

# What You Need to Know About Tinnitus Retraining Therapy

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**Tinnitus Retraining Therapy (TRT)** was developed in the 1980s by (then) Yale researcher Pawel Jastreboff, PhD, ScD. He was originally trying to determine the acoustic differences between people with bothersome and non-bothersome tinnitus. Surprisingly at the time, he and his colleagues found no acoustic differences, regardless of how bothersome someone's tinnitus was. As a result, Dr. Jastreboff developed the *neurophysiological model* for tinnitus, a significant breakthrough in how tinnitus was perceived at the time. This model is still used today.

The neurophysiological model notes that the auditory system is connected to the limbic (emotions) and autonomic nervous systems. Dr. Jastreboff believed this explained why tinnitus bothers some people more than others: It has effects beyond the auditory system.

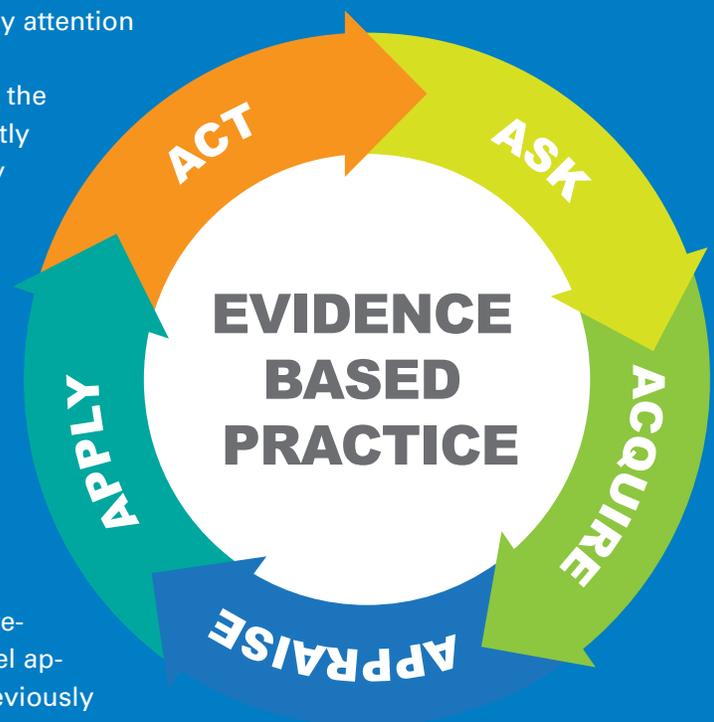
The neurophysiological model also teaches that the brain has plasticity—it can habituate to any signal, but will pay extra attention to new or negative stimuli. Many believe this is a learned response from our ancestors: Those who paid attention to new and negative sounds ran away from predators and lived to pass on their genes.

Those who did not pay attention ... well, didn't.

TRT aims to retrain the brain to react differently to hearing tinnitus. By reducing negative reactions, the brain may learn to ignore the sound. It also uses sound therapy to minimize the perception of tinnitus. This typically is a broadband, often white, noise.

Sound therapy as described by Dr. Jastreboff in TRT was a novel approach, because it previously had been used to partially mask tinnitus. He advocated that people should still hear tinnitus a little bit, so the brain could habituate to it. Under TRT, patients also are told to avoid silence, as tinnitus is most prominent when no other sounds are present.

TRT has been one of the more widely used therapies for tinnitus the past 30 years, and most current methods draw from principles Dr. Jastreboff promoted. However, despite its popularity and wide success, there are no double-blinded studies proving its effectiveness, particularly over placebo. Some believe this may not be possible



because of the subjective nature of tinnitus. Nonetheless, Dr. Jastreboff says he has treated well over 1,000 patients with TRT, with an 80-percent success rate.

A study of U.S. veterans published in 2006 showed that TRT was more effective than masking alone, particularly when tinnitus was severe. A different group led by researchers from the University of Alabama concluded a study of TRT and placebo earlier this year, but results have not yet been published. Stay tuned! 🎧