

MINDFULNESS BASED TINNITUS STRESS REDUCTION (MBTSR):

Opening the Gates to Habituation



Jennifer J. Gans, PsyD
Clinical Psychologist
MindfulTinnitusRelief.com, LLC

MindfulTinnitusRelief.com



Presenter Disclosure



- Dr. Jennifer Gans has received a grant for the research and research results discussed in the presentation. Studies discussed in the course are based on research conducted at UCSF.
- Dr. Gans has intellectual property rights for material presented/discussed in the presentation: she is the CEO & Founder of MindfulTinnitusRelief.com which has non-profit and for-profit status. This course focuses on Mindfulness Based Tinnitus Stress Reduction (MBTSR), with particular attention to the presenter's program, MindfulTinnitusRelief.com.

MindfulTinnitusRelief.com



Learning Objectives

- Describe mindfulness and identify potential blocks to habituation in the tinnitus/hyperacusis patient.
- Describe the role that stress reduction plays in sound sensitivity disorders like tinnitus and hyperacusis.
- Describe the role that stress reduction plays in sound sensitivity disorders like tinnitus and hyperacusis.
- List resources for introducing their patients to a mindfulness approach to healing through the online mindfulness skill-building course, MindfulTinnitusRelief.com.

MindfulTinnitusRelief.com



Goals for Today's Talk

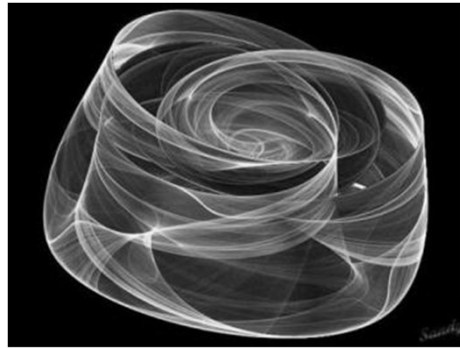
- What is Habituation?
- Fear & Stress as Barriers to Habituation
- What Is Happening Inside the Tinnitus/Hyperacusis Brain
- The Brain as a Symphony
- How Meditation & Mindfulness are tools to change the Tinnitus/Hyperacusis Brain
- Mindfulness Based Tinnitus Stress Reduction (MBTSR) & MindfulTinnitusRelief.com
- Frequently Asked Questions About Mindfulness by Patients



MindfulTinnitusRelief.com



Basics of Habituation



MindfulTinnitusRelief.com



Habituation Defined

- **Habituation is a basic form of learning in which an organism decreases or stops responding to a stimulus after repeated presentations.**
- **In the case of tinnitus/hyperacusis, the person learns to stop responding to the sound, as it is categorized as no longer biologically relevant.**

MindfulTinnitusRelief.com



What We Know About Habituation

- The brain identifies meaningful from irrelevant stimuli
- We “get used to” stimuli that is judged to be irrelevant
- We DO NOT “get used to” stimuli that we fear
- Basic form of learning that is governed by our unconscious
- Cognitive (psychological) factors influence habituation

MindfulTinnitusRelief.com



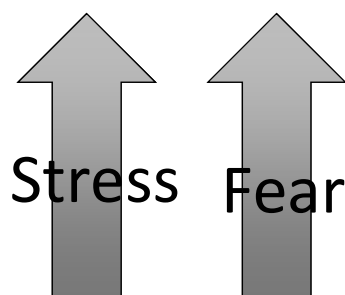
The Brain Naturally Wants to Habituate

Question: What is getting in the way?

MindfulTinnitusRelief.com



What Prevents Habituation?

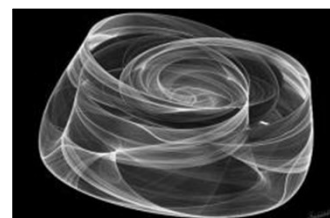


MindfulTinnitusRelief.com



Fear

- Common Tinnitus/Hyperacusis Fears:
 - What in the world is this?
 - No one can help me! No one understands how bad this is!
 - The tinnitus is so loud, I am sure I will lose my hearing!
 - The tinnitus/hyperacusis is only going to get worse over time.
 - I must have a brain tumor!
 - The stories I read on the internet all confirm my worst fears!
 - The sound is so painful, I'm sure it is damaging my hearing.
- The Gordian Knot of tinnitus/hyperacusis is created



MindfulTinnitusRelief.com





From Reaction to Response

Between every stimulus and response is a space. And within that space lies our freedom & choice.

-Victor Frankel



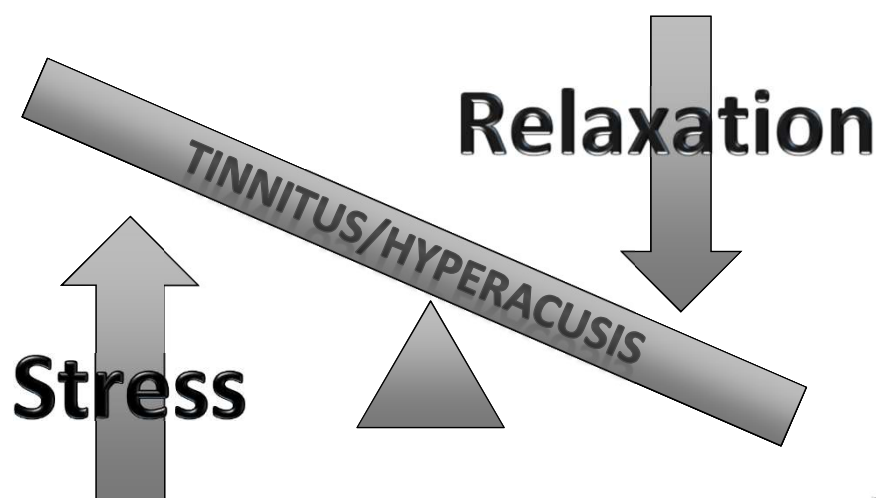
Chronic Stress & Changes in the Brain

- Cortisol is released in response to fear or stress by the adrenal glands as part of the fight-or-flight mechanism
- Leads to changes in the amygdala — a region involved in fear and anxiety
- Leads to changes in the pre- frontal cortex — a region key for planning and impulse control
- Loss of hippocampal volume — a region central to learning and memory
- Chronic stress also decreases the release of dopamine in the brain's reward pathway, blunting an individual's capacity for pleasure and increasing the risk of depression

MindfulTinnitusRelief.com



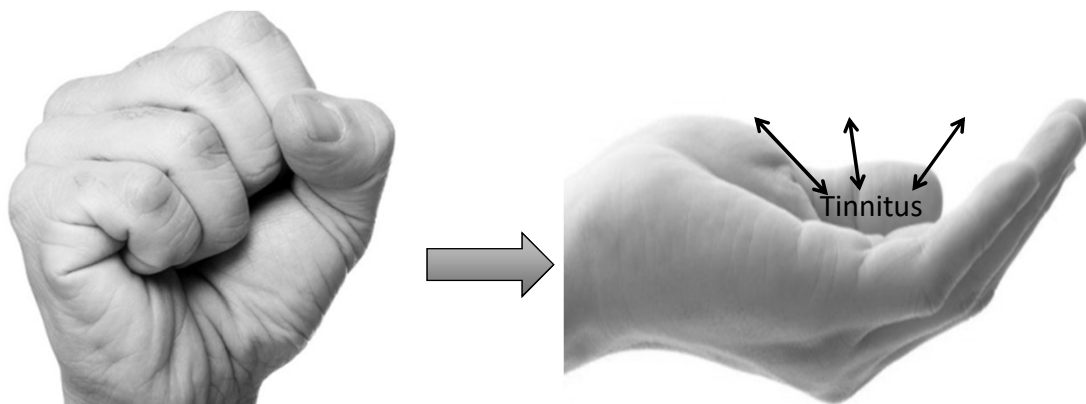
Tinnitus/Hyperacusis Truism



MindfulTinnitusRelief.com



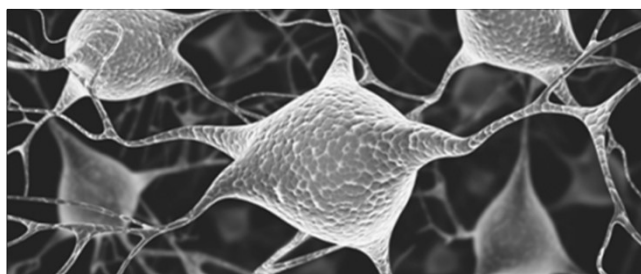
How we hold tinnitus/hyperacusis
makes all the difference



MindfulTinnitusRelief.com

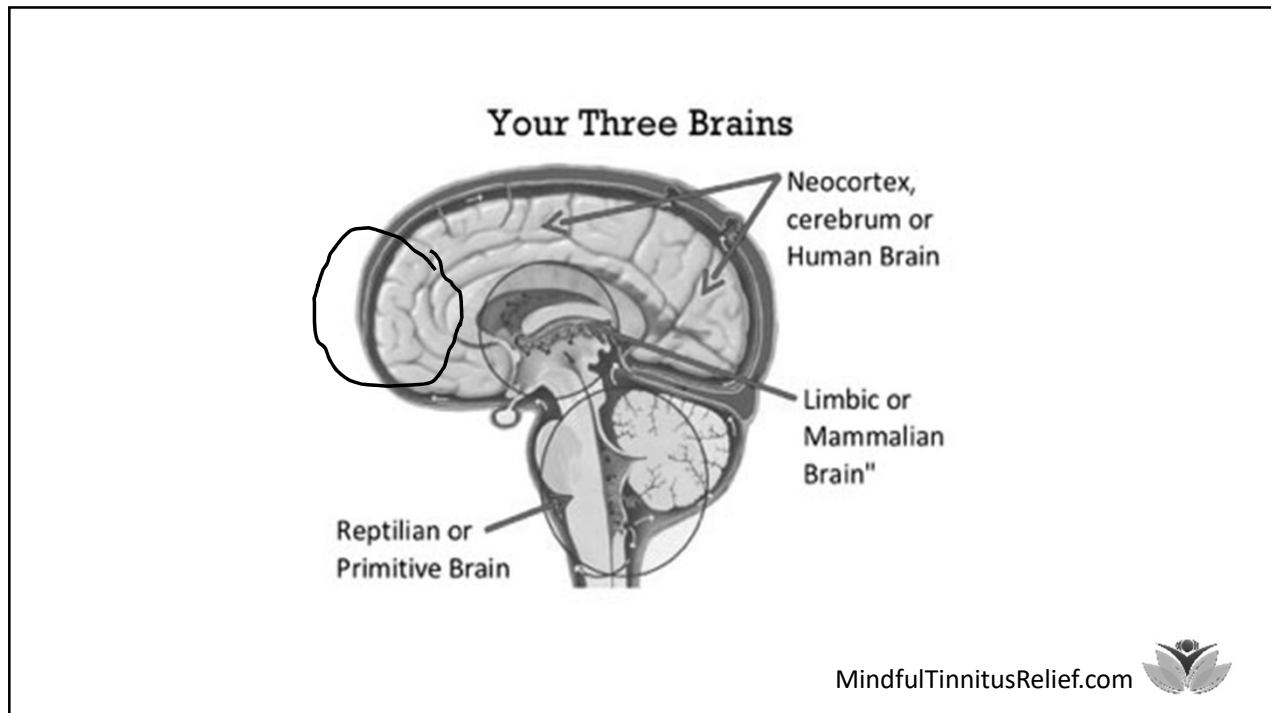


What Might be Happening in the Tinnitus/Hyperacusis Brain



MindfulTinnitusRelief.com





Importance of the Medial Pre-Frontal Cortex

Executive Functions

- Emotional Regulation
- Response Flexibility – (think before you act)
- Fear Modulation
- Attention Regulation
- Sustaining Attention
- Impulse Control
- Reasoning
- Planning
- Metacognition (thinking about thinking)
- Empathy (self-other compassion)

MindfulTinnitusRelief.com 

Tinnitus/Hyperacusis: An Imbalance in the Brain's Threat-Appraisal System

- The Sound Sensitivity Disorders of tinnitus & hyperacusis have been described as a:
“dysfunctional valuation process and abnormal assignment of negative meaning to
a neutral stimulus”
(Rauschecker et al 2015)

MindfulTinnitusRelief.com



The Brain as Symphony



Mindfulness: Rebalancing the Brain for Tinnitus/Hyperacusis Relief



MindfulTinnitusRelief.com



Mindfulness Defined

“Mindfulness is **paying special attention**


- ✓ **on purpose**
- ✓ **in the present**
- ✓ **without (clinging to) judgments**

to the unfolding of experience, moment by moment.”

~ Jon Kabat-Zinn


MindfulTinnitusRelief.com



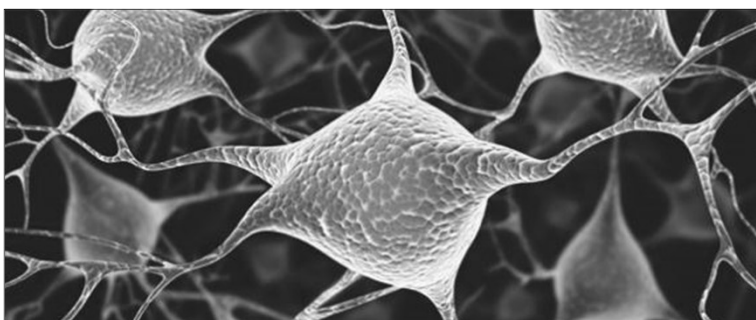


Awareness


CURIOSITY
OPENNESS
ACCEPTANCE
COMPASSION

Mindfulness: Being With & Approaching our Experience MindfulTinnitusRelief.com 

What We Know From Other Fields of Science



Meditation not only changes our mind but also our brain –
neuroscientific research suggests

MindfulTinnitusRelief.com 

Experience Changes the Brain: Self-Directed Neuroplasticity

Hebbian principle: "cells that fire together, wire together."

- Mindfulness practice increases one's ability to recruit higher order, pre-frontal cortex regions in order to down-regulate lower-order brain activity (fear centers in the amygdala).
- In other words, we can 'chill out' our amygdala with our pre-frontal cortex.

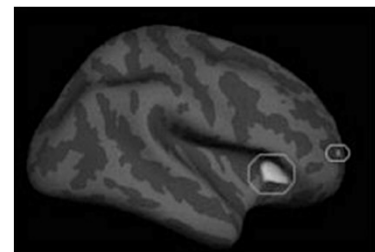
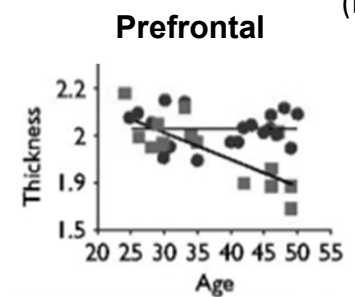
MindfulTinnitusRelief.com



Cortical Areas Thicker in Meditators

1. Brain areas (mPFC) are thicker in practitioners of Insight meditation than control subjects who do not meditate.
2. Graphs show age and cortical thickness of each individual.

(Lazar et al., 2005)



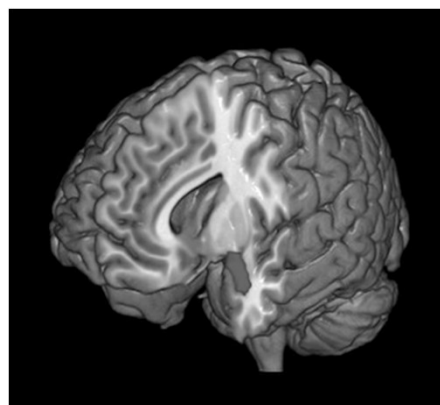
red = control subjects
blue = meditators

MindfulTinnitusRelief.com



Cortical Areas Thicker in Meditators

1. After an 8-week course, Mindfulness practice and expertise is associated with a decreased volume of grey matter in the amygdala (red)
2. As the amygdala shrinks, the pre-frontal cortex – associated with higher order brain functions such as awareness, concentration and decision-making – becomes thicker



(Hölzel et al. (2011))

MindfulTinnitusRelief.com



Tinnitus Boot Camp: Strengthening the “Awareness Muscle”

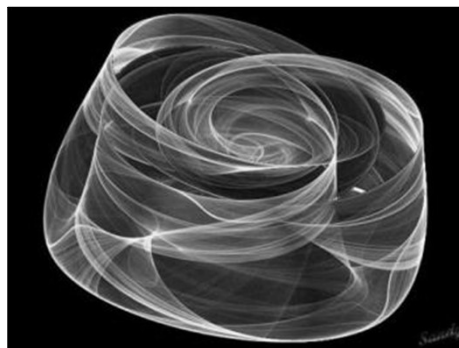
- We use the torque of repetition to build the “attention/awareness muscle” to modify our brain
- With repetition the associated neurons wire, fire, grow, & strengthen (neuroplasticity)



MindfulTinnitusRelief.com



Mindfulness Based Tinnitus Stress Reduction (MBTSR): An 8-Week Tinnitus/Hyperacusis Healing Course



MindfulTinnitusRelief.com



MindfulTinnitusRelief.com



The first-ever self-administered
online skill-building course of
its kind for
learning how to
live comfortably
with
Tinnitus/Hyperacusis

MindfulTinnitusRelief.com



MindfulTinnitusRelief.com: 8-Week Online Course

- Puts Tinnitus Healing back into the hands of the patient
- MBTSR World-Wide with Online Access
- Desktop, laptop, Tablet, smartphone accessible
- Reaches those with limited access to tinnitus care
- Weekly classes at participant's convenience
- Patients can self-refer
- Privacy
- Automated reminders can be sent to encourage treatment compliance



MindfulTinnitusRelief.com



MindfulTinnitusRelief.com: What Is Included

- Eight 2-Hour Weekly Online Instructional Classes
- Daily (30-minute) Home-Practice Mindfulness Skill Building Exercises
- A 7-Hour All-Day Online Mindfulness Retreat
- Advanced and Up-to-Date Tinnitus Information and Education
- Mindful Movement and Yoga Video Instruction
- More than two hours of downloadable mindfulness “awareness building” (meditation) exercises
- Weekly Discussion Questions to stimulate class forum communication & community
- Downloadable activities, calendars, and readings with links to additional resources about tinnitus and mindfulness
- Online Discussion Board Forum to connect and share experiences with other participants

MindfulTinnitusRelief.com



Actual Questions Asked by MBTSR Course Participants



MindfulTinnitusRelief.com



“Will Mindfulness Fix My Tinnitus?”



MindfulTinnitusRelief.com



“Meditation and mindfulness encourages me not to ‘ignore’ tinnitus, and rather to ‘move into’ the sensation. Won’t this just make my tinnitus worse?”



MindfulTinnitusRelief.com



“After completing the 8-week course do I need to continue to practice mindfulness?”



MindfulTinnitusRelief.com



“What is the difference between the MBTSR course and a generic mindfulness meditation program if I have tinnitus/hyperacusis?”



MindfulTinnitusRelief.com



Letting Tinnitus/Hyperacusis just be...



By entering in to tinnitus/hyperacusis, we see that we are strong enough to move through it. When we ‘let it be’ with compassion, the gates of habituation swing open.

Thank You
Questions?



MindfulTinnitusRelief.com

jg@MindfulTinnitusRelief.com

MindfulTinnitusRelief.com

