

Tinnitus, Hyperacusis, Misophonia: Where Are We Now? What Does the Future Hold?

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Key Takeaways

Key Takeaway	Clinical Implication
Tinnitus is understood as a central, phantom auditory perception rather than a cochlear event.	Evaluation and counseling should address central/subconscious processing rather than tinnitus loudness alone.
Habituation of reactions and habituation of perception are distinct, separately mediated processes.	Treatment can succeed by reducing negative reactions to tinnitus without eliminating the perception itself.
Direct comparisons show broadly similar outcomes across sound therapy, TRT, and CBT.	Sound-based interventions may account for much of the observed benefit, independent of formal CBT protocols.
Overprotection and sound deprivation (overuse of earplugs/earmuffs) can worsen hyperacusis.	Counsel patients against excessive use of hearing protection and toward principles of auditory toughening.
Low LDLs alone are not sufficient to diagnose hyperacusis, since misophonia can also lower LDLs.	A detailed clinical interview is needed to differentiate hyperacusis from misophonia.
Acoustic reflex testing offers no diagnostic advantage over speech roll-over testing and risks worsening DST.	Consider removing acoustic reflex testing from standard protocols for hyperacusis/misophonia patients.

Course Content

Learner Outcomes

- Critique the current evidence comparing sound therapy, Tinnitus Retraining Therapy (TRT), and Cognitive Behavioral Therapy (CBT) for the treatment of tinnitus and Decreased Sound Tolerance (DST).
- Evaluate common clinical and procedural obstacles that limit effective diagnosis and management of patients with tinnitus, hyperacusis, and misophonia.
- Design an audiologic practice approach that incorporates evolving directions in the field, including expanded diagnostic testing and updated treatment and counseling protocols for tinnitus and DST.

Historical Background and the Neurophysiological Model

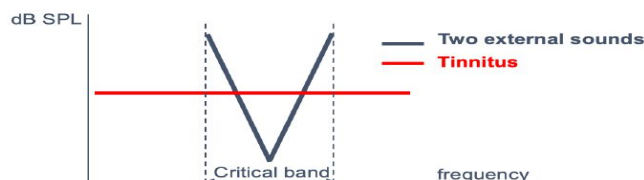
- Circa 1980, the field lacked consensus: models focused on the periphery (cochlea, auditory nerve), tinnitus severity was assumed to depend on audiological loudness matching, and there was a lack of effective treatments and animal models.
- The Neurophysiological Model (1990) introduced a paradigm shift – from viewing tinnitus and DST as purely peripheral to understanding them as central, brain-based phenomena, proposing that tinnitus is a phantom auditory perception.

✓ The Neurophysiological Model

Is tinnitus a real physical sound?

- Are rules governing interaction of tinnitus with external sounds the same as for two external sounds?
Feldmann H. Homolateral and contralateral masking of tinnitus by noise-bands and by pure tones. Audiology. 1971 May-Jun;10(3):138-44

NO!



Therefore

- There is no vibratory activity in the **cochlea** corresponding to tinnitus perception and thus
- Tinnitus is **a phantom auditory perception**

Figure 2. Graph illustrating that tinnitus does not follow the same critical-band interaction pattern as two external sounds.

Q1	Quiz Hint: The Neurophysiological Model represents a paradigm shift from viewing tinnitus as a peripheral, cochlea-based event to understanding it as a central, brain-based phenomenon – tinnitus is described as a phantom auditory perception, since no vibratory activity in the cochlea corresponds to it.
Q2	Quiz Hint: Feldmann's masking research showed that the way tinnitus interacts with external sounds does not follow the same critical-band pattern seen between two external sounds, supporting the conclusion that tinnitus is a phantom perception rather than a real physical sound.

Effect of Treatment on Tinnitus Loudness Match

- Study of psychoacoustic characterization of tinnitus performed on 382 patients **before and after treatment showed lack of any changes of loudness match**
 - Jastreboff, P.J., Hazell, J.W.P., Graham, R.L. Neurophysiological model of tinnitus: Dependence of the minimal masking level on treatment outcome. *Hearing Research*, 80:216–232, 1994.

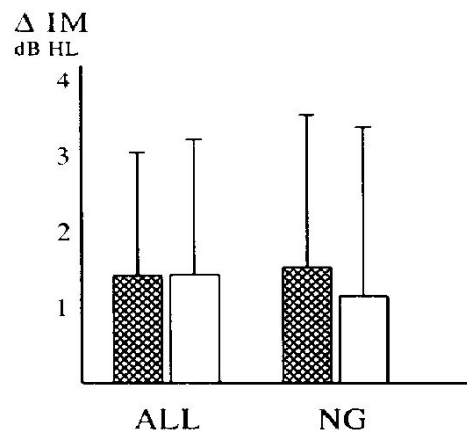
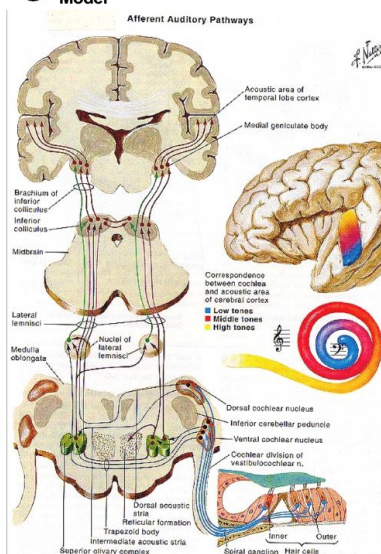


Figure 1. Bar chart showing lack of change in tinnitus loudness match before and after treatment across two patient groups.

A study of psychoacoustic characterization of tinnitus in 382 patients found a lack of any changes in loudness match before and after treatment, reinforcing that loudness matching does not track clinical improvement.

✓ The Neurophysiological Model



The Neurophysiological Model of Tinnitus

- Processing of tinnitus-related signal within **various parts of the central nervous system have to be included** in the analysis of the phenomenon of **clinically-significant** tinnitus
- It is crucial to separate mechanisms of perception of tinnitus from mechanisms responsible for potential negative reactions evoked by it



Figure 3. Diagram of the afferent auditory pathways from the cochlea to the auditory cortex.

Processing of the tinnitus-related signal within various parts of the central nervous system must be included when analyzing clinically-significant tinnitus, and it is crucial to separate mechanisms of perception from mechanisms responsible for negative reactions evoked by it.

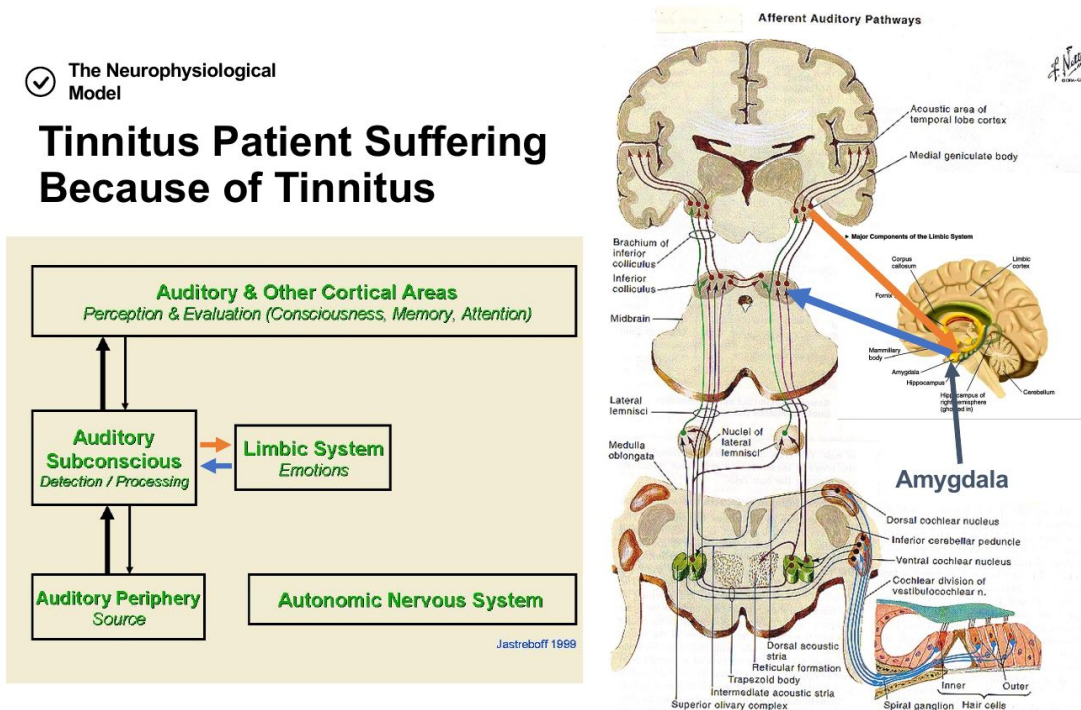
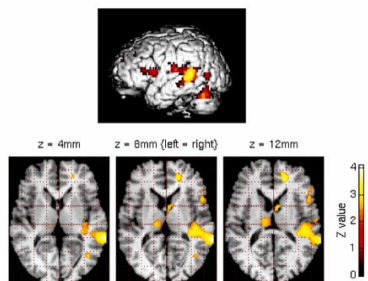


Figure 4. Flow diagram of subconscious auditory-limbic connections underlying tinnitus-related distress, with amygdala pathway highlighted.

Auditory information flows from the Auditory Periphery through the Auditory Subconscious, which connects bidirectionally with the Limbic System (Emotions) and up to Auditory and Other Cortical Areas responsible for conscious perception and evaluation.

Supporting Evidence for Non-Auditory Involvement



- All postulates of the model were established at handbook level, but when the model was proposed in 1990, there were no experimental results showing involvement of non-auditory systems of the brain with tinnitus
- First results supporting the model by Salvi:
 - Lockwood, A.H., Salvi, R.J., Coad, M.L., Towsley, M.L., Wack, D.S., Murphy, B.W., 1998. The functional neuroanatomy of tinnitus: evidence for limbic system links and neural plasticity. *Neurology*: 50, 114–120
- There are many studies which showed involvement of various systems of the brain in tinnitus, including our work with Dr. Delb, which indicated involvement of the anterior cingulate gyrus, anterior putamen, and precentral gyrus in tinnitus-induced distress

Figure 5. Brain imaging slices showing non-auditory (limbic) activation associated with tinnitus.

Early results supporting non-auditory involvement (Lockwood et al., 1998) showed limbic system links and neural plasticity in tinnitus; subsequent work indicated involvement of the anterior cingulate gyrus, anterior putamen, and precentral gyrus in tinnitus-induced distress.

Clinical Implementation via Tinnitus Retraining Therapy (TRT)

- TRT treats tinnitus by removing negative reactions evoked by it (Habituation of Reactions), achieved by blocking subconscious connections between the auditory system and other brain systems; modification of conscious pathways is secondary.
- Habituation of tinnitus perception occurs automatically due to fundamental principles of brain function, and there is no need to modify or remove the tinnitus source – etiology of tinnitus is irrelevant to treatment.
- The primary goal of counseling is to reclassify perception of tinnitus (or misophonic triggers) to a neutral category; the primary role of sound therapy is to decrease the strength of neuronal activity perceived as tinnitus by increasing background neuronal activity – consequently, patients are advised to avoid silence and listen to sound continuously.

Q3

Quiz Hint: Tinnitus Retraining Therapy targets the subconscious connections between the auditory system and the limbic and autonomic nervous systems, aiming for habituation of reactions rather than modifying the tinnitus signal itself.

- Habituation of reactions and habituation of perception are distinct processes, mediated by different strengths of subconscious connections; both can occur even though the underlying pathological link between tinnitus and reactions is what treatment ultimately targets.

Habituation of reactions and habituation of perception

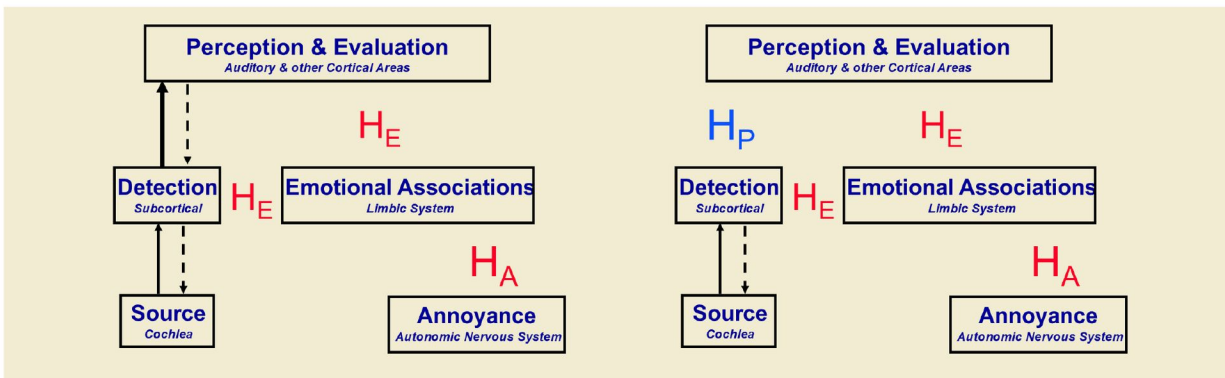


Figure 6. Diagram comparing habituation of reactions and habituation of perception, showing the subconscious pathway strengths involved in each process.

In the diagram, H-E and H-A represent the strength of subconscious connections to the limbic (emotional) and autonomic (annoyance) systems, while H-P represents the additional connection strength associated with habituation of perception itself.

- Unlike medications or sound therapies that act directly on the systems generating tinnitus or reactions, TRT acts on the connection between tinnitus and reactions itself – both tinnitus and reactions remain, but the pathological link between them is extinguished.

Difference between principles of other treatments vs. TRT

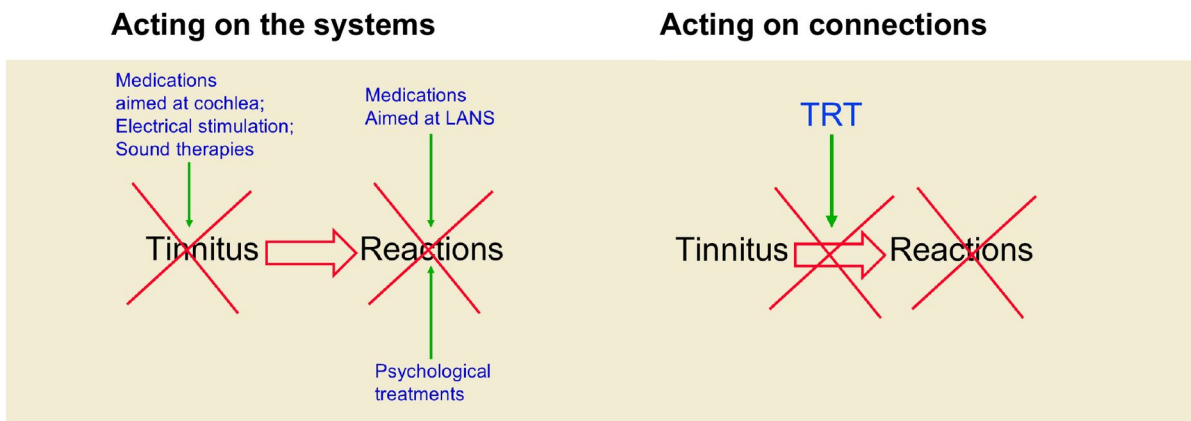


Figure 7. Diagram contrasting treatments that act directly on the tinnitus and reaction systems with Tinnitus Retraining Therapy, which targets the connection between them.

Medications, electrical stimulation, sound therapies, and psychological treatments each target the tinnitus or reaction system directly; TRT instead targets only the pathological connection linking the two.

Comparing Sound Therapy, TRT, and CBT

- Sound therapies, CBT, and TRT are currently the most widely used interventions, with a trend toward CBT-based treatment of tinnitus and misophonia by audiologists.

- The Cochrane review found that CBT may reduce the negative impact of tinnitus on quality of life, but evidence for depression, anxiety, and general quality of life ranged from moderate to low certainty, with limited evidence for improving negatively biased interpretations of tinnitus.

Q5

Quiz Hint: The Cochrane review concluded that CBT may reduce the negative impact of tinnitus on quality of life, with evidence for depression, anxiety, and quality-of-life outcomes ranging from moderate to low certainty overall.

✓ Sound Therapy, TRT, and CBT

Direct Comparison Casts Doubt on Whether CBT Is More Effective Than Sound Therapy, or TRT

- THI CHANGE over ~12–18 months across five treatment arms (J TRT, H TRT, L BCT, H ST, L ST) shows broadly similar downward trajectories in Tinnitus Handicap Inventory score, without a clear separation favoring CBT
 - Jastreboff, P.J. 25 years of Tinnitus Retraining Therapy (TRT). HNO, 63:307–311, 2015

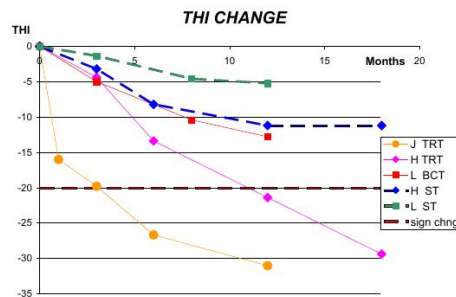


Figure 8. Line graph comparing THI score change over time across five tinnitus treatment approaches.

A direct comparison of THI change across five treatment arms (TRT, CBT, and sound therapy variants) over roughly 12–18 months showed broadly similar downward trajectories, without a clear separation favoring CBT.

- Henry's basic sound therapy ("masking") group – comfortable sound level, masking if possible, avoiding silence – achieved results essentially identical to Cima's CBT-plus-audiological-rehabilitation group.

Q4

Quiz Hint: Comparing Cima's CBT-plus-audiological-rehabilitation group to Henry's basic sound therapy group showed nearly identical results, so applying Occam's Razor suggests the improvement can be explained simply by the effect of sound use rather than by CBT itself.

- Notably, the "usual care" group in Cima's trial performed worse than Henry's basic sound therapy group, possibly due to a large number of counseling contacts (up to 18) involving an inappropriate "social work trajectory" that may have acted as negative counseling.

Q6

Quiz Hint: In Cima's trial, the 'usual care' group performed worse than Henry's basic sound therapy group, a difference proposed to result from the many multiple counseling contacts and an inappropriate 'social work trajectory' approach that may have functioned as negative counseling.

Conscious vs. Subconscious Pathways

- A mathematical analysis of 303 patients modeled tinnitus severity (THI) from variables including tinnitus impact on life, hyperacusis, hearing loss, average annoyance, tinnitus awareness, and subjective loudness – the model predicted severity with high statistical significance.
- Hyperacusis, hearing loss, and average annoyance showed the clearest positive contributions to THI, while subjective loudness and percentage of tinnitus awareness showed minimal, non-significant contribution.
- Because neither loudness nor awareness significantly predicted THI, subconscious pathways appear to dominate tinnitus severity – patients can be affected by tinnitus even when unaware of it, and treatment should incorporate extinction of subconscious conditioned reflexes.

Current Issues and Definitions

- Ongoing issues in the field include lack of consensus on definitions, proposals to classify tinnitus and misophonia as mental disorders, hearing overprotection, auditory toughening, lack of standardized outcome evaluation, and the need for more publications including negative results.
- Behavioral definitions: tinnitus is a perception of sound not related to an external source; DST is present when negative reactions occur to sound that would not evoke the same response in an average listener; hyperacusis depends only on the sound's physical characteristics; misophonia depends on the sound's pattern and meaning.
- An international group has proposed classifying tinnitus (and separately, misophonia) within diagnostic manuals of mental disorders – a proposal whose authors acknowledge raises significant concerns about who would become the primary healthcare provider for these conditions.

Q10

Quiz Hint: Current issues in the field include proposals to classify tinnitus and misophonia within the DSM as mental disorders, alongside a broader push to reposition audiology from instrument-oriented practice toward profession-centered, distinctive clinical services.

Hearing Protection, Auditory Toughening, and Sound Quality

- Overuse of ear protection (earplugs, earmuffs) promotes sound deprivation, which increases hyperacusis and enhances tinnitus; patients with misophonia are particularly susceptible to this cycle, as they tend to avoid sound and overuse protection.

Q7

Quiz Hint: Overuse of ear protection such as earplugs and earmuffs promotes sound deprivation, which increases susceptibility to hyperacusis and worsens tinnitus.

- Auditory toughening – pre-exposure to sound that protects hair cells from damaging high-level noise – offers protection proportional to the pre-exposure sound level, with benefit noticeable even at low levels (53 dB HL) and strong protection at higher levels (65 dB HL).
- Criteria for clinically significant improvement should focus on the final outcome score, not just the extent of change – a 20-point THI improvement is not clinically satisfactory for a patient starting at a high initial score (60–80).
- There is currently no cure for the perception of tinnitus itself, but there is a cure for the negative reactions it evokes – the goal of treatment can be reframed from eliminating perception to eliminating suffering.

- Patients with tinnitus or DST are more sensitive to the quality of sound used in treatment, particularly patients with misophonia (who typically have good hearing); use of hearing aids can decrease perceived sound quality after amplification.

Audiology's Role and Future Directions

- 80–90% of patients with tinnitus also have hearing loss, making hearing rehabilitation an important part of treatment, though tinnitus patients require specific “tinnitus fitting” programming – incorrect programming can induce DST.
- Most patients with DST have very good hearing; determining LDLs, UCLs, and audiograms including ultra-high frequencies helps create optimal, individualized treatment, particularly for misophonia.

Q8

Quiz Hint: LDLs alone are not sufficient to diagnose hyperacusis – while lower-than-normal LDLs are necessary for a hyperacusis diagnosis, low LDL values may instead be caused by misophonia, so a detailed interview is needed to differentiate between the two.

- Acoustic reflex testing offers no superior sensitivity over speech roll-over testing for identifying vestibular schwannomas, is the procedure patients most commonly complain about, and poses a clinical risk of inducing or aggravating hyperacusis and misophonia.

Q9

Quiz Hint: Acoustic reflex testing offers no diagnostic advantage over speech roll-over testing for identifying vestibular schwannomas, is the procedure patients most commonly complain about, and poses a clinical risk of inducing or aggravating hyperacusis and misophonia.

- Less than 1% of patients with tinnitus require medical or surgical treatment; audiologists are well positioned to diagnose and treat tinnitus, hyperacusis, misophonia, and Tensor Tympani Syndrome concurrently with hearing loss, since psychologists cannot provide the hearing rehabilitation component.
- Future directions include expanding audiological evaluation (speech-in-noise testing, LDLs, UCLs, MCL, ultra-high frequencies), testing pleasantness of sound as part of hyperacusis/misophonia evaluation and hearing aid fitting, and expanding services for the particularly under-served misophonia population.

Conclusion

- Audiologists are best prepared to treat patients with tinnitus and DST, given their combined expertise in hearing rehabilitation and counseling.
- There is a continued need for building consensus on the definitions of tinnitus, hyperacusis, and misophonia.
- The goal of treatment can be reconsidered from a “cure” meaning elimination of tinnitus perception, to a “cure” meaning removal of tinnitus's negative impact on patients' lives.
- Careful, structured listening to patients – including when they disagree with an existing diagnosis – has historically driven meaningful advances in this field, including the discovery of misophonia.

Interactive Worksheet

Tinnitus, Hyperacusis, Misophonia: Where Are We Now? What Does the Future Hold?

Presenter: Pawel J. Jastreboff, PhD, ScD, MBA

Event ID: 42102

Complete this worksheet while reviewing the course content. Use it to reinforce key concepts and plan how you will apply them in practice.

Learning Objectives

- Critique the current evidence comparing sound therapy, TRT, and CBT for the treatment of tinnitus and DST. (Knowledge)
- Evaluate common clinical and procedural obstacles that limit effective diagnosis and management of patients with tinnitus, hyperacusis, and misophonia. (Competence)
- Design an audiology practice approach that incorporates evolving directions in the field. (Performance)

Module 1: The Neurophysiological Model and TRT

Key Terms

Term	Your Definition
Phantom auditory perception	
Habituation of Reactions	
Auditory toughening	

Explain how TRT's treatment target differs from treatments that act directly on the tinnitus signal or on emotional reactions:

Pause & Apply (If-Then Planning)

If a patient reports avoiding silence has not been discussed with them before, then I will...

Quick Check: The Neurophysiological Model holds that habituation of tinnitus perception requires the patient to consciously suppress the tinnitus signal.

☐ True ☐ False

Module 2: Comparing Sound Therapy, TRT, and CBT

Key Terms

Term	Your Definition
Occam's Razor (as applied here)	
Clinically significant improvement	

List three factors that showed the clearest positive contribution to tinnitus severity (THI) in the model of 303 patients:

--	--	--

Quick Check: Direct comparison of treatment arms showed a clear separation favoring CBT over sound therapy and TRT.

☐ True ☐ False

Clinical Reference Tool: Differentiating Hyperacusis From Misophonia

This tool is for clinical reference only. Always follow your facility's protocols.

Factor	What It Suggests
Reaction depends only on sound's physical characteristics (spectrum, intensity)	More consistent with hyperacusis
Reaction depends on the sound's specific pattern and meaning	More consistent with misophonia
Low LDL with similarity of shape between audiogram and LDL curve	Consider misophonia; interview needed
Very good hearing with strong negative reaction to specific sounds	Consider misophonia

Post-Course Reflection

What was the most significant thing you learned today that challenged your existing practice?

What knowledge gaps did this course reveal in your own skills or knowledge?

Describe a specific patient from your own practice where you would apply something from this course:

Action Plan

Identify at least 2 specific, measurable changes you plan to make to your clinical practice as a result of this course. Use the If-Then format where possible.

My Action Plan Goal	Target Date	How I Will Measure Success

Quiz Summary

The following quiz hints appeared throughout the course content. Use this section as a quick study reference.

Q1

Quiz Hint: The Neurophysiological Model represents a paradigm shift from viewing tinnitus as a peripheral, cochlea-based event to understanding it as a central, brain-based phenomenon – tinnitus is described as a phantom auditory perception, since no vibratory activity in the cochlea corresponds to it.

Q2

Quiz Hint: Feldmann's masking research showed that the way tinnitus interacts with external sounds does not follow the same critical-band pattern seen between two external sounds, supporting the conclusion that tinnitus is a phantom perception rather than a real physical sound.

Q3

Quiz Hint: Tinnitus Retraining Therapy targets the subconscious connections between the auditory system and the limbic and autonomic nervous systems, aiming for habituation of reactions rather than modifying the tinnitus signal itself.

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about, and poses a clinical risk of inducing or aggravating hyperacusis and misophonia.

Q10

Quiz Hint: Current issues in the field include proposals to classify tinnitus and misophonia within the DSM as mental disorders, alongside a broader push to reposition audiology from instrument-oriented practice toward profession-centered, distinctive clinical services.

References

- Cima, R. F., Maes, I. H., Joore, M. A., Scheyen, D. J., El Refaie, A., Baguley, D. M., Anteunis, L. J., van Breukelen, G. J., & Vlaeyen, J. W. (2012). Specialised treatment based on cognitive behaviour therapy versus usual care for tinnitus: A randomised controlled trial. *The Lancet*, 379(9830), 1951–1959.
- De Ridder, D., Schlee, W., Vanneste, S., Londero, A., Weisz, N., Kleinjung, T., et al. (2021). Tinnitus and tinnitus disorder: Theoretical and operational definitions (an international multidisciplinary proposal). *Progress in Brain Research*, 260, 1–25. <https://doi.org/10.1016/bs.pbr.2020.12.002>
- Feldmann, H. (1971). Homolateral and contralateral masking of tinnitus by noise-bands and by pure tones. *Audiology*, 10(3), 138–144.
- Fuller, T., Cima, R., Langguth, B., Mazurek, B., Vlaeyen, J. W. S., & Hoare, D. J. (2020). Cognitive behavioural therapy for tinnitus. *Cochrane Database of Systematic Reviews*, 2020(1), Article CD012614. <https://doi.org/10.1002/14651858.CD012614.pub2>
- Henry, J. A., Schechter, M. A., Zaugg, T., Griest, G., Jastreboff, P. J., Vernon, J. A., Kaelin, C., Meikle, M. B., & Stewart, B. J. (2006). Outcomes of a randomized clinical trial: Tinnitus masking versus tinnitus retraining therapy. *Journal of the American Academy of Audiology*, 17(2), 104–132.
- Henry, J. A., Thielman, E. J., Zaugg, T., Griest, S., & Stewart, B. J. (2024). Assessing meaningful improvement: Focus on the Tinnitus Functional Index. *Ear and Hearing*, 45(3), 537–549. <https://doi.org/10.1097/AUD.0000000000001456>
- Jager, I. J., Vulink, N. C. C., Bergfeld, I. O., van Loon, A. J. J. M., & Denys, D. A. J. P. (2020). Cognitive behavioral therapy for misophonia: A randomized clinical trial. *Depression and Anxiety*, 38(7), 708–718. <https://doi.org/10.1002/da.23127>
- Jastreboff, P. J. (1990). Phantom auditory perception (Tinnitus): Mechanisms of generation and perception. *Neuroscience Research*, 8(4), 221–254.
- Jastreboff, P. J. (2015). 25 years of Tinnitus Retraining Therapy (TRT). *HNO*, 63(4), 307–311.
- Jastreboff, P. J. (2025). Comment on Rodrigues, A. L. M.; Aazh, H. Psychiatric comorbidities in hyperacusis and misophonia: A systematic review. *Audiology Research*, 15(146). <https://doi.org/10.3390/>
- Jastreboff, P. J., Brennan, J. F., & Sasaki, C. T. (1988). An animal model for tinnitus. *Laryngoscope*, 98(3), 280–286.
- Jastreboff, P. J., & Hazell, J. W. P. (1994). Neurophysiological model of tinnitus: Dependence of the minimal masking level on treatment outcome. *Hearing Research*, 80(2), 216–232.
- Jastreboff, P. J., & Hazell, J. W. P. (2004). *Tinnitus retraining therapy: Implementing the neurophysiological model*. Cambridge University Press.
- Jastreboff, P. J., & Jastreboff, M. M. (2009). The role of hearing aids in tinnitus management. In M. J. Derebery & W. Luxford (Eds.), *Hearing aid book* (pp. 119–131). Plural Publishing.
- Jones, R. C. (2026). Repositioning audiology in the post-OTC era: From product-driven practice to profession-centered healthcare. *The Hearing Journal*, 79(4), 4–7.
- Klochoff, I. (1979). *Impedance fluctuation and a tensor tympani syndrome* (R. Penha & O. Pizarro, Eds., pp. 69–76). Universidad Nova de Lisboa.
- Lockwood, A. H., Salvi, R. J., Coad, M. L., Towsley, M. L., Wack, D. S., & Murphy, B. W. (1998). The functional neuroanatomy of tinnitus: Evidence for limbic system links and neural plasticity. *Neurology*, 50(1), 114–120.

- nycsouthpaw. (2020, August 3). "If you torture the data long enough, it will confess to anything you'd like" — Ronald H. Coase (1910–2013) [Tweet]. X.
<https://x.com/nycsouthpaw/status/1290512424429289473>
- Schröder, A., Vulink, N., & Denys, D. (2013). Misophonia: Diagnostic criteria for a new psychiatric disorder. *PLoS ONE*, 8(1), Article e54706.
<https://doi.org/10.1371/journal.pone.0054706>

Additional Information

Presenter Bio

Pawel J. Jastreboff, PhD, ScD, MBA, is currently Professor Emeritus of Otolaryngology - Head and Neck Surgery at Emory University School of Medicine, Atlanta, Georgia, and Visiting Professor sine die at University College London, London, UK. He is Founder of Jastreboff Hearing Disorders Foundation, Inc., where he continues his research on tinnitus and decreased sound tolerance (DST) and provides clinical services to patients with a variety of hearing disorders. He continues to be involved in teaching professionals, including providing intensive courses on Management of Tinnitus and Decreased Sound Tolerance with Tinnitus Retraining Therapy (TRT) and has thus far offered more than 50 courses in the U.S.A. and over 90 internationally. Dr. Jastreboff is recognized for his development of the first accepted animal model of tinnitus, the neurophysiological model of tinnitus and, based on its clinical method of tinnitus and DST treatment, known as TRT. Furthermore, collaborating closely with his wife and colleague, Dr. Margaret M. Jastreboff, Ph.D., he proposed a concept, name, and treatment for a specific version of DST — misophonia — when patients exhibit negative reactions to particular patterns of sound. Dr. Jastreboff received a Ph.D. in Neurophysiology and Doctor of Sciences Degree (habilitation) in Neuroscience from the Polish Academy of Sciences. He did his Postdoctoral training at the University of Tokyo, Japan. He received an M.B.A. from Goizueta Business School at Emory University. He has been a Visiting Professor at University of Tokyo, Visiting Professor at Yale University, and Adjunct Professor at Salus University teaching tinnitus and hyperacusis class in the Au.D. program. He is a co-author of over 150 papers, 180 abstracts and three books. In 1993 he received the prestigious Robert W. Hocks award for his contribution to the field of tinnitus and in 2014, at the 11th International Tinnitus Seminar, the Award for Clinical Excellence, for 25 years work of TRT, and in 2026 he received the James Jerger Career Award for Excellence in Audiology.

Presenter Disclosure

Presenter Disclosure: Financial disclosures: Founder of Jastreboff Hearing Disorders Foundation, Inc., through which Dr. Jastreboff provides clinical services and receives compensation related to the diagnosis and treatment of tinnitus and Decreased Sound Tolerance (DST); royalties received as co-author of Tinnitus Retraining Therapy: Implementing the Neurophysiological Model (Cambridge University Press) and other publications on tinnitus, hyperacusis, and misophonia; honoraria received for teaching fee-based courses on Tinnitus Retraining Therapy (TRT). Non-financial disclosures: Developer of the Neurophysiological Model of Tinnitus and Tinnitus Retraining Therapy (TRT), the clinical framework discussed throughout this course; Professor Emeritus, Otolaryngology – Head and Neck Surgery, Emory University School of Medicine; Visiting Professor sine die, University College London; Adjunct Professor, Salus University.

Content Disclosure: This learning event does not focus exclusively on any specific product or service.

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Additional Information (continued)

Handout Information

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Social Workers

For additional information regarding standards and indicators for cultural competence, please review the NASW resource: [Standards and Indicators for Cultural Competence in Social Work Practice](#)

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Limitations/Risks

- The applicability and accuracy of the course content may vary by the clinical, geographical, and cultural context; you should evaluate the course accordingly.
- As healthcare is rapidly evolving, new findings may change the validity of the information presented in this course. Providers should always consult the latest research and guidelines from professional associations.
- The interventions discussed in this course may be limited in generalizability, requiring practitioners to consider specific individual and population factors.
- The course may not cover all possible risk factors, diagnostic methods, or treatment options, and complex cases may require additional considerations.
- Healthcare providers should apply cultural competence and sensitivity to ensure effective and respectful care based on their patients' diverse needs.
- Providers should always evaluate the limitations of diagnostic and screening tools, considering their potential for false results as well as any ethical implications.
- It is the responsibility of course participants to critically evaluate the evidence from multiple sources to guide professional practice.

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