discomfort, tinnitus can lead to long-term mental health issues and decreased quality of life. Chronic tinnitus is associated with increased rates of anxiety, depression and insomnia, creating a vicious cycle that exacerbates the condition. Surprisingly, for some individuals, napping further amplifies tinnitus, an intriguing connection explored in recent research.

## **New Study Reveals Link Between Naps and Tinnitus Modulation**

A recent polysomnographic study published in *Hearing Research*<sup>3</sup> investigated whether naps affect the loudness of tinnitus and what underlying physiological reasons are behind these changes. Researchers observed 37 participants who frequently experienced louder tinnitus after napping. Over two days, each participant took six naps in a controlled clinical setting to monitor any changes in their tinnitus levels.

The findings showed that every nap, regardless of the time of day, led to a noticeable increase in the loudness of tinnitus. However, this increase wasn't permanent, as the tinnitus levels were also found to significantly decrease between naps. Interestingly, the first nap of the day, usually taken around lunchtime, caused the most significant increase in loudness compared to subsequent naps.

Snoring and sleep apnea events during naps were also found to correlate with tinnitus changes. Participants who snored more loudly or frequently experienced greater increases in tinnitus volume, suggesting that these sleep disturbances contribute to the modulation of tinnitus.

The biological mechanisms behind these changes appear to be linked to the muscles responsible for keeping the airway open, which, when affected, impact the nerves related to hearing. However, the findings did not show a direct connection between muscle sensitivity in the jaw and neck and the changes in tinnitus, indicating that other factors are involved.

Additionally, the study<sup>4</sup> discovered a significant link between the duration of sleep stages during naps and the changes in tinnitus. Specifically, longer periods spent in both light sleep (N2) and deep sleep (N3) were associated with greater increases in tinnitus loudness, highlighting the importance of sleep stage duration in how naps affect this condition.

## **REM Sleep Disruption Intensifies Tinnitus Symptoms**

Diving deeper into the connection between sleep and tinnitus, a February 2023 study published in the International Journal of Environmental Research and Public Health<sup>5</sup> investigated how rapid eye movement (REM) sleep impacts individuals with sleep-intermittent tinnitus (SIT), a subgroup of tinnitus patients who experience significant fluctuations in tinnitus loudness during sleep or naps.

The study involved 30 participants divided into two groups – 15 SIT patients who experienced noticeable tinnitus modulations during sleep and 15 control patients with stable tinnitus unaffected by sleep. Both groups were carefully matched based on age, gender, degree of hearing loss and the impact of tinnitus on their quality of life to ensure accurate comparisons.

Results revealed that SIT patients had significantly less REM sleep compared to the control group. On average, their REM sleep constituted only 15.9% of their total sleep

time, which is notably lower than the typical 20% expected in healthy individuals. This reduction in REM sleep duration is strongly correlated with fluctuations in tinnitus loudness, suggesting that impaired REM sleep plays an important role in modulating tinnitus symptoms during sleep.

The study also highlighted a distinct difference in how naps and nighttime sleep affect this condition. SIT patients experienced more frequent changes in tinnitus loudness after naps compared to controls, indicating that even short periods of sleep during the day significantly affect tinnitus levels.

Notably, after nighttime sleep, SIT patients showed both increases and decreases in tinnitus, while naps only led to increases, highlighting different dynamics in modulation based on the timing and nature of sleep.

SIT patients also reported less frequent neck stiffness and cervical mobility issues compared to the control group. These differences influence sleep posture and mechanics, affecting how sleep characteristics interact with tinnitus modulation. Additionally, the researchers noted that reduced REM sleep in SIT patients disrupts the emotional and cognitive processing typically facilitated during this sleep stage, leading to greater tinnitus perception.

Overall, the findings emphasize the importance of REM sleep in managing tinnitus. By demonstrating a direct association between REM sleep impairment and symptom modulation, the study highlights targets for therapeutic interventions aimed at improving sleep quality to alleviate tinnitus distress in SIT patients.

## **Improve Your Sleep with These Natural Solutions for Better Tinnitus Management**

Since sleep interruptions and poor sleep quality worsen tinnitus symptoms, creating a sleeping environment that supports uninterrupted and restorative rest is essential. Here are practical strategies to improve your sleep and find relief:

- 1. Address stress and anxiety** – Incorporate cognitive behavioral therapy (CBT) and relaxation techniques, such as deep breathing, meditation or yoga, into your routine to lower stress and better manage distress caused by tinnitus.

Combine these with music therapy featuring soothing soundscapes to retrain your brain's response to tinnitus while simultaneously lowering stress levels. For additional relief, try Emotional Freedom Techniques (EFT), a powerful method to reduce stress and promote relaxation.

- 2. Optimize your bedroom for deep, restful sleep** – Remove sources of electromagnetic field (EMF) radiation from your room, as research shows a clear link between EMF sensitivity and tinnitus. Use pink noise, like the sound of rain or waterfalls, to mask tinnitus and promote relaxation.

Keeping your room dark and cool, ideally between 60 and 68 degrees Fahrenheit, also helps your body enter deeper sleep stages. Comfortable, supportive mattresses and pillows are essential as well; consider replacing your mattress every nine to 10 years.

- 3. Limit blue light exposure before bed** – The blue light emitted by phones, tablets and computers interferes with your ability to fall asleep. Avoid using these devices at least an hour before bedtime. Instead, engage in relaxing activities like reading a book or practicing mindfulness. Dimming the lights in the evening will also signal to your body that it's time to wind down, enhancing your sleep quality.

- 4. Be mindful of your sleep position** – Positional snoring, which often occurs when sleeping on your back, worsens tinnitus symptoms by disrupting airflow and sleep quality. Opt for side sleeping to reduce snoring and promote uninterrupted rest.

- 5. Exercise daily** – Regular exercise improves overall health and sleep quality. However, avoid exercising within three hours of bedtime, as the cortisol released during workouts disrupts melatonin production. Aim for earlier workouts to maximize the benefits without compromising sleep.

# Tips to Protect Your Hearing

Along with prioritizing uninterrupted sleep, taking care of your ears and reducing exposure to harmful noise is key to managing tinnitus effectively. Here are some practical tips to protect your hearing:

Turn down the volume on personal audio devices.

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Download a decibel meter app for your smartphone, which will flash a warning if the volume is turned up to a damaging level.

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Wear earplugs when you visit noisy venues. If you work in a noisy environment, be sure to wear ear protection at all times.

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Use carefully fitted noise-canceling earphones or headphones, which allow you to listen comfortably at a lower volume.

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Limit the amount of time you spend engaged in noisy activities.

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Take regular listening breaks when using personal audio devices.

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Restrict the daily use of personal audio devices to less than one hour.

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If you live in a very noisy area, consider moving. If moving is not an option, consider adding acoustical tile to your ceiling and walls to buffer noise. Double-paneled windows, insulation, heavy curtains and rugs also help reduce noise volume.

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Use sound-blocking headphones to eliminate occasional sound disturbances such as that from traffic or lawnmowers. Wear ear protection when using your lawnmower or leaf blower.

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Support your hearing by increasing your intake of certain nutrients, including magnesium, vitamin C, beta-carotene, lipoic acid, folate, vitamin B12, melatonin, ginkgo biloba, coenzyme Q10 (CoQ10), zinc and taurine. These compounds support

auditory function by reducing oxidative stress, supporting nerve function and protecting against damage to the auditory pathways.

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## Sources and References

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- <sup>1</sup> [JAMA Neurol. 2022 Aug 8;79\(9\):888–900](#)
- <sup>2</sup> [OTO Open. 2024 Feb 28;8\(1\):e117. doi: 10.1002/oto2.117](#)
- <sup>3, 4</sup> [Hearing Research Volume 455, January 2025, 109152. doi: 10.1016/j.heares.2024.109152](#)
- <sup>5</sup> [Int. J. Environ. Res. Public Health 2023, 20\(8\), 5509. doi: 10.3390/ijerph20085509](#)