



# What is Tinnitus?

Tinnitus is a condition that causes ringing, buzzing, or hissing sounds in the ears. These sounds are often not related to any external source, making daily life difficult for many people. While tinnitus can have various causes such as hearing loss, stress, or exposure to loud noise, it affects millions of people globally.

## How does TMS Help with Tinnitus?

Transcranial Magnetic Stimulation (TMS) helps with tinnitus by targeting and modulating brain activity involved in the perception of sound. Here's how it works:

# 1. Targeting Auditory Processing Areas

- Tinnitus is linked to abnormal brain activity in areas involved in sound processing, especially in the auditory cortex. This part of the brain becomes overactive, leading to the persistent perception of ringing or buzzing sounds.
- TMS applies magnetic pulses to the specific regions of the brain associated with this overactivity, primarily the auditory cortex, to reduce abnormal neural activity.

## 2. Normalizing Brain Activity

- Tinnitus often results from the brain's inability to properly regulate signals from the auditory system.
  TMS helps to reset and rebalance the brain's activity, reducing hyperactivity in the neurons that are responsible for the ringing sensation.
- Over time, these repeated stimulations can help the brain learn to reduce the tinnitus signal, lowering the volume or even eliminating the perceived noise.

#### 3. Neuromodulation

- TMS stimulates the neurons in the brain through magnetic pulses, which induce electrical currents in the targeted areas. This process, called neuromodulation, changes the brain's wiring and firing patterns, helping to decrease the intensity of tinnitus.
- Regular sessions of TMS can promote more stable and healthy brain function, potentially offering long-lasting relief from tinnitus symptoms.

### 4. Reducing Emotional Distress

- Tinnitus can often lead to stress, anxiety, and sleep disturbances due to the constant presence of ringing sounds. TMS also affects the brain's mood-regulating areas, which can help reduce the emotional and psychological burden of tinnitus.
- Many patients experience not only a reduction in tinnitus loudness but also an improvement in their overall well-being, such as better mood and reduced anxiety.

# 5. Long-Term Adaptation

 After a series of TMS sessions, the brain can adapt to the changes induced by the therapy, resulting in a lasting reduction in tinnitus symptoms. This long-term adaptation occurs because TMS helps the brain learn new, more normal patterns of functioning over time.

### Summary Benefits of TMS Therapy for Tinnitus

- Non-invasive: No surgery or medications required
- Well-tolerated: Few side effects, if any
- Effective: Many patients report reduced tinnitus symptoms after multiple sessions
- Safe: Proven safety through extensive clinical research



### **Valencia Location:**

2

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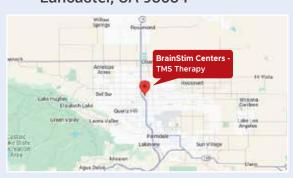
### **Calabasas Location:**

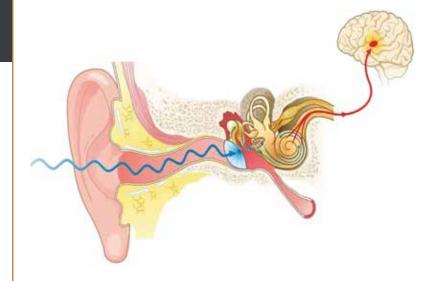
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In essence, TMS helps by retraining the brain's sound processing system and reducing the overactive signals that cause tinnitus. By targeting specific brain regions and normalizing their activity, TMS can provide relief from the persistent ringing that tinnitus sufferers experience.

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