

TINNITUS TODAY

To Promote Relief, Help Prevent, and Find Cures for Tinnitus

Vol. 43, No. 1, Spring 2018

ha•bit•u•a•tion

psychology

the diminishing of a physiological or emotional response to a frequently repeated stimulus

Understanding the Habituation Process

Coping with Tinnitus: Coming to Terms with Thoughts and Emotions

Expert & Patient Perspectives on Restoring Quality of Life

Tinnitus Tools

- The Four Stages of Habituation
- ATA's Tinnitus Patient Navigator



A publication of the



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What's your legacy?

**ATA thrives through
the dedication of a vast number
of people, all of whom make a difference.**

Join the Jack Vernon Legacy Society

Jack Vernon co-founded ATA in 1971 to lead the way in researching a cure, developing effective treatments, and creating broad-based support and awareness of tinnitus.

ATA invites individuals and organizations to join our journey. How can you contribute?

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We hope you'll be a part of the legacy of securing silence for those with tinnitus through a variety of treatments, as well as finding a cure for the millions who endure incessant noise and anxiety.

For more information about adding ATA as a beneficiary or ways to reduce your taxes through charitable contributions, please contact Torryn Brazell, ATA's Executive Director, via email at: legacy@ata.org



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Habituation is a Process



LaGuinn P. Sherlock, AuD
Chair, Board of Directors

Until we have cures that silence tinnitus, habituation will remain one of the primary methods to help many patients who suffer from tinnitus. Simply stated, habituation is the reduction in the response to a stimulus after repeated exposure. The idea behind habituation is to work on reducing the reaction to the tinnitus sound.

For people with bothersome or intrusive tinnitus, the sound is perceived as threatening, either because it is constant or because of uncertainty or concern about why it is happening. Consequently, the brain automatically focuses on the noise, making it impossible to ignore. A ticking clock serves as a good analogy. For those accustomed to the sound, it goes unnoticed due to habituation. The tick-tock of the clock is not important nor threatening and, therefore, is not monitored by the brain. However, as soon as someone points out that the ticking is annoying, it becomes difficult to ignore.

For those who have tinnitus, threat perception can be modified through counseling and education provided by audiologists and healthcare providers using Cognitive Behavioral Therapy (CBT). Habituation is facilitated further by using sound therapy to reduce the perceived loudness of the tinnitus sound.

I have extensive experience and have worked with thousands of patients toward the goal of habituating to tinnitus. Working together, habituation is achievable for most, and, once accomplished, there are real improvements in well-being, sleep, and concentration. Please take a moment to share your experiences with habituation by emailing me at: tinnitus@ata.org

A handwritten signature in black ink that reads "LaGuinn P. Sherlock".

Do you have a story about a drug or chemical that may have caused or aggravated your tinnitus?

We invite readers to submit stories — short or long — for possible publication in our Summer issue of *Tinnitus Today* magazine. Regarding ototoxicity, what was the backdrop? Did your tinnitus dissipate once you were off the medication? For support, who were the people who enabled you to get through your worst days?

Please include your contact information (email address and phone number), so *Tinnitus Today* staff can work with you on story development. ATA reserves the right to edit for clarity, brevity, and grammar. Stories can be sent by email to editor@ata.org, or by mail to ATA, 8300 Boone Blvd, Suite 500, Vienna, VA 22182.



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Bringing Your Fears to the Table

As someone who is fairly claustrophobic, the mention of an MRI fills my mind with dread and makes me tense. But taking care of my health means confronting my fears and doing difficult things that protect my health in the long run. Habituation requires recognizing and getting beyond your fears. In the case of a recent MRI, when I told the technician I didn't think I could get through the session, he gave me an MRI-safe headset to play music to my liking, and a mask to cover my eyes to help me stay calm. Breathing slowly and deeply, I listened to the music and made it through without an anxiety attack.

The experience reminded me that bringing fears to the table — whether you're a healthcare provider who recognizes them or a patient who's overwhelmed by them — is essential for creating a treatment plan that supports mental and physical health.

With habituation, we sometimes hesitate to talk about it around someone with bothersome tinnitus or who's suffering from the sudden onset of tinnitus. We may not want them to think that there's no escape from the tormenting sound. But the reality is *most* people do habituate to tinnitus over weeks, months, and years. That fact and goal are what have to be on the table to give people the strength and encouragement to begin a journey that is typically challenging and filled with setbacks. Using this issue, I hope you'll find tools, ideas, and an understanding of what habituation sounds like as you move toward that goal, or start to talk about it with someone who has tinnitus.




Torryn P. Brazell, MS, CAE
Publisher

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Letters to the ATA

I have been a faithful member of ATA since 2004, when I developed tinnitus. For years, when I would read stories of members who learned how to cope and overcome their tinnitus, I would initially feel encouraged; but, in the end, it would usually leave me a bit frustrated. Coping is wonderful, but I would be saying to myself that the struggle never goes away.

In the latest magazines, I've noted subtle changes. In the Spring issue of 2017, there were at least two articles that resonated with me: *Emergency Left Behind* and *Sudden Loss of Silence*, as well as the poem *Reflection About My Tinnitus*. Such stories connected with me because they conveyed our struggle with tinnitus, which is an ongoing challenge.

The magazine has included important articles about research that laypeople can understand. The *Conversations in Tinnitus* podcast is another ATA effort that recognizes *struggling*, which I appreciate.

But what prompted me to write was the message from John A. Coverstone, AuD, in the Summer 2017 issue, that said: "It should not be surprising that bothersome tinnitus has the potential to severely disrupt enjoyment of the world. People with

tinnitus often miss the quality of life they had prior to its onset. When you have tinnitus that is bothersome, you can still throw a ball, take a walk in the forest, and run through the park; but your ability to enjoy those activities and connect with other people while doing them may be diminished." Again, it clearly conveys the daily struggle.

Expressing my own daily experience with tinnitus, I might substitute *may be diminished* to *is diminished*, especially when I'm playing a nice game of pool at my American Legion Post and someone suddenly blasts music. Tinnitus has no doubt altered the type and range of activities I enjoy, as well as the duration.

If I ended this message on a negative note, it was unintentional. However, it is an honest reflection of my struggle. Nonetheless, I've made necessary and workable adjustments in my life.

Thank you for all your work and effort!

— N. Valentino, Manchester, NH

Dear Mr. Valentino,

Thank you for your membership and support of the American Tinnitus Association. We wouldn't be here without you!

I appreciate you taking the time to share your thoughts on the content of *Tinnitus Today*, its editorial direction, as well as your struggles with tinnitus. Your letter is a reminder of the importance of talking openly and honestly about the challenges of living with tinnitus.

Without question, researchers and healthcare providers are also constantly challenged to understand tinnitus because it affects each individual differently, as do treatments and coping mechanisms. All of that underscores why we are always trying to strengthen the ATA and tinnitus community through better communication and by providing credible and relevant information.

Please know that we'll do our best to keep providing you and all our other members with information, the latest research, stories, and topics that address the reality of life with tinnitus. There truly is a large and determined community that is working to make that happen.

Torryn P. Brazell

Publisher, *Tinnitus Today Magazine*

Letters to the ATA

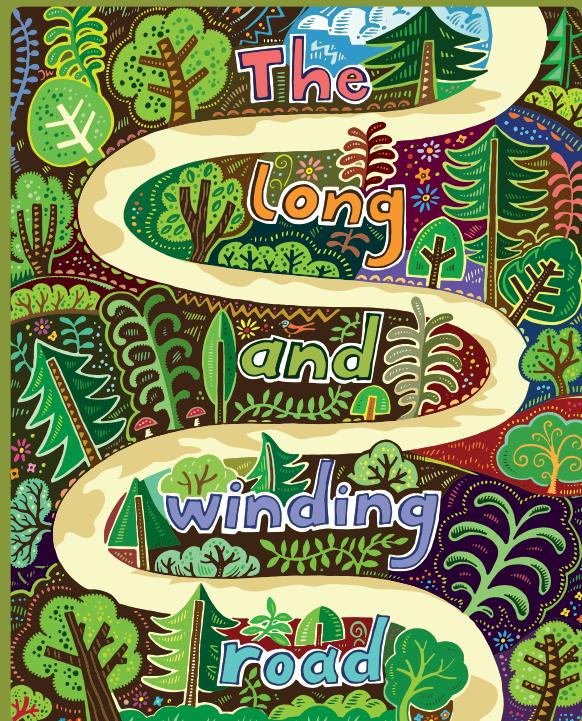
The ATA encourages readers to write to the magazine's publisher, Torryn P. Brazell, with comments on articles, podcasts, and general concerns. Letters selected for publication may be edited for brevity, clarity, and grammar. Letters should be sent to: editor@ata.org

Focus on Science, Research, and the Voice of the Patient Leads to Breakthroughs

Robert Sweetow, PhD, has dedicated more than 30 years to improving our understanding of hearing loss and management of various auditory disorders, with particular emphasis on tinnitus. Dr. Sweetow was the first audiologist in the United States to apply Cognitive Behavioral Therapy (CBT) practices to treating patients with bothersome tinnitus. Through his clinical practice, teaching, and publications, he helped establish CBT as the most effective evidence-based treatment for intrusive tinnitus. The American Tinnitus Association (ATA) had the pleasure of interviewing him to learn more about his pioneering career and thoughts on tinnitus management and recent research.

Joy Onozuka (JO): How and why did you get started in treating patients with tinnitus?

Dr. Robert Sweetow (RS): I began seeing tinnitus patients after earning my PhD from Northwestern University in the mid-1970s. My mentor was the late Dr. Raymond Carhart, who is considered the “Father of Audiology.” Dr. Carhart advised me that unless I wished to remain in school for a very, very long time, I would be wise to select a topic other than tinnitus — my original choice — because there were so many variables involved and controlling all of them would



be nearly impossible. Now, after nearly 30+ years — thanks for reminding me how old I am — I realize how right he was. The treatment of tinnitus patients is an incredibly complex topic because of the myriad factors that affect the patient and the symptom itself.

“There are literally thousands of stimuli that we habituate to daily. For example, people wearing glasses are not usually aware of the feeling of the glasses on their nose or on their ears.”

JO: How do you define habituation, and, for habituation to occur, what must a patient do to facilitate the process?

RS: Habituation may be defined simply as the process of becoming accustomed to a stimulus. In the case of tinnitus, it would mean that while the tinnitus has not been eliminated, the patient no longer attends to this unwanted auditory intruder.

There are literally thousands of stimuli that we "habituate" to daily. For example, people wearing glasses are not usually aware of the feeling of the glasses on their nose or on their ears. Also, we typically are not aware of the tactile sensation of rings on our fingers. My favorite example is that we are not constantly aware of the feeling of our buttocks when we are sitting on a chair. All of these types of habituation take place naturally — we don't have to think about ignoring these stimuli. In fact, if we do think about them, they will be extremely difficult to disregard. We ignore them, because a certain part of our brain —

patients must — consciously or subconsciously — accept that tinnitus is real, presently incurable in most cases, and that current solutions, even if they are not perfect, are far better than doing nothing.

In addition, they must be willing to be educated, must listen to reason and logic from trained professionals, and must let go of preconceived notions. And, they must recognize that there is a significant difference between "no cure" versus "no possibility of help." Progress is uneven and takes time, so patience is a virtue.

JO: *Today, CBT is endorsed by the American Academy of Otolaryngology—Head & Neck Surgery as an effective strategy to manage tinnitus. I understand that you were the first audiologist to utilize CBT in your clinical practice in the early 1980s. How and why did you draw on this approach?*

reaching similar conclusions that CBT would be a reasonable approach.

While my articles were, to the best of my knowledge, the first to advocate this technique, particularly in the United States, I certainly was not the inventor of this method. CBT was pioneered by psychologists Aaron Beck and David Burns and had been utilized successfully for decades with patients suffering from chronic pain. I believed a cognitive approach could be effective in dealing with tinnitus, because tinnitus and chronic pain share many of the same characteristics. That is, both are invisible, subjective, based on an underlying physical cause, characterized by a wide range of tolerance amongst individuals, and tend to modify and alter behavioral and thought patterns. As a result, I began studying everything I could about CBT, and was pleased to determine that it seemed to work with the majority of my patients more effectively than many of the other approaches, (e.g. masking), that were popular at the time.

By adapting versions of cognitive behavioral modification with my patients and combining it with educational counseling modeled after Pawel Jastreboff and Jonathan Hazell's neurophysiologic approach,⁵ which formed the basis for Tinnitus Retraining Therapy (TRT), it became clear that sound therapy without effective counseling, and vice versa, wasn't the best way of approaching this perplexing issue.

However, despite the increasing usage of CBT for tinnitus, a recent study of treatment discussions⁶ between physicians and tinnitus patients revealed CBT was the least frequently

"...they must recognize that there is a significant difference between 'no cure' versus 'no possibility of help.'"

the limbic system — recognizes that they pose no danger to our well-being. Thus, they are suppressed from our consciousness.

While habituation of tinnitus can, and does, occur naturally in most cases, there are several barriers to this natural occurrence. These include fear, negative thinking, and maladaptive behaviors. To facilitate habitua-

RS: I first published an article advocating a cognitive approach to managing patients with tinnitus in 1984¹ and followed it with articles in 1985 and 1986 in the *Archives of Otolaryngology*² and *Journal of the American Academy of Audiology*³. Around the same time, British psychologists, Hallam, Jakes and Hinchcliffe⁴ were

"...avoid courses that preach only one approach."

discussed option (0.2%). Perhaps the reason for this disappointing underutilization may be related to the lack of large-scale studies published in medical and otolaryngologic journals. Outside of the excellent study by Cima and her colleagues⁷, the vast majority of published studies are plagued by small samples, lack of control groups, and inadequate control of variables.

Moreover, I think most audiologists are afraid to provide CBT, assuming that it is the purview of a professional psychologist. I would agree that comprehensive CBT is beyond the scope of most audiologists, not to mention the fact that most audiologists wouldn't have the time to do it properly. I would argue, however, that the most critical components and objectives of cognitive behavioral modification are well within the purview of any health professional with a background in counseling. These are, specifically, identifying maladaptive thoughts and behaviors that hinder habituation, and then helping the patient to overcome these barriers by recognizing when they occur and creating alternate thoughts and behaviors.

Because, as an audiologist, I did not have the formal training of a psychologist, my approach was an eclectic one that incorporated those

components of CBT that I felt I was qualified to provide. Thus, to avoid confusion, I more accurately provided Cognitive Behavioral Intervention (CBI), as opposed to formal CBT. In addition, I studied and provided counseling to patients regarding sleep management, stress control, and relaxation techniques, which are components I believe are too frequently overlooked by professionals.

JO: *A common denominator for most tinnitus patients is hearing loss; however, many people opt not to be fitted with hearing aids. Is that a mistake? What do you offer to the patient who can't afford expensive hearing aids or doesn't have access to professional counseling?*

RS: The nice thing about hearing aids is that they address two issues: hearing loss and tinnitus. Many of the other commercially available sound therapies only address tinnitus, and some hearing aids have multiple sound stimuli, as well as amplification. Also, some hearing aids utilize sound stimuli that are considered relaxing and stress relieving.

For people who can't afford hearing aids, lower cost PSAPs [Personal Sound Amplification Products] may offer some help, and a variety of low-cost, or even free, solutions exist in downloadable music, fractal tones, relaxation tapes, and mindfulness-based stress-reduction techniques.

JO: *What does research say about the role of sound in managing tinnitus?*

RS: I think one of the reasons physicians and other health professionals are skeptical about recommending sound therapy is that, in our zeal to provide help to patients, we have been too lenient in accepting some of the commercial devices purporting to provide relief. We are in dire need of large-scale studies on management tools. These studies should be conducted in a scientifically accepted manner with control groups, and, whenever possible, double blinding. Too many new "treatments" have come out with scant evidence supporting them. On the other hand, I would caution that absence of evidence of effectiveness does not equal evidence of absence of effectiveness. Therefore, I would reject the rather negative perspective on acoustic therapy set forth in the Cochrane Review⁸.

JO: *How do you make sense of the conflicting research on the efficacy of different treatments?*

RS: There are so many known causes of tinnitus, there are so many sites of lesion and neural areas affected by (or contributing to) it, and research is conducted on subjects who have had tinnitus for a wide range of durations. It certainly appears that the longer a person is bothered by tinnitus, the more neural areas are impacted. And, if this is true, then various treatments targeting different neural regions, as well as different individual preferences (particularly as it relates to certain sound stimuli) would be expected to produce different outcomes. One thing is clear to me, however, and

that is that currently, there is no clear, preferred sound treatment.

JO: What advice would you give to the audiologist who is just getting started in tinnitus management? Do audiologists need CBT training to be effective in a clinical setting?

RS: I would advise audiologists to read as much as possible about counseling in general and cognitive and behavioral modification specifically. Attend training seminars on these topics to train to be a good, empathetic listener, but not one who is afraid to challenge a patient's irrational and maladaptive thinking and behaviors. Don't be dogmatic, and don't pretend to be omnipotent. Recognize there is no "best" universal treatment. Definitely attend lectures and enroll in courses in TRT, sound therapy, mindfulness, stress reduction, sleep management, etc., but avoid courses that preach only one approach. Mastering the process takes time and the ability to be flexible. It's not about the technique, it's about the individual patient sitting in front of you. Accept the fact that the patient knows more about himself or herself than you do. It takes time. There is no substitute for experience.

JO: What current research/research areas do you find particularly compelling?

RS: When I think about the progress that has been made in the 30+ years that I have studied tinnitus, I am quite encouraged. When I started, the site of lesion causing tinnitus was thought to be the cochlea. Over the years,

thanks primarily to neuroimaging, we have learned that there are multiple sites responsible for tinnitus. The most important ones appear to be central to the cochlea, for example the dorsal cochlear nucleus, the basal ganglia, and — more broadly — the entire limbic system as it relates to emotional response. This has led to the understanding that multiple parts of the brain are impacted by tinnitus and that management of it needs to consider these multiple sites. That being said, specific anatomical regions may produce different symptoms.

Also, back then, our approach to management was centered around a single sense — hearing. Now, many novel treatments are focusing on multisensory stimulation, which may better address the various brain regions affected. For example, an exciting potential development was recently reported by Dr. Susan Shore and her colleagues at the University of Michigan, in which they attempted to alter synchronicity by utilizing timed sound stimulation coupled with small electrical pulses delivered to the neck or cheeks. And in the future, we will likely go beyond bi-sensory stimulation to develop drugs or implantable devices pinpointing specific neural activity.

I look forward to the day when there is truly a "cure" for tinnitus. But, I would like to conclude with these words of caution. People suffering from tinnitus should not wait until this "cure" is found. Techniques available today provide substantial help for the vast majority of tinnitus patients. I hope that patients, and physicians seeing patients, won't fall

into the old trap of "there is nothing you can do for tinnitus" and that professionals and patients alike will avail themselves of current management techniques and options. 



Robert Sweetow, PhD, is a Professor Emeritus and former Director of Audiology at the University of California, San Francisco. He earned his Communicative Disorders undergraduate degree from the University of Iowa, a

Masters from the University of Southern California, and a PhD in Audiology from Northwestern University. He was the co-developer of the LACE (Listening and Communication Enhancement) auditory training program. His research interests include amplification, counseling, rehabilitation, neuroscience, and tinnitus. Dr. Sweetow has written 25 textbook chapters and over 130 scientific articles, along with being an invited speaker at over 300 scientific meetings worldwide. He is a reviewer for several journals, author of *Counseling for Hearing Aid Fittings* and a former member of the Board of Directors of the American Academy of Audiology (AAA). In 2008, Dr. Sweetow was awarded the Distinguished Achievement Award by the AAA.

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The Benefits of a Mindfulness-Based Cognitive Therapy Approach



Summary by John A. Coverstone, AuD

Mindfulness techniques have become commonplace in tinnitus therapy to reduce stress and decrease its negative effects. However, evidence from controlled research is limited, and studies looking at this area are small. As such, a group of clinician-researchers from University College London Hospitals and Bath University, each in the United Kingdom, wanted to study outcomes from a larger group of patients to determine whether predictors of change could be identified.

Mindfulness involves focusing on the thoughts, sounds, sensations, emotions, and other experiences in the moment. It often is termed “mindfulness meditation.” A person is encouraged to observe thoughts and experiences without judgment or reaction, including attempts to control or change the thoughts and emotions that arise. The goal of mindfulness is to be aware of thoughts and experiences, but less consumed by them.

This study, which specifically looked at an approach called Mindfulness-based Cognitive Therapy (MBCT), included 182 adults with chronic, distressing tinnitus who had completed therapy and all questionnaires. Subjects completed an eight-week MBCT

protocol that included measuring of tinnitus distress, psychological distress, tinnitus acceptance, and mindfulness taken prior to intervention, after intervention was completed, and during a follow-up at six-weeks.

All participants were required to have chronic tinnitus (longer than 3 months), have associated psychological distress, be over 18 years old, have hearing and English skills sufficient to participate in group discussions, and be willing to take part in group therapy. Participants could not exhibit mental health problems, suicidal ideation, self-harm, or alcohol/substance abuse. Practitioners carefully followed a prescribed treatment program for MBCT, with regular communication to ensure adherence to the protocol and supervision from accredited mindfulness practitioners to ensure ongoing competence in the approach.

Questionnaires were provided to measure tinnitus distress. Subjects also received questionnaires to measure characteristics of mindfulness and tinnitus acceptance as secondary outcomes. After eight weeks of MBCT, questionnaire results indicated significant decreases in both tinnitus distress and psychological distress. At the six-week follow-up appointment, these results remained steady or

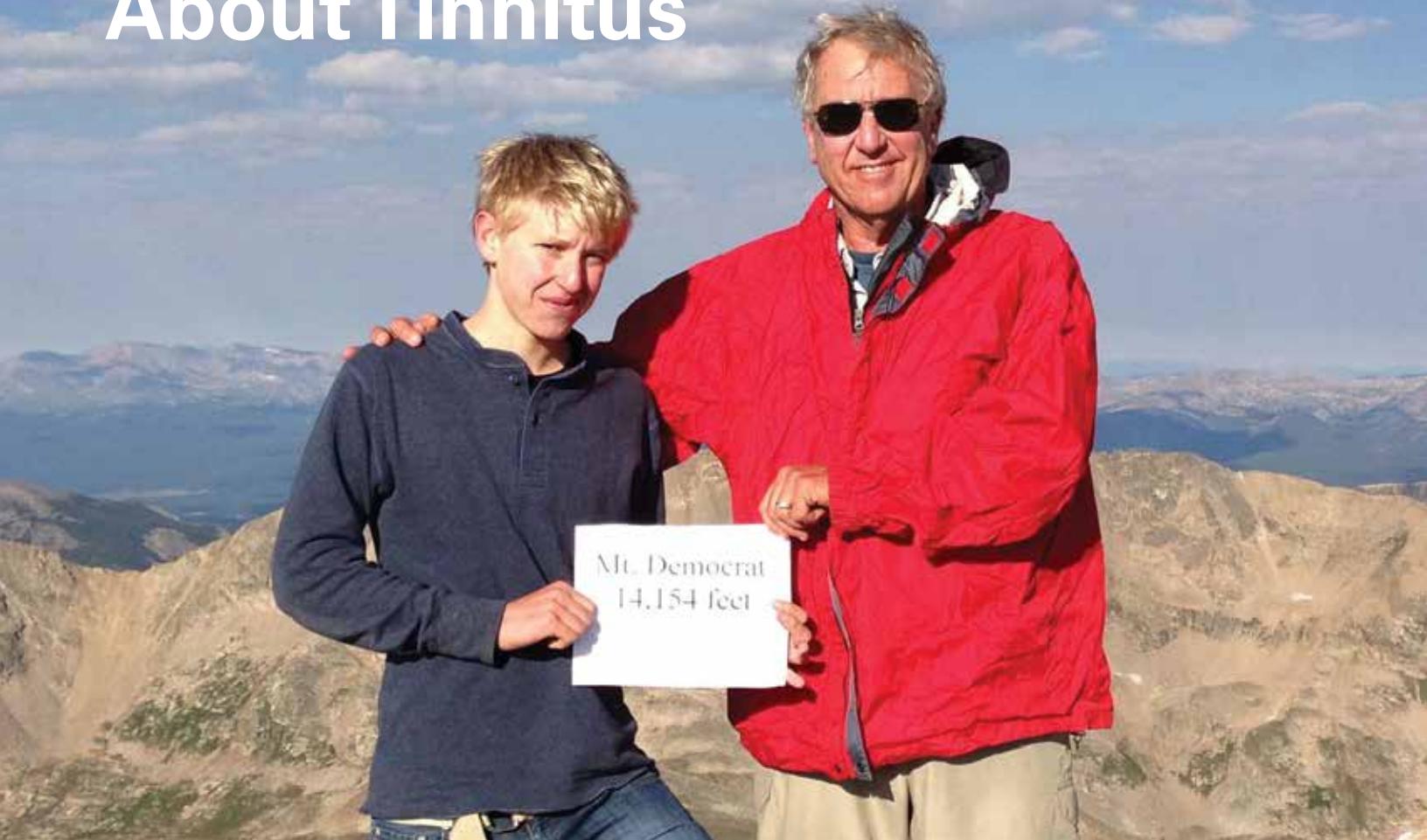
decreased, compared to pre-intervention measurements. Mindfulness and tinnitus acceptance each showed an increase post-intervention.

Further, the authors wanted to determine whether improvement in mindfulness and tinnitus acceptance could be predictors of tinnitus distress. They performed statistical analysis to isolate the effects and determine whether mindfulness and tinnitus acceptance measurements are each a predictor of tinnitus distress outcomes.

Data from this study show that mindfulness-based cognitive therapy can be an effective tool in reducing distress from tinnitus. This is a different approach from many other studies, because mindfulness promotes acceptance of tinnitus to reduce stress and anxiety, rather than the use of avoidance, suppression, or distraction techniques. The authors are careful to note that randomized clinical trials are needed to demonstrate the outcomes using this approach as compared with other approaches. 

McKenna, L, Marks, E. and Vogt, F (2017). Mindfulness-Based Cognitive Therapy for Chronic Tinnitus: Evaluation of Benefits in a Large Sample of Patients Attending a Tinnitus Clinic. Published ahead of print at <https://journals.lww.com/ear-hearing>. September 22, 2017. Accessed January 22, 2018.

One Doctor's Mission to Conquer Negative Cognitions About Tinnitus



Paul D'Arezzo with his son, Matthew, at the summit of Mount Democrat, CO, in 2014.

By Paul D'Arezzo, MD

Despite being a physician, I had no idea how bad tinnitus could be until I was stricken with it myself. I had no idea how loud and unrelenting it could be or the amount of suffering it entailed. I think many doctors and health professionals are the way I used to be. Seeing things from the other side as a medical professional is — as is often the case — both a humbling and a sobering experience.

"I wasn't made aware of the process of dealing with tinnitus, and, in retrospect, I think that was the most significant."

I remember years ago the lecturer in medical school describing tinnitus as a mild humming or buzzing in one's ears. Mine was nothing like that! It was a loud, high-pitched metallic whining — present in only one ear — that had started abruptly and

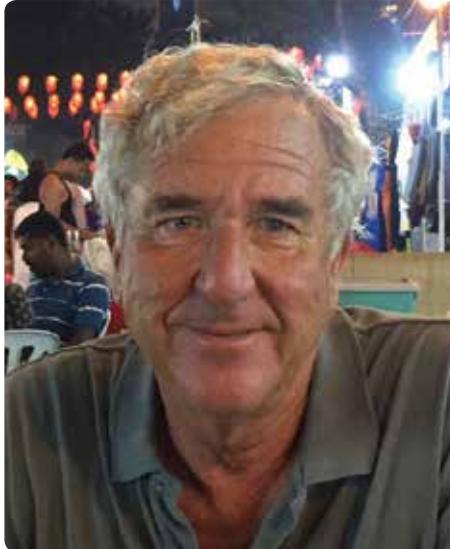
garnered all my attention, no matter what I tried to do. I barely survived day-to-day, hour-to-hour, and I particularly dreaded the night, because sleep was next to impossible. The constant noise dug at my soul and my sanity. It was torture.

After my first appointment seeking help from a doctor, I slumped against the hallway outside his office and took a deep breath. The doctor had said, "This isn't going to go away. There's no cure. You have to live with it." And the doctor hadn't been mean, or even particularly abrupt. His tone had been caring and compassionate. He was just telling me what he knew from his experience. But his words plunged me into a maelstrom of depression.

Never going away. No cure. Live with this. The fact that this would just continue on and on and never end until I died seemed overwhelming. My "old life," as I referred to it in my mind, was forever gone. Looking around at "regular" people having fun, being happy, worrying about all the things that to me now seemed so trivial, they seemed like inhabitants of a land in which I no longer lived or from which I had been forever exiled.

I had hung all my hopes on this appointment, but felt I had been literally and figuratively left outside in the hallway. If there was any hope or anything useful other than masking sounds and hearing aids, no one had told me about them. I wasn't made aware of the process of dealing with tinnitus, and, in retrospect, I think that was the most significant.

At the same time, from a physician's point of view — and this is not meant as an excuse — I know it can be terribly frustrating to see a patient suffering and not know how to help. Conditions such as tinnitus, for which there are no cures and management is challenging, can make many physicians uncomfortable.



Paul D'Arezzo in Kuala Lumpur in 2016.

In medicine, it also is easy to get into a rut. Doctors tend to treat conditions the way they were taught to treat them. One year's practice sometimes can be repeated for the next 20 years. Doctors often don't know what they don't know. To be fair, working in the emergency room, I too sometimes had misunderstood both the severity and the emotional toll of various conditions. It was only after I had learned more about tinnitus myself that I recognized how much of this applied. As always, our deficiencies as healthcare professionals must serve as wake-up calls for us to continue to educate ourselves. But none of this helped me at the time.

"I had to take an active role in my own rescue."

Despite my background, I was no different than anyone else. I joined the throngs searching the internet for a cure. Then, after a prolonged period of anger, grief, and depression, I finally realized that, if I was going to survive this, I needed to take control. I knew that patients often must become their own best advocates in finding solutions. I had to do my part in advocating for myself and handling my tinnitus, regardless of what other methods I might use. I had to take an active role in my own rescue.

As an emergency physician, I tend to be pragmatic, so I looked for what worked. The only thing I seemed to have a chance at changing was my own mental response to the tinnitus. I thought of it as a numbers' game. If I could just, even in some small way, decrease the actual number of times I was overwhelmed by my tinnitus each day, that would help. Similarly, if I could decrease the amount of time — seconds, minutes — I was caught up in my tinnitus each time it overwhelmed me, that also would help. Finally, anything I could do to turn down my emotional reaction to the ringing would have to make a difference. These became my goals.

One of the things that was so frightening to me about tinnitus was feeling so out of control. Starting to take action for myself began to give me a sense of control again.

I was motivated. The two phrases that ran through my head were: *I refuse to allow this to ruin my life* and *small steps can and will make a difference*.

First, I knew I had to change the way I was responding to tinnitus. I

created new positive interpretations such as "I can hear the ringing, but I don't need to be upset by it," "I can and will handle this," and "Because of this, I can grow and become a better person in some way." I repeated these over and over to reinforce them.

I changed the way I talked about tinnitus to other people and, more importantly, to myself (my self-talk). For example, I no longer described it as a "screeching that was driving me crazy," but, rather, as "something I was handling." I also stopped whining and complaining — much to my wife's relief. It simply did not serve my purpose to allow myself to do this anymore.

Tinnitus is like some alien entity that thrives on stress and emotional energy. So, I strived to find that delicate balance between doing all I could to deal with it, while not giving it undue energy and attention. I stopped trying to figure it out. I stopped excessively reading internet forums on tinnitus. When I happened to have a bad day with my tinnitus, I endeavored simply to let it go and continue forward. I stopped thinking of tinnitus as something I was fighting, but, rather, as something I was accommodating.

Finally, I recognized that I simply had to stop "going there." As much as possible, I had to stop going to the place where I got caught up in hearing the ringing and feeling bad about it. I reasoned that anyone who habituates to tinnitus must be doing this in one way or another — they simply do not "hang out" in that place anymore.

Early on, I had noticed that I could be caught up in the throes of my

tinnitus and get an important phone call, and then, for a few minutes, I would forget completely about the tinnitus. If I could do this intentionally, that might help. So, whenever possible, I would either distract myself or purposely interrupt the pattern when I started to get caught up in my tinnitus. I might do something as simple as getting up and walking around, or

if I would get ensnared by my tinnitus during the day. I acted things out. I made up novel ways to interrupt my emotional reaction to the ringing. I also realized that the ultimate way to interrupt my non-resourceful patterns and not give tinnitus undue energy was simply to get on with my life.

My success came in small steps. For me, however, they were giant

"I stopped thinking of tinnitus as something I was fighting, but, rather, as something I was accommodating."

force myself to think about different things to distract myself. Again, I reasoned that anytime I could keep from "going there," it would start to build the *habit* of not going there.

I practiced. Every morning I sat in the garage, where the hum of an ancient refrigerator somewhat masked my tinnitus and allowed me to think, and I practiced. I went over what I had to believe. I made up new positive beliefs and wrote them and repeated them to myself in different ways. I asked myself lots of questions, such as "How might people who handle tinnitus think differently than the way I am thinking?" I became aware of the words and phrases I was saying to myself and changed them to better ones. I thought up strategies for what to do

steps. Slowly, almost imperceptibly, I noticed times when I had been unaware of my tinnitus. That was a big deal for me. The emotional volume of tinnitus in my life began to recede. I began to be active again, despite my tinnitus. Did I become absolutely, positively cured from tinnitus? No. It is still there, and it still bothers me sometimes. But I am now comfortable I can handle it and that a happy fulfilling life can exist alongside it. 🌟

Paul D'Arezzo is a retired board-certified emergency physician who practiced in Florida, Hawaii, and Colorado. He recently published "Change Your Mind about Tinnitus: Transforming the Way You Think to Help Control the Ringing in Your Ears," which recounts his journey and the techniques he applied to habituate to tinnitus. He currently resides in Grand Junction, CO, where he co-moderates a tinnitus support group.

Measuring Concentration: The Future of Evaluating Tinnitus

By LaGuinn P. Sherlock, AuD

The invisibility of tinnitus, to everyone but the sufferer, makes its evaluation and management especially challenging. We cannot x-ray it, scan it, measure it with a blood test, or appraise it with any device. For this reason, tinnitus is evaluated primarily with questionnaires that assess quality of life and the effect of tinnitus on sleep, concentration, mood, and hearing. If you ever have completed a tinnitus evaluation, you have likely answered one or more questions about your ability to concentrate, such as "Do you find it difficult to focus your attention away from your tinnitus and onto other things?" or "Because of your tinnitus, is it difficult to read?"

According to the *Tinnitus Data Registry*, a data set containing responses to a tinnitus questionnaire from more than 1,600 people, nearly 80 percent reported difficulty concentrating because of tinnitus. Concentration requires the ability to direct attention to a single object or activity. In daily life, the ability to maintain concentration is essential for activities like driving, reading, conducting financial transactions, and, of course, for any occupation that requires the ability to pay attention to be effective and safe. Most of us have experienced — at



one time or another — the inability to maintain attention or concentration, perhaps because we were sick, fatigued, worried, or overwhelmed by the activity around us.

Although a method does not yet exist to measure tinnitus objectively, it may be possible to measure the effects of tinnitus on concentration through tests of memory and reaction time. Similar to memory matching games, when two matching items need to be found from an array of cards turned face down, in the evaluation of cognitive function, memory is tested using similar tasks. Reaction-time tasks also can reflect your

ability to maintain attention on a specific target. One such example is the Flanker Task. In this task, one or more rows of arrows appear. There is a target arrow, usually the arrow in the center, "flanked" by distracting arrows, which may be pointing in the same direction as the target or in the opposite direction. The objective is to indicate which direction the target arrow is pointing — right or left — as quickly and as accurately as possible. In some of the trials, the flankers are pointing in the same direction as the target (congruent trials), and in others, the flankers are pointing in the opposite direction (incongruent

trials). Reaction times are slower for incongruent than for congruent trials. The flanker effect is the time difference between congruent and incongruent trials.

Similar to the flanker effect, Stroop interference is the difference in reaction time between congruent and incongruent trials, using a different type of stimulus. Stroop interference is traditionally measured using words and colors. A color word (e.g., red) is presented in a colored font (e.g., red, green, blue, yellow). The object of the task is to select the color of the word as quickly as possible. A congruent trial would be one in which the word and font color match (e.g., the word "red" is presented in red) while in an incongruent trial, the word and color would not match (e.g., the word "red" is presented in yellow). When concentration is compromised by conditions such as chronic pain, traumatic brain injury, or psychological conditions, the reaction time to select the correct response is notably slower, and the flanker effect or the Stroop effect may be larger. Individuals with intrusive tinnitus are particularly at risk for problems with concentration related to the presence of chronic unwanted sound that is distracting and consequently interferes with concentration. This interference has been demonstrated in those with tinnitus in several studies.

In one such study, Heeren et al. (2014)¹ compared two groups of participants on a test of reaction time, called the *Attention Network Test* (which includes the Flanker

"...nearly 80 percent reported difficulty concentrating because of tinnitus."

Task). One group had tinnitus; the other group did not. The two groups were matched for age and gender. Although tinnitus has been linked to the presence of depression and anxiety in some patients, there were no significant differences between the groups in this study on measures of depression and anxiety. The results indicated that those with tinnitus responded more slowly than those without it, revealing a deficit in the ability to concentrate that was not attributed to age, gender, or behavioral health. In another study by Andersson et al. (2000)², participants with tinnitus had longer reaction times on a Stroop task than a control group of participants who did not have tinnitus and were matched for age and gender. There was no correlation between scores on depression and anxiety scales and test performance, again suggesting that tinnitus was the factor most strongly affecting attention.

A recent review of the literature by Tegg-Quinn et al. (2016)³ concluded that based on the accumulated evidence, it appears that people reporting intrusive tinnitus may be experiencing interference in the executive control of attention because of the tinnitus, rather than because of associated depression and/or anxiety.

I envision a future where objective measures such as those used to evaluate attention can reveal the real and significant impact of tinnitus on daily function, validating subjective reports of tinnitus. This, in turn, would provide a way to measure how well a given treatment works. An objective measure of treatment efficacy may help with gaining insurance coverage for tinnitus treatment, thereby improving access to tinnitus evaluation and management. 

LaGuinn P. Sherlock, AuD, is Chair of the Board of Directors of the American Tinnitus Association. Dr. Sherlock has been practicing audiology since 1991 and has worked with thousands of patients who have tinnitus, both clinically and in research. She has worked at Johns Hopkins Medical Center, University of Maryland Medical Center, and for the Army Public Health Center at Walter Reed National Military Medical Center. Dr. Sherlock is currently studying the effect of tinnitus on concentration, using reaction time and short-term memory tests. She serves as adjunct faculty in the Department of Hearing and Speech Sciences at the University of Maryland, College Park.

1 Heeren, A., Maurage, P., Perrot, H., De Volder, A., Renier, L., Araneda, R., Lacroix, E., Decat, M., Deggouj, N. and Philippot, P. (2014). Tinnitus specifically alters the top-down executive control sub-component of attention: Evidence from the Attention Network Task. *Behavioural Brain Research*, 269, 147-54.

2 Andersson, G., Eriksson, J., Lundh, L-G, Lyttkens, L. (2000). Tinnitus and cognitive interference: A Stroop paradigm study. *JSLHR*, 43, 1168-1173

3 Tegg-Quinn, S., Bennett, R.J., Eikelboom, R.H., Baguley, D.M. (2016). The impact of tinnitus upon cognition in adults: a systematic review. *International Journal of Audiology*, DOI: 10.1080/14992027.2016.1185168.

Coping with Tinnitus: Coming to Terms with Thoughts and Emotions

Tinnitus Activities Treatment (TAT)

is a patient-centered counseling and sound therapy treatment focused on the individual needs of a patient in the primary areas affected by tinnitus: thoughts and emotions, hearing and communication, sleep, and concentration. It uses a picture-based approach that facilitates engagement with the patient.

To learn more about TAT from a clinician's perspective, the American Tinnitus Association (ATA) interviewed Shelley Witt, AuD, who has treated thousands of patients using TAT and is a research audiologist in the Department of Otolaryngology — Head and Neck Surgery at the University of Iowa.

Joy Onozuka (JO): How long have you been practicing Tinnitus Activities Treatment (TAT)?

Shelley Witt (SW): I started working with tinnitus patients in 2007. However, TAT already was in place and being used by other clinicians at the University of Iowa; it simply didn't have a name yet.

JO: Why does this approach appeal to you?

SW: I like to use this approach for many reasons. It is a counseling and



"...rumination and worry are two main thought patterns that surface often in patients who are greatly bothered by tinnitus."

sound therapy treatment. It is picture based. It is focused on individual needs, which are directed at primary areas affected by tinnitus: thoughts and emotions; hearing and communication; sleep; and concentration. It's provided for free on our website: <https://medicine.uiowa.edu/oto/research/tinnitus-and-hyperacusis>

The series of pictures provide an orderly fashion to make sure that

important concepts are not overlooked. It is an easy format to help people understand tough concepts. The pictures can provide the basis for mini lectures that allow for many opportunities to pause and open up collaborative discussions, which make the whole process client-centered.

There is no right or wrong way to use the pictures. There is no specific order. There are a few main topics,

but you can pick and choose how you want to present them and in which order you like. Techniques discussed in one area (sleep) can be used to help in other areas (thoughts and emotions). The area addressing thoughts and emotions is typically where you will spend the most time. The concepts are not easy and the techniques are not easy for everyone to incorporate into daily life; however, this section can be the most helpful and often is an underlying feature in all of the other primary areas.

Often, when using Tinnitus Activities Treatment, I will incorporate Cognitive Behavior Therapy techniques, relaxation techniques, imagery training, as well as the concept of acceptance and Sensory Meditation for Tinnitus.

JO: *What do you ask of patients to help them be successful?*

SW: I explain to patients that I need them to take an active role in the process. I ask them if they are willing to see if together we can make things better with regard to their own situation.

I explain that I am here to help. And, while I cannot take away their tinnitus, I can show them tools and techniques that have been helpful for others and that might work for them. I explain that my goal is to enable them to become their own coach since it is impossible for me to sit on their shoulder, talking into their ear, guiding them on a daily basis.

JO: *Are most patients able to habituate?*

"Helping patients reframe negative thoughts to more constructive ones can help minimize negative emotions and, ultimately, make the tinnitus less prominent."

SW: I don't use the word "habituate," because I worry that it sets people up for an expectation that they might not be able to obtain. Instead, I prefer that patients set goals that we can address together and, if needed, modify for more realistic outcomes. Do most people get better? Yes.

JO: *What are the typical barriers to habituation?*

SW: I find that using the word "habituation" is a barrier in and of itself.

Some of the roadblocks that keep people from getting better are:

- Too much focus on the tinnitus by:
 - trying to control the tinnitus by physically manipulating it,
 - spending hours trying to make sense of it or figure out its pattern,
 - trying to figure out the actual cause, and
 - looking for — ultimately — *the one way to eliminate it*;
- Either not enough or too much grief by:
 - not acknowledging the emotional impact having tinnitus has had on their life, and/or
 - getting stuck in the grieving process;
- Not understanding the connection between our thoughts and emo-

tions and the impact these have on our daily well-being.

JO: *How long does it take patients to get better, typically?*

SW: This varies from person to person. I track patient goals and suggest that patients give themselves one year from the time they start TAT to monitor goals. Most people feel much better and are back to doing things they enjoy at that one-year mark. For some individuals, change happens more quickly, and for others, it's a slow, steady process.

JO: *Why is addressing the thoughts and emotions area central to helping patients habituate to tinnitus?*

SW: Tinnitus is a sound — neither good nor bad. It is only a sound. When tinnitus enters a patient's life, personal thoughts are attached to this sound. It's important to help patients understand that these personal thoughts have a direct connection to emotions, and emotions create physical reactions. Positive thoughts = positive emotions. Negative thoughts = negative emotions. Neutral thoughts = no emotions. Even subconscious negative thoughts can make the situation worse, so it is important to help

patients identify underlying negative thoughts. Helping patients reframe negative thoughts to more constructive ones can help minimize negative emotions and, ultimately, make the tinnitus less prominent.

Please note that this is a good, but very simplistic way to think about thoughts and emotions. The human psyche is more complex than this. Sometimes it can be difficult to reconstruct negative thoughts to more neutral or positive ones, and not all patients are successful at this.

JO: *What do you use to track thoughts and emotions?*

SW: A combination of things, including:

- the *Iowa Tinnitus Primary Functions Questionnaire*, which is a 12-item questionnaire developed at the University of Iowa;
- specific TAT pictures;
- a Tinnitus Diary, which is part of TAT, and
- open dialogue.

JO: *What role does sound play? Is there any evidence that one type of sound therapy is better than another?*

SW: Low-level sound makes tinnitus more difficult to detect, which can give some individuals relief from tinnitus. Each patient is different, and not every-

“Understand that the role of the clinician is to help, not fix.”

one is helped with sound therapy; but, many individuals want to try to see if this technique can work for them. The sounds and/or device used to create the sound must be tailored for each individual. It's important to use a low-volume partial-masking approach, with a sound that the patient can tolerate and easily ignore. If tinnitus relief is not obtained, some individuals use sound therapy as a distraction tool to help keep their attention off tinnitus.

JO: *Why do the tools in TAT seem to work well with many patients?*

SW: TAT provides a systematic method of helping patients move through the process of coming to terms with living with tinnitus. Sessions allow patients to tell their story and feel validated about their journey. Many tinnitus patients have a hard time finding a professional who 1) has the time to listen to their unique situation, and 2) acknowledges their struggles.

TAT provides knowledge to remove unknowns, misconceptions, and fears. It provides an opportunity for the patient to think about specific problems being experienced and to take a mental inventory to determine if it's been possible to change to make a difference, and, if not, why?

Sessions can help patients separate what is a hearing and communication difficulty versus a tinnitus issue. They also provide a clear explanation of the link between our thoughts and emotions. TAT helps patients focus on other areas of their life and, if possible, reduce the contrast between their tinnitus and background sound.

JO: *What are examples of constructive thoughts about tinnitus?*

SW: Negative

I hate this noise!

I can't live the rest of my life with this noise in my head!

I can't concentrate with this noise in my head!

Versus

Positive

This noise is okay.

My life is good. I will be able to live my life with this noise.

I can concentrate. I just need to turn on some background sound while I read.

Replacing negative thoughts with more constructive and/or positive thoughts can help reduce and/or neutralize negative emotions, making it easier to manage the tinnitus sound.

JO: *What emotions are the hardest for patients to work through?*

SW: It's different for every patient; however, rumination and worry are two main thought patterns that surface often in patients who are greatly bothered by tinnitus. Rumination is a way of responding to distress that involves repetitively focusing on the symptoms of the distress, and on its possible causes and consequences (focusing on the past). Worry is thoughts, images, and emotions of a negative nature in which mental attempts are made to avoid anticipated potential threats (focusing on the future). Reviewing techniques and tools on how to stay in the moment

can greatly reduce patterns of both rumination and worry.

JO: How do you set the stage as a clinician to be successful using TAT?

SW: Understand that the role of the clinician is to help, *not fix*. Ultimately, your role is to help your patient learn how to live successfully with tinnitus. This may include helping your patient “adopt a new identity” as a person with tinnitus, become his or her own coach, and determine which techniques and tools work best. You need to have good listening skills, be patient, sympathetic, and encouraging, as well as be able to talk candidly. You also need to be confident in your ability to help and guide. Lastly, make sure you have the professional time to work with the patient.

JO: What do you say to the audiologist who is less comfortable with the counseling aspect of TAT?

SW: Understand your role before you say you can't do this. Not every audi-

ologist needs to provide counseling, so referrals are fine. However, helping tinnitus patients can be very rewarding. Many people with tinnitus have hearing loss. Consider a referral for the thoughts and emotions aspect, but work in parallel with the therapist by providing hearing services that might include combination hearing aid/masking devices.

JO: Is it important for patients to know the pitch and loudness of their tinnitus to gauge its severity, meaning does such information help patients emotionally since it gives them something concrete to understand about their tinnitus?

SW: Our psychological model proposes that the severity of the tinnitus is influenced not only by what the tinnitus sounds like — its pitch and loudness — but also by the psychological makeup of the patient. Measuring the tinnitus can help reassure the patient (and sometimes the partner), that the perceived tinnitus is a *real* sound. However, not all patients need this.

JO: What are the differences between Tinnitus Retraining Therapy (TRT) and TAT?

SW: Historically, Tinnitus Retraining Therapy used directive counseling, not collaborative counselling. Tinnitus Activities Treatment assesses the individual needs of the patient and is collaborative from the first session, often letting the patient decide where they want to start treatment. It is a method where the professional and the patient work together to find the best way of living with tinnitus by empowering the patient to find his/her own strengths. 



Shelley Witt is an audiologist in the Department of Otolaryngology—Head and Neck Surgery at the University of Iowa. She has participated in research projects on cochlear implants, hearing aids, and tinnitus for over 18 years. She has co-authored numerous scientific papers, posters, and book chapters. Witt has also provided audiological services to adult cochlear implant and hearing-aid patients. She provides audiological and counseling services for tinnitus and hyperacusis patients of all ages, including sound therapy and private and group sessions.

“Congrats on producing what has to be the best looking and most informative issue of the magazine [Winter 2017 issue] that I have seen in all my years of being a member of ATA. I know firsthand (as a freelance tech writer) how hard it is to balance great content with good looking pages.”

— D. Strom, St. Louis, MO





A Multidisciplinary Five-Day Center-Based Approach to Tinnitus Treatment

Summary by John A. Coverstone, AuD

A team from Jena University

Hospital in Jena, Germany, recently studied a multidisciplinary approach to treating tinnitus. Their treatment program was provided through an onsite, center-based program of care spanning five consecutive days, in which patients worked with ear, nose and throat (ENT) physicians, cognitive behavioral therapists, medical rehabilitation specialists, and audiologists.

The researchers recruited 308 individuals with chronic tinnitus for the study. They used the *Tinnitus Questionnaire* (TQ) to determine overall tinnitus distress and tinnitus severity on six subscales (emotional distress, cognitive distress, intrusiveness, sleep disturbance, hearing problems, somatic complaints). Patients were omitted from the study if their tinnitus was acute (less than 3 months); if tinnitus distress was classified as mild, or less than a score of 31, on the TQ; or if the patient did not accept habituation to

tinnitus as a program goal. It may be noted that these criteria omitted significant portions of the general population experiencing tinnitus so that insurance could be billed and a common outcome goal could

be established. Patients failing to meet these criteria still may require intervention and may be in significant distress from tinnitus.

Assessment using the TQ was provided during the patient-screening



process at the beginning of treatment, at the end of treatment, and during two follow-up visits at 20 days and six months after treatment. The TQ rates severity of tinnitus as either Mild (score of 0-30), Moderate (31-46), Severe (47-59), or Very Severe (60+). According to the authors, scores in the Severe or Very Severe range are considered to indicate uncompensated tinnitus and scores in the Mild or Moderate range are considered to indicate compensated tinnitus.

Patients involved in the program underwent treatment for five consecutive days, with treatment averaging seven hours per day.

During treatment, patients saw four specialists:

- 1** an ENT, who provided tinnitus-specific counseling, according to the neurophysiologic model of tinnitus developed by Jastreboff et al. (1996);
- 2** a cognitive behavioral therapist, who provided counseling through Cognitive Behavioral Therapy (CBT) in eight closed-group sessions over four days;
- 3** a medical therapist, who performed a physical examination for cervical spine dysfunction and provided one session per day in progressive muscle relaxation, back therapy training, and physical therapy; and
- 4** an audiologist, who fitted hearing aids and provided Terzo® hearing therapy, an experimental approach to auditory rehabilitation. Terzo® therapy was begun at the center and patients were to continue therapy after completion of the program, for a total of 25 days.

The authors reported excellent compliance with the program. Ninety-five percent of patients took part in all sessions, and 90 percent of patients completed all tasks of the Terzo® therapy program, with 85 percent using hearing aids throughout the target 25 days.

TQ scores improved overall from screening to the first day of treatment, with average scores of 52.36 and 48.79, respectively. Scores improved even more from the first day to the last day of the program, with average scores improving to 34.29. The authors further reported that scores remained stable at the 20-day and six-month follow-up examinations.

Subscale scores improved as well. Measures of emotional distress, cognitive distress, intrusiveness, and sleep disturbance all showed significant improvement from screening to first day of treatment and from first day to last day of treatment. Measures of hearing problems and somatic complaints did not change from screening to first day of treatment, but improved by the fifth day of the treatment program. It also was noted that those scoring in the range of Moderate on the TQ did not show improved scores from screening to first day of treatment. Those scoring in the range of Severe or Very Severe distress improved from screening to first day of treatment by four and seven points, respectively, and, on average, improved one category of clinical severity (for example, from Severe to Moderate).

The authors also correlated tinnitus distress with identifiable factors during the screening process. Higher tinnitus distress correlated with dizziness at tinnitus onset, tinnitus that could not be masked with background noise, tinnitus that worsened during physical stress (exercise), subjective hearing loss, comorbid psychiatric diagnoses, greater age, and greater degree of hearing loss. The authors indicated that all these factors are consistent with previous studies showing similar effects.

The authors demonstrated the efficacy of an intensive five-day treatment program for tinnitus. It was noted that they did not gather data on each modality of treatment independently, nor did they forego treatment to compare their approach with placebo. The improvement noted for many patients between the screening stage and beginning of treatment indicates a possible effect of simply seeking treatment without the treatment actually being provided. This approach also may provide barriers in the form of program costs and accessibility in more rural areas. Nonetheless, this provides a potential center-based treatment approach, which demonstrated success in a large patient population with tinnitus. A

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Jastreboff P. J., Gray W. C., & Gold S. L. (1996). Neurophysiological approach to tinnitus patients. *Am. J. Otol.* 17, 236-240.

Navigating the Internet to Promote Tinnitus Habituation

By Bruce Hubbard, PhD

Among the internet's greatest contributions to the public is improved access to health information.

Gone are the days when a local doctor was your only source of guidance. With tinnitus, for which the typical prognosis is "There's nothing I can do, you'll just have to live with it," it's not surprising that many people turn to Drs. Google, Yahoo, and Bing for additional help!

Yet greater access to information and resources about tinnitus can come with a downside: The more information you get, the harder it is to separate what helps from what may hurt. For someone in the throes of tinnitus distress, the internet is a place where desperate need meets a torrent of unregulated products, amateurs presenting as experts, and well-meaning fellow sufferers who (stuck in a struggle with their own tinnitus) will enthusiastically advise you on how to handle yours. It's not unusual for someone visiting tinnitus-related websites to find that, as



a result, their tinnitus is more pronounced. As one patient put it: "You have to plow and sift through multiple posts of negativity, misery, and misinformation to connect to someone who can truly help."

Many healthcare professionals advise their patients to stay off tinnitus-related websites entirely. In this day and age, this seems unrealistic. We know that people with tinnitus, particularly in areas where direct resources aren't available, are driven to find meaningful connections and valid answers through the internet. But how do you separate fact from fiction, friend from foe?

In this article, I draw on my experience and expertise as a cognitive behavioral therapist to suggest some guidelines for deciding how best to seek information and support through tinnitus-related websites.

"It's not unusual for someone visiting tinnitus-related websites to find that, as a result, their tinnitus is more pronounced."

1. Be an educated user of tinnitus forums.

What you think and believe about your tinnitus will strongly affect your present and future course. This age-old principle is at the core of Cognitive Behavioral Therapy (CBT) for tinnitus. Exposure to gloom-and-doom accounts, horror stories, and misinformation — especially when a person is at their most vulnerable — can reinforce the hopeless belief that there can be no productive, enjoyable life with tinnitus. My work as a cognitive behavioral therapist often begins by undoing the damage caused by exposure to inaccurate, negative messaging gleaned from even the most well-meaning tinnitus websites. In CBT, we work to base our judgments and expectations about tinnitus on facts. But how can a layperson, desperate for help, tell the difference between good information and bad?

First, visit websites that are most likely to publish reliable facts about tinnitus, its causes, and progression. Armed with the basics, you will be in a better position to dismiss inaccurate information when you see it. The following websites can be considered reliable sources on tinnitus and habituation:

- American Tinnitus Association (ATA): <https://www.ata.org/understanding-facts>
- British Tinnitus Association (BTA): <https://www.tinnitus.org.uk/>
- The BTA's "Take on Tinnitus": <https://takeontinnitus.co.uk/>

2. Avoid websites, products, and people that claim they can make your tinnitus go away.

At present, there are no scientifically validated treatments for reducing or eliminating the sounds of tinnitus. Yet this does not stop people from experimenting with countless supposed remedies recommended through tinnitus websites and forums. Whether you choose to pursue such strategies is a personal choice. But, if your goal is habituation, be forewarned: It will only hold you back. Searching for a cure that may not exist keeps you negatively tuned into your tinnitus: Is it getting better? Is it getting worse? It reinforces the dangerous belief that if tinnitus is present, there can be no peace.

Habituation is the opposite of trying to make your tinnitus go away. In pursuing habituation, you stop trying to change your tinnitus. Instead, you focus your efforts on changing your response to tinnitus by treating tinnitus as an unimportant sound and

redirecting your attention and energy back to the important stuff in your life. Over time, tinnitus is recategorized by the brain as just another meaningless sound that can be screened out and forgotten.

3. Find and utilize information from websites that focus on habituation.

If your goal is habituation, then you will be best served by restricting your search to information and advice on how to adjust to your tinnitus. The following resources are recommended:

- On his "Tinnitus Corner," noted expert Dr. Stephen Nagler offers a deep reservoir of practical advice on habituation: www.Tinn.com
- A thorough description of CBT and habituation can be found in my webinar <https://www.cbtfortinnitus.com/webinar> and website www.CBTforTinnitus.com
- Tinnitus author Glenn Schweitzer hosts a website devoted to habituation: <https://rewiringtinnitus.com>

4. On tinnitus forums, seek advice on habituation from people who have achieved it.

Someday, there may be a tinnitus forum titled "Our Tinnitus Hasn't Gone Away, But We're Doing Great!"

"My work as a cognitive behavioral therapist often begins by undoing the damage caused by exposure to inaccurate, negative messaging gleaned from even the most well-meaning tinnitus websites."

4 STAGES OF HABITUATION

STAGE

1

- Persistent awareness of tinnitus, except during sleep and masking by louder sounds.
- Frequent worrying and depressing thoughts about tinnitus.
- Difficulty concentrating for more than a few minutes.

- Absorbing activities provide only slight distraction.
- Insomnia severe (if present). Chronic sleep loss, in some cases, necessitates medication.

STAGE

2

- Intermittent lack of awareness of tinnitus, especially during absorbing activities. There are times when tinnitus is tuned out.
- Improvement in concentration reflected in increasing engagement in normal activities.

- Beginnings of emotional acceptance; the implications of tinnitus no longer seem catastrophic.
- Gradual return to normal sleep pattern (if disturbed).

STAGE

3

- Awareness of tinnitus mainly limited to periods of fatigue, stress, or quiet.

- Noises intrude mainly when listening and mental concentration are important.
- Noises annoying rather than emotionally distressing.

STAGE

4

- Attention rarely given to the tinnitus. Attention limited to periods when it's louder than normal or you are reminded of it.

- Noises do not intrude into normal activities.
- Emotional acceptance achieved — tinnitus neither pleasant nor unpleasant.



"Habituation is the opposite of trying to make your tinnitus go away."

We've Habituated, and You Can Too!" But for now, it's rare to find people on tinnitus forums who've habituated and stuck around to help others. Most forum members who habituate feel better and move on. That leaves a wide range of members in various states of bother: Some seeking ways to control the noise, and others who just seem stuck in their misery. While these people may be well-meaning, it often can seem like the blind leading the blind. Warning signs that a chatroom isn't serving your best interests include:

- The advice you're given deviates from the facts you've learned from reputable sites.
- The person advising you has been a forum member for years, but continues to struggle with tinnitus.

- You end a session feeling even more discouraged about tinnitus. My best advice for people seeking support on tinnitus forums is:
 - Avoid specific people and sites you find to be negative and unhelpful.
 - Seek out the few noble habituation veterans who've stayed on the boards to help others, or small groups of people gathered around this goal with whom you feel safe sharing and discussing your experience.
 - Some tinnitus forums allow private chatrooms in which these select groups can gather. If not, find ways to carry out group discussions over private-messaging platforms, like Skype group chat or Facebook Messenger.
- While the internet can be a challenging place for a person with

tinnitus distress, take heart: There are tens of millions of people living happy, productive lives with tinnitus. If your tinnitus doesn't go away, there's an overwhelming chance that eventually you will join them. There are many positive, effective resources available through the internet. With a little effort and a careful approach, you can navigate your way to success! 



For over 20 years, Bruce Hubbard, PhD, ABPP, has helped people improve their lives with Cognitive Behavioral Therapy. After establishing one of the first cognitive-behavioral practices in New York City, he went on to found the Cognitive Health Group in 1999, where he pioneered the integration of Cognitive Behavioral Therapy and mindfulness.

Dr. Hubbard is Associate Clinical Professor at the Icahn School of Medicine, President of the New York City Cognitive Behavioral Therapy Association, and founder of CBT for Tinnitus, LLC. He is Board Certified in Cognitive and Behavioral Psychology. He previously served as Adjunct Assistant Professor at Columbia University, Teacher's College, and Clinical Instructor at New York University Medical School. Dr. Hubbard has had tinnitus since 2005.

A Call for Recommendations: Who Has Provided You with Compassionate Tinnitus Care?

We'd like to hear from you about the ENTs, audiologists, otolaryngologists, therapists, psychiatrists, and otologists, who gave you support, compassionate care, and treatment that has helped you manage your tinnitus.

We hear countless stories about healthcare professionals who offer insufficient or no help to patients with tinnitus. But, we also know there are countless healthcare professionals who offer compassionate and effective care for managing tinnitus.

Along with your contact information, please include the healthcare professional's name and contact information, as well as a brief description of how he/she made a difference. We look forward to hearing from you by email at tinnitus@ata.org, or by mail sent to ATA, 8300 Boone Blvd., Suite 500, Vienna, VA 22182.





Navigating the healthcare system can be difficult, especially when dealing with a condition like tinnitus that lacks a definitive cure and differs between patients. The American Tinnitus Association (ATA) developed the *Patient Navigator* to help people find the best approach for their tinnitus. **The *Patient Navigator* is suitable both for those with recent sudden-onset tinnitus and those with a history of tinnitus that has become bothersome or has not been addressed.**

Stay calm

Tinnitus can be frightening, especially if it develops without warning, or without a clear trigger. It is important to stay calm because it is seldom indicative of a life-threatening medical condition.

*If your tinnitus symptoms were triggered by a traumatic physical event (head/neck damage, concussive trauma, etc.), you should seek immediate medical care.

Visit your primary care provider (PCP) and audiologist

If your tinnitus continues beyond a week, becomes bothersome, starts to interfere with your sleep and/or your concentration, or makes you depressed or anxious, seek medical attention from a trained healthcare professional. Your PCP should be able to diagnose/rule out certain causes of tinnitus, such as obstructions in the ear canal or temporomandibular joint dysfunction (TMJ), and provide a referral to the appropriate specialist. If no underlying medical issues are found, see an audiologist for a hearing assessment and evaluation of tinnitus treatment options.

*Please refer to ATA's Patient Intake Flowchart available at www.ATA.org

Know your treatment options

ATA encourages patients to utilize its website to research tinnitus management options and to ask the questions listed below. Become a proactive participant in determining which management option best addresses your condition and needs:

- What tests do they suggest? What are the tests designed to reveal?
- What is their diagnosis?
- Have they ruled out physical causes of tinnitus: TMJ, head/neck trauma, tumors, etc.?
- Are they familiar with all current tinnitus management options?
- Which tinnitus management option is best for your situation? Do they offer this service?
- Which tinnitus treatments do they use in their practice?
- What is their treatment plan for you? Can they provide this service or refer you to another provider?
- How much will treatment cost? How many visits are likely needed? Is treatment covered by your insurance?
- Do they have any additional information for you to review?
- Is their advice based on the American Academy of Otolaryngology's *Clinical Practice Guideline: Tinnitus*?

Do not accept "learn to live with it" diagnoses

Many patients are misguided when told by healthcare providers that nothing can be done for tinnitus. While there is no cure at this time, there are evidence-based treatments that can significantly reduce the effect of tinnitus on daily activities and improve quality of life. If a medical professional says nothing can be done, get a second opinion from a hearing healthcare professional trained in tinnitus management.

Consider seeing a behavioral health therapist

Current estimates suggest that 48-78% of patients with severe tinnitus experience depression, anxiety, or some other behavioral disorder. A trained behavioral health therapist can often help mitigate the negative emotions accompanying bothersome tinnitus. There are behavioral and educational treatment programs for tinnitus management. General psychological therapy may also be beneficial.

Commit to action

Once you and your healthcare provider identify the best management option, fully commit to completing the treatment protocol. Many of the best tinnitus management therapies, including Cognitive Behavioral Therapy (CBT) and Tinnitus Retraining Therapy (TRT), require ongoing, active patient participation, over a 6-12 month period.

Self care

Patients can improve their condition through general wellness and relaxation practices:

- **Increase Relaxation.** Patients often report tinnitus becomes less burdensome through regular activities designed to be relaxing, like yoga, meditation, and listening to music.
- **Sleep.** Tinnitus often disrupts sleep, so create a sleep strategy. This might include sound machines, radio static, or a fan to mask the sound of tinnitus. Reduction of caffeine, alcohol, and other drugs that might inhibit sleep is recommended.

Create a support network

Patients who are successful in managing tinnitus often have strong support networks, which might include a spouse, family, or friends who've been educated about tinnitus. A tinnitus support group can provide a forum among compassionate people facing similar challenges. ATA can assist in locating local tinnitus support groups or connecting you with Help Network Volunteers who are willing to share their own experiences with tinnitus via one-on-one phone calls or email correspondence.

*The ATA Patient Navigator is designed to apply to the broadest array of tinnitus cases. While most patients would be well served following this approach, the sound and effects of tinnitus are unique to each patient, so some patients may require a different approach.

Pursuing Dreams, Life, and Joy... Despite Tinnitus

By Ellen Meny

I can't believe I'm writing this.

Even now, the idea of me doing this is shocking. Up until about a year ago, I couldn't even see the word "tinnitus" without a spike of fear going up my spine.

Every time I saw that word, I was thrown back to Clemson, South Carolina, standing in the hallway leading to my bedroom. I remember the smell of a lived-in college apartment, the springy carpet under my ratty sneakers. It was February 2014. I'd just finished a solid workout, and I was about to hop in the shower and get on with my day when...

It happened. Many of you know what I'm talking about. Both ears. Medium pitch. Relatively quiet.

The rest is a rush and painful to think about. It comes in flashes of memory that still make me feel sick, even years later. I remember the animal panic that short-circuited my mind as the hissing ring in my ears



picked up and continued, lingering like an unseen alarm. What was happening to me? It was so bizarre and unexpected. I couldn't process it. Something very delicate and very sharp had snapped inside of me.

My friends were in class. My family was hundreds of miles away.

It was the most alone I've ever felt in my life.

I always feel odd saying that — guilty, even, because I think of all the worse things that can happen to a person. But I know tinnitus

isn't as simple as that — it can rob someone of silence and attacks their quiet time, their sleep, their conversations. For some, it's like a train roaring in their head without end. For me, although my tinnitus is relatively quiet, it preyed upon something that I was already dealing with in my life: anxiety.

I've always tried to control the parts of life I can — to make the world a little less uncertain and scary. But tinnitus was like the personification of my anxiety, the ultimate test — I couldn't control it. I'd done nothing to trigger it. It could get worse over time. And there was no cure.

After the initial shock came doctor's visits filled with waiting rooms smelling vaguely of disinfectant. Each appointment featured cool, plastic instruments inserted into my ear. My shoulders would shoot up to my neck when I felt the scratch against the shell of my inner ear, fearing the slight tampering would make my tinnitus worse.

"I started seeing a therapist who specialized in tinnitus, a commitment with a 45-minute weekly commute in rural South Carolina. We talked about coping mechanisms, treatment options, and how my anxiety magnified my tinnitus."



Ellen Meny in Eugene, OR, 2017.

At first, I wanted a solution. I prayed the doctor would step back and say I had an ear infection or some bizarre allergy that prompted the tinnitus. Either way, the doc would present a cure.

After several different doctors, a perfect hearing test and some well-meaning suggestions for vitamins that didn't help, it became clear I wouldn't get that cure I was looking for.

Each visit ended the same way. The doctor sitting back on his wheeling stool, slightly crushed by years of use. His expression was flat, but his tone was always reserved and light, like he was an ice cream parlor employee about to tell me they were out of chocolate.

He didn't know what caused it. It could've been a jaw issue or a low-grade ear infection. He wasn't sure.

It might go away. It might not. It might get worse.

I'm not sure.

I'm sorry.

Even after I realized a cure wasn't going to happen anytime soon, I still searched for a doctor who would understand my emotional struggle and lend an understanding ear regarding my own ears. Unfortunately, that didn't happen — whether it was because I chose the wrong doctors, or because I'm a young woman, or

something else entirely, I'm not sure.

At the time, I was the only person I knew who had chronic tinnitus. I could only get so much support from my friends and family at the start, so, after I failed to find professional support in my "real" life, I went online.

Unfortunately, my first foray into the online tinnitus community wasn't the American Tinnitus Association website, which is filled with accurate information and resources to get help.

Instead, thanks to a mixture of morbid curiosity and misguided intent, I found myself on random internet chatrooms for people affected by tinnitus. They were filled with concerned friends and family members, and sufferers themselves, fraught with terror. Every message was helpless and scared, sometimes mentioning suicide. The worst-case scenario, it seemed, was the only scenario in the world I'd stumbled into.

It was like peering into the future, discovering my inevitable fate. My anxiety fed into this rhetoric like a flood. Would that happen to me? Surely, it would. I'd already developed chronic tinnitus at age 20, what chance did I have?

I finally quit my "research" after my mom talked some sense into me, but the damage was done. Every time I happened to see the word "tinnitus," a cold rush of terror would come over me, and I was back in that hallway. Every loud noise — the bang of pots and pans, a car horn — was a golden opportunity for my tinnitus to get worse. To put it bluntly, I was a mess.

And then, slowly, I became less of a mess.

I wish I could pinpoint the exact moment I started sleeping soundly through the night, or the first time a motorcycle roared past me and didn't leave me worried the rest of the day. Small victories like those came and went, but they all came from the same place. I started habituating to my tinnitus, and I realized something.

I wanted to feel like myself again.

This wasn't a passive recovery. After several months of sleepwalking through life, I knew I had to wake up. I had too much to do at the time and too much I wanted to do in the future. I had to finish college, follow my dreams into the world of broadcast journalism, find a cute apartment in some faraway city and some equally cute guy. I couldn't control my tinnitus, but I could control how I responded to it.

I started seeing a therapist who specialized in tinnitus, a commitment with a 45-minute weekly commute in rural South Carolina. We talked about coping mechanisms, treatment options, and how my anxiety magnified my tinnitus. How when I drank alcohol, my tinnitus got worse — and when he imbibed, his tinnitus went away. I saw that therapist for a relatively short time, but I walked away in a much better mental and emotional state.

I opened up to my family and friends more. My mom was there for every late-night call, every weepy worry, and dash of uncertainty. When I went to a concert with my friends, earplugs in hand, they made sure I was comfortable as we got closer to the front of the stage.

After I finished therapy, I bought a book on anxiety, and I knew I had to commit to managing my anxiety, as well as understand how tinnitus affected it. I chose to manage my anxiety through my lifestyle. I started exercising again and caring about what I ate. Slowly, I felt in control again, like the world wasn't going to crumble around me at any possible moment.

But, the last thing to go, the last bastion of my terror, was my fear of the word "tinnitus."

About a year ago, now on the other side of the country and working for a local television station, I went to the gym for a quick workout. On my way to the treadmill, I passed a rack of magazines. Like a bizarre superpower, I sensed the word immediately, front and center on a glossy magazine cover.

TINNITUS TODAY.

The familiar fear made me feel like I was sinking under water. Even in the gym, of all bizarre places, I couldn't escape it. It was *almost* funny.

I was almost tempted to pick it up, but I wasn't ready yet.

Now, I am.

And that's why I can't believe I'm writing this article — because four years ago, even one year ago, it would've been impossible to relive



Credit: Emily Higgins

Ellen Meny reporting on a fire in Junction City, OR, in 2016.

my trauma so many times or become so intimate with the word "tinnitus." I would've broken down on the first sentence.

Now, I truly feel like a stronger person having gone through and survived such a traumatic personal event. Even though my tinnitus still makes me anxious sometimes, I've built up the self-care skills to manage my anxiety.

My friends, family, and boyfriend are still the main people I go to when my tinnitus gets tough. I exercise regularly and try to stick to a healthy diet, despite my love for Mexican food and doughnuts. I keep myself busy with creative projects, work, friends, and family. When quiet time is no longer

literally "quiet" time, I find it better to keep active and engaged.

In the past, I've considered the word "habituation" as something negative — living with something, resigning oneself to it. But now I realize that's not the case. Habituation means going through something you thought would ruin your life and emerging from it with the realization that you can survive and flourish, despite the challenges. For me, it's returning to my hopes and dreams for the future and making them a reality, despite the added struggle of tinnitus.

I'm not going to lie — bringing back these memories is still challenging for me. The pain has softened over time, but it's still there. Even so, writing this article shows me how far I've come and how hard I've worked to come out of my diagnosis mentally and emotionally stronger.

Everyone's story is different, but this is mine. And if I can convince *one* person that they can survive, work towards feeling better, and end up okay four years down the road? Writing this article was worth it. 

"Habituation means going through something you thought would ruin your life and emerging from it with the realization that you can survive and flourish, despite the challenges."



Leading Figures in the Field of Tinnitus: Spotlight on Dr. Abraham Shulman

Progress in Tinnitus Through Interdisciplinary Collaboration Across the Globe

By Joy Onozuka

When Abraham Shulman, MD,

walked into one of the first conferences on cochlear implants in the United States in the late 1970s, he had no problem finding a seat next to his friend and colleague, Dr. Erwin H. Rock. They were two of four people attending to learn more about the revolutionary device that was likened to a bionic ear.

"We were interested in solving hearing problems," said Dr. Shulman, reflecting on half a century as a leading researcher in tinnitus and work as an Otolaryngologist and Neurotologist. "We were told at that gathering that tinnitus was a problem, so when I got home I told my coworker, Dr. Barbara Goldstein, [who's an audiologist] that we were going to be doing these implants and treating a lot of people with tinnitus," he said. However, when they started researching tinnitus, they found virtually nothing beyond a few papers on masking. That prompted them to take the lead with like-minded people — ranging



from neuroscientists, audiologists, to psychologists — to help define and develop the discipline of tinnitus, a term Dr. Shulman coined in 1991.

"Tinnitus is international, so, from day one, our work reflected contributions from people in different disciplines with different perspectives," explained Dr. Shulman, stressing that nothing would have been accomplished in tinnitus research and treatment without the collaboration and exchange of ideas between people who already were involved in trying

to understand tinnitus, including Jack Vernon, Jonathan Hazell, Harald Feldmann, and Pawel Jastreboff.

To cultivate ongoing exchanges on the latest scientific and clinical ideas, as well as to provide networking opportunities, Drs. Shulman and Goldstein launched the *International Tinnitus Seminar* in 1979, which continues to be held every four years. "If you want to move things forward, you must bring in people from across the globe," Dr. Shulman said. "There are differences of opinion, but it's respectful."

To encourage and highlight significant research, Drs. Shulman and Goldstein began publishing the *International Tinnitus Journal*, a peer-reviewed medical journal covering all aspects of tinnitus. "These endeavors helped make tinnitus an international concern. It brought together brilliant minds from all over the world, which gave us friendships and colleagues with whom we could collaborate," he said.

In 1975, Dr. Shulman was asked to be the director of SUNY Downstate State University's ENT Department

serving Brooklyn. There, as Acting Director from 1975-1980 and 1990-1991 and Director from 1980-1985, he went on to help establish their Department of Otolaryngology. Dr. Goldstein joined him and helped him open the Martha Entenmann Tinnitus Research Center in New York, which was recently relocated to the University of Miami's Miller School of Medicine, where the next generation of doctors and researchers continues to expand both scientific and clinical understanding of tinnitus.

Dr. Shulman said crossing paths with Jack Vernon, co-founder of the American Tinnitus Association (ATA), marked a turning point. "Jack Vernon had a profound influence on the field of tinnitus. By stressing the significance of tinnitus, he reawakened clinical and research interest in it worldwide. I consider Jack Vernon to be the father of modern tinnitus," Dr. Shulman explained, adding that the ATA's emphasis on measuring tinnitus by diminished quality of life was important in shaping the context for patient care.

Surveys continue to show that between 5 and 15 percent of Americans have experienced tinnitus for six months or more, with 1 to 3 percent reporting that it causes significant stress and anxiety. That number translates into millions who find the condition so intrusive that it prevents them from enjoying a normal life. "My interest, first and foremost, is the tinnitus patient who longs for treatment and wants a cure," Dr. Shulman said, stressing that the patient's clinical history is crucial for determining how

to establish an accurate diagnosis and attempting to provide tinnitus relief.

Creating tools that helped doctors and researchers make sense of the individualized nature of tinnitus became central to his activities.

"Tinnitus is a subjective complaint ... each of us have different levels of subjective responses to any sensation. I was trying to objectivize tinnitus to find meaning to what patients

laying the groundwork for the American Academy of Otolaryngology—Head and Neck Surgery Foundation's 2014 release of the *Clinical Practice Guideline: Tinnitus (CPG)*, which is a comprehensive tool used for guiding and providing tinnitus care in the United States.

"In the past 30 years, there has been an explosion in what we know about the brain and brain function in

Dr. Shulman said crossing paths with Jack Vernon, co-founder of the American Tinnitus Association (ATA), marked a turning point.

were telling us," Dr. Shulman said, explaining how the hearing system expresses dysfunction in auditory and non-auditory systems of the body and that each person with tinnitus experiences it differently. "We needed parameters of tinnitus identification: quality, location, duration, character, intensity, and masking."

With a specific and detailed clinical history, Dr. Shulman was creating a narrative for patients to use to work with healthcare providers to find relief. That effort, driven by data in excess of 10,000 patients with severe, disabling tinnitus, led to the establishment of a unified management plan, called the *Medical Audiologic Tinnitus Patient Protocol* (MATPP). The protocol provided healthcare professionals with a guide to accurately diagnosing tinnitus, determining treatment, and providing options for relief. The data from those guidelines contributed to

the presence of auditory sounds — which are either normal, abnormal, or aberrant — and auditory science. Tinnitus is an aberrant auditory sensation," Dr. Shulman said. "The tinnitus is a reflection not only of alterations in brain function, but both ear and brain function. It's a reflection of alterations in the science of a normal auditory sensation."

Increased tinnitus research has revealed vast complexities and variations in the condition, but it hasn't yet provided a breakthrough for a cure. "A cure for any type of tinnitus will parallel what we do or do not know about auditory science, the neuroscience of brain function, and the science of sensation," Dr. Shulman said. "We have to translate advances in these sciences into specific treatments for different clinical types of tinnitus." The components of treatment will differ

between individuals because the nature of tinnitus is *its individuality*.

"There are expectations of success using Cognitive Behavioral Therapy (CBT), because it's been shown to change the plasticity of the brain and how it reacts to tinnitus," Dr. Shulman said. "But, when a worker who uses a power drill comes to see me, he says 'Dr. Shulman, I need to put money on the table. I can't sit around and talk about tinnitus.'"

Such realities reflect the need for treatment plans that take into consideration a patient's socioeconomic circumstances and time restrictions. "Tinnitus is a medically significant and chronic condition for people. By understanding the clinical course, you can develop a treatment plan. Depending on the patient, a combined treatment protocol might include medication and sound therapy, which could provide significant tinnitus relief, both short- and long-term," Dr. Shulman emphasized.

Reflecting on more than 40 years of tinnitus research and treating patients, Dr. Shulman feels optimistic about progress in tinnitus treatment options and the possibility of a cure. "The future will focus on new drugs, basic science, auditory science, neuroscience of brain function, and the science of sensation," he said. At the age of 89, Dr. Shulman remains an active participant in the tinnitus dialogue through teaching the next generation of healthcare providers, seeing patients, and attending conferences with those who are now leading the charge to push the science and treatment of tinnitus forward. Every day, he says he feels blessed and encouraged by the support of colleagues,

friends and family, which includes his wife, Arlene; daughter, Dr. Melanie Shulman; grandchildren, Olivia, Julia and Jason; and the beloved memory of his daughter, Rachel. 

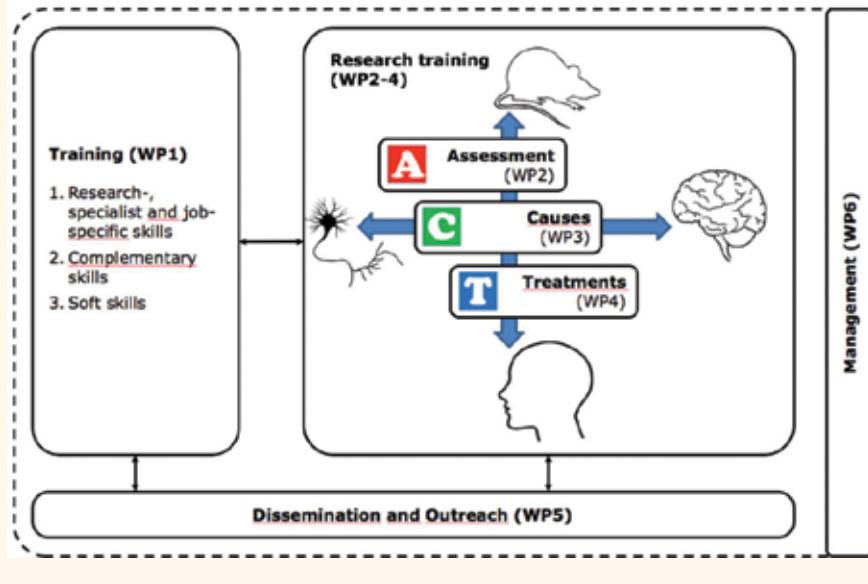
Dr. Shulman, MD, is a Professor Emeritus, Clinical Otolaryngology at SUNY-Downstate Medical Center in Brooklyn, New York. He trained extensively in all aspects of otolaryngology, with particular emphasis in otology-neurotology. He received the Albert Nelson Marquis Lifetime Achievement Award in 2017. His clinical interests are hearing loss, tinnitus, vertigo, and the fluid dynamics between the ear and the brain. Dr. Shulman and Dr. Erwin H. Rock performed one of the first cochlear implant operations in

*New York City. He was the primary author of the 1991 textbook *Tinnitus: Diagnosis/Treatment*. In 1995, he became co-chief editor of the *International Tinnitus Journal*. He has published more than 250 scientific articles on the basic science and clinical protocols for tinnitus diagnosis and treatment, and is a reviewer for several scientific journals. Dr. Shulman's research interests include sensorineural hearing loss, electrical and ultrahigh frequency acoustical stimulation of the cochleovestibular system, vestibular evoked response, mechanisms of tinnitus production, translation of functional brain-imaging with nuclear medicine and EEG based electroencephalography-QEEG/LORETA drugs for tinnitus relief for clinical types and subtypes of tinnitus, and fluid dynamics of the ear and brain. Dr. Shulman graduated from the University of Bern, Switzerland.*



PhD Students Wanted

TINACT (Tinnitus Assessment Causes Treatment) is currently recruiting PhD students for research projects in Belgium, Denmark, France, Germany, and the United Kingdom. Research is aimed at understanding how basic neural mechanisms of tinnitus can be studied in animal models and patients with tinnitus, and how complementary research techniques can be used for finding cures. For more information on projects and applying, see: <http://tinact.eu/recruitment/>



Bimodal Stimulation to Reduce Tinnitus

Summary by John A. Coverstone, AuD

The Centers for Disease Control and Prevention (CDC) estimates that about 15 percent of the U.S. population has tinnitus. Of those, about 20 million experience bothersome tinnitus, and approximately 2 million are debilitated by it. Yet, interventions available at this time largely target the effects of tinnitus and not the condition itself. Many researchers are trying to develop methods for eliminating the cause of tinnitus, and a group from the University of Michigan and McMasters University in Ontario, Canada, may have moved a step closer.

The authors targeted the dorsal cochlear nucleus (DCN) in their research. The DCN is the first site in the brainstem where auditory information is integrated with other sensory signals, including somatosensory — or touch — stimulation. In particular, the nerve cells exiting the DCN, called fusiform cells, integrate auditory signals with somatosensory signals from the head and neck.

Some of the authors had previously noted that there is increased spontaneous nerve activity and increased synchrony of activity among these fusiform cells in the DCN after noise exposure. Increased spontaneous activity and elevated synchrony are known to be associated with tinnitus. The researchers have previously shown that animals exhibiting tinnitus behaviors have these neurological



changes in the output of the DCN, whereas animals that do not exhibit tinnitus behaviors do not.

Using guinea pigs as subjects, the researchers experimented with bimodal stimulation involving concurrent auditory (sound) and electrical stimulation. They found that bimodal stimulation either strengthened or weakened the synchrony of the fusiform cells, depending on the stimulus order and timing. Through this experiment, they were able to determine the parameters that would decrease the synchrony and spontaneous activity of these nerve cells. They then provided stimulation to the guinea pigs for 20 minutes per day over 25 days and found that behavioral evidence of tinnitus was reduced in the animals. Neither auditory stimulation or somatosensory stimulation achieved the same results when provided by itself.

Key elements of the cochlear nucleus are similar in humans and rodents. Therefore, the team theorized that using this protocol in humans should achieve similar results. They performed a study in 20 humans with somatically modulated tinnitus — a type of tinnitus that is provoked by physical sensation from touch or movement. They created a double-blinded study, in which some subjects received a sham treatment — or auditory stimulation with no electrical stimulation. (Electrical-only stimulation had exacerbated tinnitus in some of the animals, so this paradigm was not included in the study with humans.) Treatments were provided for 30 minutes a day for two sessions of four weeks. A “washout” period of four weeks was used after each treatment period to monitor the persistent effects of stimulation and

eliminate those persistent effects from influencing data during the second period of treatment. After the washout period, the two groups (actively treated and sham) were switched, and each received the other type of treatment.

The researchers found no side effects to providing bimodal stimulation, but discovered a significant improvement in tinnitus loudness and tinnitus distress. This included two participants who reported complete elimination of tinnitus toward the end of the treatment period. Auditory-only stimulation was not only ineffective in reducing tinnitus severity for patients

in the sham treatment, but also tended to increase tinnitus loudness and result in poorer scores on the Tinnitus Functional Index (TFI). They theorized that this may have been due to increased attention paid to tinnitus during the treatments.

The researchers discovered that reduced tinnitus loudness was not persistent in subjects receiving bimodal treatment. As they followed subjects during the washout period, they found that reduction in loudness did not continue beyond treatment. However, they noted that improved scores on the TFI did continue into the washout period. The researchers concluded that

the psychological benefits of tinnitus reduction resulted in better adjustment to tinnitus, even though the loudness improvement did not persist.

The authors were not able to speculate on whether this treatment may help patients with other types of tinnitus (non-somatic tinnitus). However, this method shows promise for some treatments and may even suggest that we investigate other types of stimulation in multiple modalities as a treatment for tinnitus. 

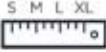
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Hearing and Combination Sound-Therapy Aids for Tinnitus—2017 in Review

By Grant D. Searchfield, PhD

Hearing aids have been used to treat tinnitus for almost as long as they have been used to help hearing. Because tinnitus frequently accompanies hearing loss, it should be no surprise that hearing aids have been used to help both conditions. The ways in which hearing aids have been found to help tinnitus include improving quality of life, amplifying background sounds to mask tinnitus, moving attention from tinnitus to other sounds, and possibly modifying the auditory pathways in the brain to reduce or reverse tinnitus-related activity.

As hearing-aid technology has improved, with more complex processing becoming possible, new tinnitus solutions have become available. This new processing may change how sound is amplified or it may enable the generation of new sounds. When a hearing aid can *play* sounds as well as amplify sound, it commonly is called a combination aid. Combination hearing aids traditionally could present simple sounds, such as a hissing noise. Current combination hearing aids can produce more complex sounds, such as ocean waves.

But are these new devices and sounds better than hearing aids

alone? Do they really help with tinnitus? In this review of selected publications from 2017, I hope to provide some answers.

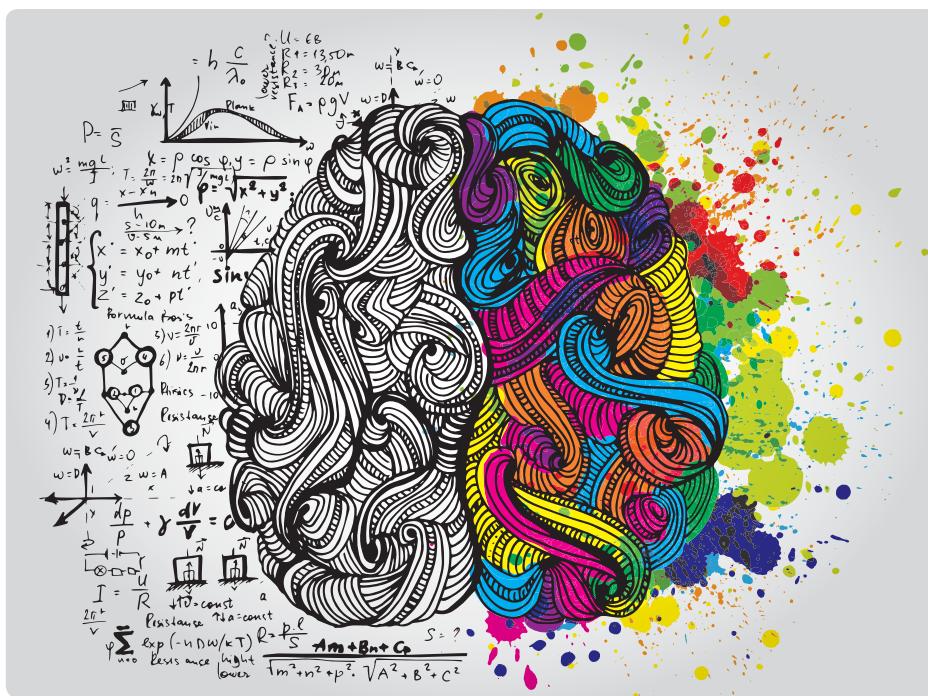
A study from China found that almost 90 percent of tinnitus patients with hearing loss benefitted from hearing aids¹. In a study from Sweden, hearing aids also appeared to help cognition (e.g. memory), as well as tinnitus². In this study, hearing aids reduced the impact of tinnitus and improved reading span in a study of 46 patients with tinnitus and hearing loss.

Not all new hearing-aid developments reduce tinnitus. Frequency lowering is a method designed to move high frequency (pitched) sounds from areas of very poor hearing to areas that have better hearing. It has been suggested that this type of strategy might be able to reorganize pitch maps in the brain that may be responsible for tinnitus. We did not find benefit with one type of frequency lowering strategy; in fact, normal hearing-aid processing was much superior in reducing tinnitus³.

A novel approach to hearing-aid amplification has been trialed in a small group of participants⁴. The approach notched filtered (removed) background sound at the tinnitus. Narrow notching of sound has been

suggested to suppress tinnitus through a process called lateral inhibition. The notched background sound had a slightly stronger effect than normal amplification. Another pitch-based method at early stages of development is Acoustic Coordinated Reset Therapy applied through a hearing aid⁵. This therapy is usually applied through headphones and uses tonal stimuli in an attempt to change the firing patterns of brain regions that are thought to cause tinnitus. In a case study with one person, the sounds used were sent to hearing aids through a wireless connection. It was found to be useful for this person. Both studies provide only preliminary information and need to be supported by further research. Pitch-based therapies are heavily reliant on the accuracy of pitch measurement, which can change with time. A different use of tones is to create a pattern of sound resembling chimes, which some people find relaxing. These computer-generated chimes are called fractal sounds. A pilot study showed that hearing aids and fractal sounds were both useful, but the study did not directly compare the two treatment parts⁶.

A comparison between normal hearing aids, deep-canal hearing aids worn for long periods, and combina-



tion hearing aids with noise sounds found all achieved similar results⁷. Another study⁸ found that Tinnitus Retraining Therapy (TRT), which uses counseling and combination aids, improved tinnitus; and standard care, with counseling and hearing aids, improved tinnitus. However, the combination of counseling with combination aids provided greater improvement.

The degree and pattern of hearing loss, as well as tinnitus pitch, are examples of individual characteristics that may be important to consider when selecting therapy to treat tinnitus. In a review of sound therapy over 10 years (2006-16), we found that few tinnitus therapies were truly customized for the individual with tinnitus⁹. While hearing loss might be accommodated and sounds might differ depending on tinnitus pitch, most studies did not consider the individual's needs and personality. Choosing sounds for therapy based on how they affect the individual are probably

very important for success. We anticipate that future work in this area will involve tailoring sound therapy based on individual characteristics, and this will improve outcomes.

Do hearing aids really help?

Evidence continues to accumulate that hearing aids are an effective tool in tinnitus management. Counseling should accompany their use to address any negative emotional or behavioral aspects of tinnitus.

But are these new devices and sounds better than hearing aids themselves?

The answer to this question is... possibly. Sound helps, but there is no strong evidence that adding sounds to hearing-aid amplification is superior to hearing aids alone. Results vary

from person to person, so careful selection and trial may make the difference in achieving a reduction of tinnitus. 

Grant D. Searchfield, PhD, is an Associate Professor in Audiology at the University of Auckland, New Zealand. He is the director of the University's Hearing and Tinnitus Clinic and deputy director of the Eisdell Moore Centre for hearing and balance research. He is a member of the Scientific Advisory Committee of the American Tinnitus Association (ATA) and received research funding from ATA in 2017.

Conflict of interest statement: Dr. Searchfield is the scientific director of Tinnitus Tunes, an online subscription-based tinnitus resource.

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Mindfulness: How We Live Each Moment Determines How We Live Our Lives

By Joy Onozuka

The concept of mindfulness has become a part of mainstream American culture and conversation, partly because so many of us can relate to being stressed and anxious. But mindfulness isn't a quick fix for suffering, according to Bev Klug, who founded the Mindfulness-Based Stress Reduction (MBSR) program at the University of Iowa's Hospitals and Clinics in 1996. In Klug's presentation at the 2017 International Conference on Management of the Tinnitus & Hyperacusis Patient, she stressed that mindfulness is about how we live our lives and more skillfully relate to the habitual reactive patterns that we all have.

With more than two decades practicing and teaching mindfulness meditation and yoga, Klug can attest to the power of mindfulness, if practiced regularly, to reduce stress and suffering. To illustrate her point, she talked about an eight-week MBSR course that she taught adjacent to a room undergoing major renovations. When jackhammers began pounding, her new students were upset,

because they thought a quiet environment was essential for meditation. "That's sound," Klug said. "That's all it [was]." By adding perception (i.e., "this is bad") that sparked emotion, the students felt annoyed and angry, creating suffering.

"Mindfulness isn't about having things a certain way. It's about being present with what's here, whether we like it or not," she said. After eight weeks of training and practice, the students, who had been exploring hearing the qualities and variations of the sounds with curiosity and acceptance, were able to laugh, recalling how they began the program angry because of the intrusive noise and ended up learning from it. Like many of us, said Klug, their notions of meditation had been inaccurate.

While the practice of meditation dates back 2,500 years, MBSR can be traced to Jon Kabat-Zinn, who received his PhD in molecular biology at the Massachusetts Institute of Technology. As a scientist, Kabat-Zinn researched the effects of meditation and yoga on people struggling with chronic pain, stress, and anxiety. "The kernel [of Buddhism] that he built

the program around is that all people experience pain. No one escapes that," Klug said. Kabat-Zinn secularized MBSR so that anyone would feel able to join.

How a person relates to pain can create more or less suffering, so how one responds is central. "We cling to how we think things *should* be," said Klug, stressing that mindfulness demands attention to the process, not just the outcome. Through MBSR, a person learns to shift mentally from reacting to an event to responding to it, *without judgment*, or at least with more awareness that judgments are automatically arising and should not be acted upon. "Can I be with this in a way that is helpful to me and to others?" Klug asked, emphasizing the thought process is grounded in how we choose to respond, not how we want something to be.

Discussing how MBSR can be used for habituation to tinnitus, she shared a story of a man with bothersome tinnitus who joined her program with that objective. Like the students who began the program angered by the noise in the adjacent room, the gentleman with tinnitus



was frustrated that, despite weeks of mindfulness practice, his tinnitus remained unchanged.

Accepting what's happening doesn't mean that a person pretends that they aren't bothered by it, or that they want something different. "What's here right now — most of the time — we don't control," Klug said, explaining that it's helpful for people to think about experiences like the weather. "We don't control the weather ... What we choose is how we relate to the weather." Likewise, people don't choose what happens in the body, like getting a headache, cancer, or tinnitus. However, people spend a lot of time, energy, and money trying to control things that cannot be controlled. "The question remains: How can I be here with it in a way that's helpful to me?" Klug said. And as a person learns to relate to something with less clinging or resistance, which can lead to suffering, it's often the case that those around them suffer less.

Midway through the mindfulness program, which consisted of daily meditation practice of 45 to 60 minutes between the weekly 2.5-hour

"How a person relates to pain can create more or less suffering..."

class sessions, the gentleman with tinnitus began to hear his tinnitus as just sound, without attaching judgment to it. He had an insight that the ringing in his ears was a signal for being alive. "He started to relate to it as a reminder of being alive and what he was grateful for," Klug said. "Tinnitus didn't go away, but he was building the skills to relate to it differently."

People join a mindfulness program with the intention of changing something, so there's a component of intention, Klug said, adding that each mindfulness practice also has an intention to train students to be aware of their bodies. "We mostly ignore what the body is telling us, unless we're hungry or hurt," she said. The intention, for example, could be to be

aware of breath, which seems easy and not necessarily helpful. "People start ... and feel their breath for a nanosecond before thinking about something else," she said. "The practice of bringing the mind's attention back to the breath, without being judgmental, builds a 'paying-attention muscle.' We begin to be able to stay focused more consistently on what we intend to attend to," Klug said.

In learning to retrieve the mind from wandering, a person can cultivate attitudes of acceptance and acknowledgement of what is happening in the moment as it unfolds, with a nonjudgmental mindset. It is a daily practice, not a situational endeavor, Klug said. Hence, the availability of mindfulness tools is usually less meaningful without consistent practice, guidance, and support. The upside of living in a culture that has embraced the concept of mindfulness means that mindfulness tools are available in every format, giving each of us access to changing the way we habitually react to life.

For more information on Klug's program, visit: www.uihc.org/mindfulness-programs 

Managing Visual Snow and Tinnitus: A New Kind of Normal

By Matthew Renze

On February 7, 2014, I went to sleep with a mild headache, but otherwise was in good health. When I woke up the next day, I experienced the first set of strange symptoms that would change my life forever.

It started with brain fog. I had difficulty thinking, reasoning, and concentrating. I also felt a tingling sensation, like pins and needles, all over my body.

The following day, I woke up to a constant ringing in both ears. In addition, I now had a strange static across my entire field of vision, similar to the static of a slightly out-of-tune analog television.

Over the next few days, I began to experience a series of other unusual visual, auditory, and tactile symptoms, including seeing afterimages and other visual artifacts, difficulty with loud noises, and fine tremors in my hands and feet.

All of these symptoms persisted, except for the brain fog, which fortunately went away after a week or so.

Searching for Answers

On the third day, I scheduled an appointment with my general practitioner. He ran the standard battery of tests, but everything came back normal. Out of options, and unsure of where to send me next, he referred me to the Mayo Clinic in Rochester, Minnesota.



"The article described visual snow as 'continuous tiny dots in the entire visual field, similar to the noise of an analog television.'"

I spent two weeks at the Mayo Clinic getting a wide variety of tests from some of the top specialists in the world. However, all my tests came back normal. Without an official diagnosis, they concluded that I was most likely experiencing something they referred to as a Central Sensitization Disorder (CSD).

They didn't know what caused it, and there was no known cure. So,

they suggested I learn how to manage my symptoms, wait it out, and see if things improved over time. They also provided a temporary prescription for anti-anxiety medication to help with managing the stress that I was under until I could learn how to manage the symptoms on my own.

I began researching CSD to help my recovery plan. While researching, I discovered a recently published ar-



Credit: Heather Wilde

Matthew Renze celebrates his finish of RAGBRAI 2017, an annual 450-mile bike ride across Iowa.

ticle on a rare neurological condition, referred to as visual snow. The article described visual snow as “continuous tiny dots in the entire visual field, similar to the noise of an analog television.”¹

The article went on to describe Visual Snow Syndrome as a collection of symptoms, including palinopsia (seeing afterimages), entopic phenomena (excessive floaters, blue-field entoptic phenomena, and spontaneous photopsia), photophobia (sensitivity to bright light), and nyctalopia (impaired night vision).

In addition, one of the most interesting findings reported in this article, and in subsequent studies^{2,3}, was that approximately 63 percent of visual

snow patients also reported continuous bilateral non-pulsatile tinnitus.

The description of the symptoms almost perfectly described what I had been experiencing over the past several months. I finally had an explanation for my cluster of unusual symptoms. In addition, I now understood why my doctors had never heard of the condition.

Learning to Manage Symptoms

As you can imagine, this combination of symptoms would be quite difficult to manage. Dealing with bothersome tinnitus on its own is difficult enough. However, just imagine having this same annoying noise in *both* your vision and sense of touch all day long. You essentially have a recipe for disaster on your hands.

My struggle to cope with the sensory noise led to considerable stress, anxiety, sleep issues, difficulties concentrating at work, and eventually depression. However, the Mayo Clinic provided me with the tools that I needed to learn to manage these symptoms.

First, I was able to identify factors that made my symptoms worse. My symptoms always are present to some degree every day. However, certain things make them noticeably worse, including stress, lack of sleep, having a cold or the flu, and excessive computer use. So, I tried to minimize

these factors as much as reasonably possible to keep my symptoms in check.

Next, I started eating a much healthier diet. I noticed that foods with a lot of salt or sugar seemed to make my symptoms temporarily worse. So, I eliminated these foods from my diet. In addition, I ate more of the foods known to improve overall health. I did this to give my body and brain the nutrition they needed to repair and stay healthy.

I began exercising more. This helped tremendously with managing stress, anxiety, and depression. I

“I was able to identify factors that made my symptoms worse.”

also began practicing yoga to learn to manage my response to stress. Yoga teaches you how to calm your body and mind when confronted with stressful stimuli.

What helped me the most with managing my symptoms, however, was meditation. Like yoga, meditation teaches you how to calm your sympathetic nervous system in the face of painful or pleasurable thoughts, emotions, and physical sensations.

This is done through focused awareness of breath and monitoring of thoughts, emotions, and bodily sensations. Over time, you learn to minimize your emotional response to these sensations. In addition, it helps

“What helped me the most with managing my symptoms, however, was meditation.”

with concentration, maintaining non-judgment, and minimizing cravings and aversions.

However, learning these valuable skills took the right instruction and a lot of practice. To learn how to meditate properly, I took a 10-day course on Vipassana meditation.⁴ This helped enormously to get me on the right path with my daily practice.

In addition, I watched a 12-hour video lecture series on The Science of Mindfulness.⁵ The lectures are taught by Ron Siegel, professor of Psychology at Harvard University. This helped me to understand scientifically how meditation was changing my response to stress.

I also record biofeedback and neurofeedback data from each of my daily meditation sessions. This has allowed me to track the progress of my meditation practice over time. As a result, I can objectively see how meditation has created a significant difference in my ability to respond to stressful stimuli.

For me, a healthy diet, exercise, and mindfulness practices have allowed me to turn bothersome symptoms into manageable symptoms. As a result, I have been able to manage my symptoms without medications for several years now. So, while I may have to deal with my symptoms

every day, I am very happy to report that I am no longer *suffering* from my symptoms.

The path from where I started to where I am today was *not* an easy path to walk. We imagine our recovery will be like a gradual staircase, leading from where we currently are to where we need to be. It seems deceptively simple — just keep climbing step-by-step each day until you're at the top again.

However, the reality is that the path to recovery is a very jagged mountain range with more ups and downs than we could ever imagine. Over time, though, you begin to realize that you are having progressively more good days than bad days. Finally, you look back to see where you once were and realize how far you've actually climbed in the process.

A New Kind of Normal

Today, my life has returned to a new kind normal. I still have all of my symptoms; however, they are now much more manageable. In addition, my symptoms no longer cause me stress or anxiety like they did in the past. Essentially, I've learned to coex-



Matthew Renze at Yoga in the Park, Ankeny, IA.

ist with them as just another part of my day-to-day life.

While it may seem counterintuitive, in some ways, this very difficult experience has been one of the best things to ever happen to me, because I've applied the lessons it taught me to my daily life.

First, the experience taught me to appreciate what is truly essential in life and to make the most of it. As a result, I've taken several personal and professional risks, that prior to this experience, I would have been too afraid to take. This has led to a new relationship, rapid career growth, spending more time doing what I love, and getting to travel the world.

Second, I now have significantly more empathy for those who are suffering in their own lives. Prior to this experience, it was hard for me to relate to people who were going through difficult situations with their physical and mental health. However, I now am better able to empathize and help others who are currently struggling, like I once was.

Third, this experience taught me how to leverage mindfulness practices, like meditation, to better cope

"For me, a healthy diet, exercise, and mindfulness practices have allowed me to turn bothersome symptoms into manageable symptoms."

with the stress of day-to-day life. This has had an enormous impact on my ability to deal with difficult situations, meet tight deadlines, and speak to large audiences.

However, the most important lesson I learned is easy to say out loud, but much more difficult to understand. I now know it is possible to be in mental, physical, or emotional pain, but to not be suffering from that pain. This is because suffering is how we respond to pain. 



Matthew Renze is a data science consultant, author, and international public speaker. To raise awareness of Visual Snow Syndrome, he's presented on the topic at medical conferences, written articles in peer-reviewed journals, and created online videos providing information to help others with the condition. For more information, visit his website at: <http://www.matthewrenze.com>

To view Matthew's presentation on his story and the relationship between tinnitus and visual snow, see: <https://youtu.be/jUnMBd0zySo>

*Matthew will be presenting on this topic at the first-ever Visual Snow Conference in San Francisco on May 5, 2018:
<https://visualsnowconference.com>*

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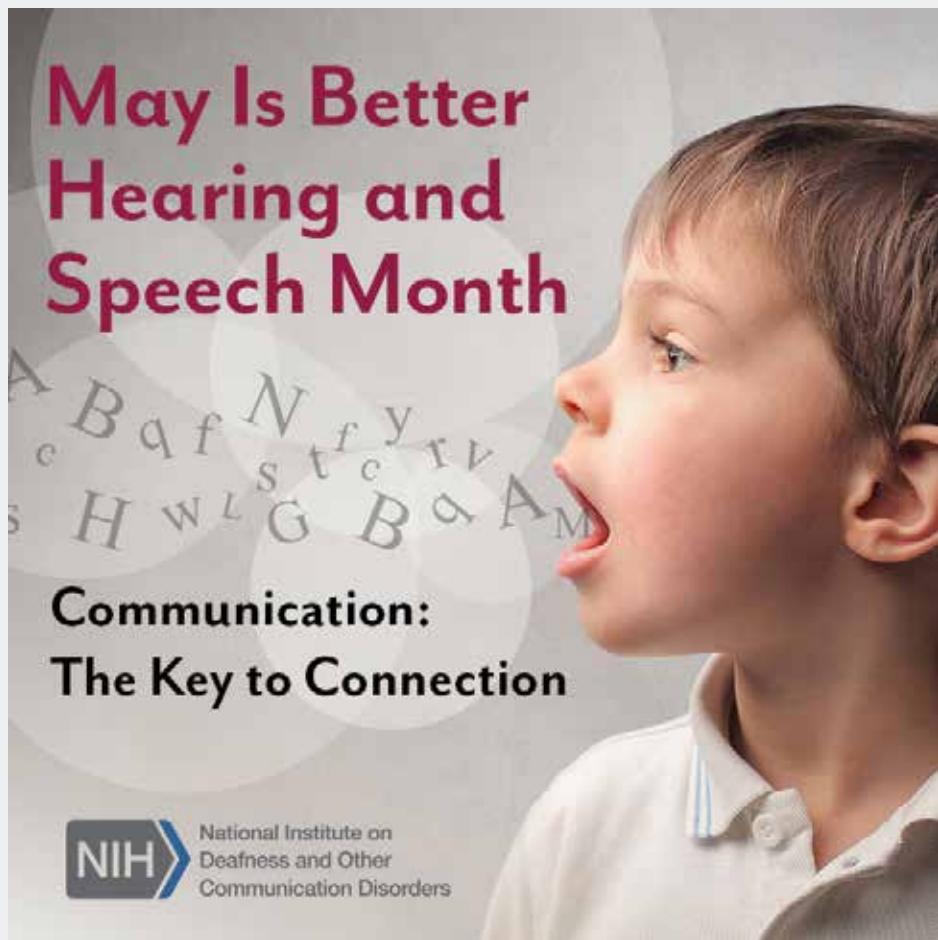
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"First, the experience taught me to appreciate what is truly essential in life and to make the most of it. As a result, I've taken several personal and professional risks, that prior to this experience, I would have been too afraid to take. This has led to a new relationship, rapid career growth, spending more time doing what I love, and getting to travel the world."

May Is Better Hearing and Speech Month



Communication: The Key to Connection

NIH National Institute on Deafness and Other Communication Disorders

Information provided by the National Institute on Deafness and Other Communication Disorders (NIDCD), part of the National Institutes of Health.

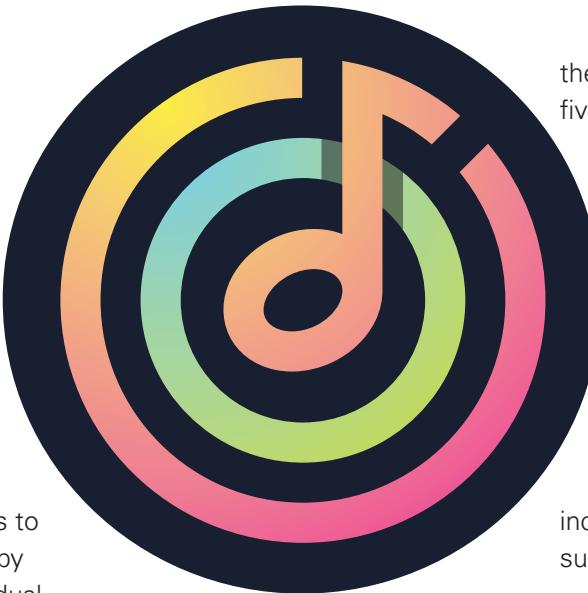
Sound-Therapy Research Points to Personalization, Rather than Clear Guidelines

Summary by John A. Coverstone, AuD

Many people with tinnitus are treated with sound therapy, which involves using some type of sound to mitigate the loudness of tinnitus or even to reduce the severity of tinnitus when sound therapy is not present. However, the term “sound therapy” may include numerous different types of therapies and even more varied approaches for each type. There are few published guidelines to inform clinicians as to which therapy is most appropriate for each individual and how it is best used for varying degrees and types of tinnitus.

A team of researchers from the University of Auckland in New Zealand performed a literature review to determine whether more personalized approaches to tinnitus therapy could be developed. The primary question they sought to answer was, “How do current sound-based therapies for tinnitus adjust for tinnitus heterogeneity?” or, in laymen’s terms, “How are different therapies used for different types and presentations of tinnitus?”

The researchers considered studies published within a 10-year span (2006-2016), to establish a current catalogue of research to review. They used the following key words



to perform their search: “tinnitus” AND “sound” AND “therapy” AND “guidelines” OR “personalized” OR “customized” OR “individual” OR “questionnaire” OR “selection.” The search was stopped once two full pages were read without any relevant articles. The search resulted in 199 articles that were determined to meet the search criteria. After reading abstracts to ensure relevant content and reviewing citations in those articles to find other relevant studies, 165 articles were read completely. Of those, 83 were found to contain specific information about personalization methods. These articles were selected for study.

After cataloging information from the 83 articles, the authors identified five themes:

- 1) Hearing compensation, which is a treatment based on amplifying sounds, and was administered either to compensate for hearing loss, or, when tinnitus management was the primary goal, to raise the audibility for environmental sounds and reduce the perception of tinnitus;
- 2) Pitch-based therapies, which included a variety of methodologies, such as:
 - a. altering the synchronized firing of auditory nerves near the tinnitus pitch,
 - b. changing the phase of sound at the tinnitus pitch,
 - c. passing sound except around the tinnitus pitch (notch therapy),
 - d. using pitch-matched sound embedded in nature sounds;
- 3) Maskability, which involves the use of sound to reduce or eliminate the perception of tinnitus;
- 4) Reaction to sound, which is sound therapy targeted toward changing the individual’s response or sensitivity to sounds; and
- 5) Psychosocial factors in sound therapy, which the authors defined as “social moderators and individual thoughts and behaviors that determine the treatment approach.”



It should be noted that many studies included or addressed multiple therapeutic strategies, therefore, these themes are not exclusionary.

The authors found that the majority of studies described "customized therapy" as being the selection of the treatment sound based on audiological threshold or pitch of tinnitus. Some treatment approaches used tinnitus severity, sound sensitivity, or hearing acuity to categorize patients with tinnitus who were seeking treatment. Others used a stepped approach, in which less resource-intensive methods were employed first, and individualized therapies were employed when the more general approaches failed.

The literature found no comprehensive guidelines for selection of sound-therapy treatment, although the authors believe that many sound therapies might be effective when selected for the correct patient at

the correct time and in an appropriate context. They also advocated for clinicians to consider counseling and psychological therapy when appropriate for a patient. Based on their review, the authors recommended clinicians first perform a comprehensive assessment when treating a patient for tinnitus. Their recommendation includes a hearing exam and tinnitus matching to define the condition. It also includes a questionnaire to assess how tinnitus affects quality of life so that the clinician may determine impact of tinnitus and establish a baseline for future assessments.

They also recommend, when indicated by clinical history, that assessment include an evaluation for anxiety and depression to help with decision-making about appropriate treatments and an evaluation of cognition, which may affect amplification strategies. Their final recommendation is

an assessment of personality to help identify those patients who may be at risk of distress from tinnitus.

While the authors' literature review ultimately found that there are no clear guidelines for the use of sound therapy, they found there is potential for guidelines to be created with additional research in this area. They believe that part of the problem is the broad range of individual treatments that are described as "sound therapy." They also hoped to see further research into combined therapies and studies seeking to refine current approaches to make them more effective. Research into any of these areas may give clinicians better tools to treat patients earlier and achieve better outcomes more quickly. 

Searchfield, G., Durai, M., & Linford, T. (2017). A state-of-the-art review: personalization of tinnitus sound therapy. *Frontiers in Psychology*. September 20, 2017. <https://www.frontiersin.org/articles/10.3389/fpsyg.2017.01599/full>

ATA NEWS



Management of the Tinnitus & Hyperacusis Patient Conference

The 26th Annual International

Conference, *Management of the Tinnitus & Hyperacusis Patient*, will be held June 14-15, 2018, at the University of Iowa.

The conference is intended for otologists, audiologists, hearing-aid specialists, and other healthcare professionals providing clinical services for tinnitus patients. Topics will include an overview of current

evaluation practices, management strategies, and research. Presentations include the latest developments and understanding in the areas of patient-centered counseling, tinnitus treatments, and neuroscience.

Since its inception, the conference has been designed to increase knowledge and skills of clinicians. People with tinnitus are welcome to attend, with the understanding

that no individual diagnosis/treatment will be offered. The American Tinnitus Association is a Diamond Sponsor of the event.

For further information, the University of Iowa's website: <https://medicine.uiowa.edu/oto/education/conferences-and-events/international-conference-management-tinnitus-and-hyperacusis> 



Free Sound and Sleep Apps

With countless apps and little direction, it can be hard to figure out which sound and sleep apps might help with tinnitus and/or getting a good night's sleep. Below, you'll find the top picks of apps compiled by an audiologist with tinnitus. The list of free sound and sleep apps reflects her personal favorites, as well as apps suggested by her patients. The apps are available through Apple's App Store and under Google Play's App section. If you have a favorite app not listed, please let us know about it by emailing: editor@ata.org

Noise Monitoring



NIOSH Sound Level Meter

Sound Therapy



myNoise



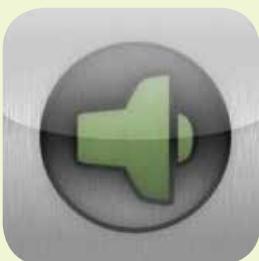
Oticon Tinnitus Sound



Relax Melodies



ReSound Relief



Simply Noise



Starkey Relax



Whist —Tinnitus Relief



White Noise Lite

Sleep & Relaxation



Relax and Sleep



Sleep Bug



Calm



Tao Mix

Better Sleep Through Cognitive Behavioral Therapy for Insomnia (CBTi)

By Joy Onozuka

Sleep fortifies our ability to think

clearly, learn, remember, stay healthy — both physically and mentally — and enjoy the day. So, it's no wonder that the mere thought of a sleepless night makes many people stressed. If you add bothersome tinnitus to the equation, the incidence of disrupted sleep goes up, as the ringing, buzzing, whooshing, or whatever other sound one might experience, invades the quiet of the night.

In *Why Sleep Matters*, Maggie Moore, director of the University of Iowa's Employee Assistance Program, explained that, in recognizing that lack of sleep is an unmet health problem, the university opted to implement an online Cognitive Behavioral Therapy for insomnia (CBTi) sleep program, called SHUTi (Sleep Healthy Using the Internet), to help employees and their families retrain their minds and bodies to sleep better. Three years into its use, she's convinced CBTi works and offers a long-term drug-free solution to sleeping issues.

Sleep problems can be traced to such things as genetics, which make you a light or heavy sleeper, and precipitating factors, like stress or illness. The problem, according to Moore, is our fear of a sleepless night perpetuates sleeplessness. "The things



that we actually do to promote sleep sometimes get in the way of sleep. So, it's our attitudes, our beliefs about a night's sleep ... catastrophizing what the next day's going to be like if we don't sleep well," said Moore, to the attendees of the *International Conference on Management of the Tinnitus & Hyperacusis Patient*, which was held at the University of Iowa in 2017.

There are many medications on the market to induce sleep; but, the preferred method for treating sleep problems is from a cognitive and behavioral perspective, because it's been shown to be effective, particularly in the long term. CBTi helps

people come to grips with their "hyperarousal about not sleeping well," said Moore. The online program, which was developed at the University of Virginia with funding from the National Institutes of Health, lasts six to eight weeks and consists of six modules. Since CBTi therapists aren't common, it's a good option, especially for people who prefer the flexibility and convenience of doing the program from home or with family members. Within a clinical setting, CBTi is typically a 12-week program.

For CBTi to be effective, participants have to agree and comply to a set of reasonable expectations, recognizing

that their sleep often will get worse before it gets better, said Moore. Essential components include debunking dysfunctional beliefs, decatastrophizing, cognitive restructuring related to worry and rumination, attention bias, and safety behaviors, which refer to unhelpful rituals people create to sleep.

CBTi begins with determining how much sleep one actually needs, as opposed to how much one *thinks* is necessary. To guide that process, participants keep a sleep diary, noting when they go to sleep, how often they wake up and so on. Once a sleep window is determined, the goal is to be in bed only when sleeping. No more eating, reading, working, watching TV, or worrying in bed.

While most people understand the concept of sleep hygiene, Moore noted that the bedroom tends to be the

The problem, according to Moore, is our fear of a sleepless night perpetuates sleeplessness.

last room people take care of, which means they're often sleeping on decades-old mattresses and old sheets. Investing in and creating an environment conducive to sleep is essential.

Moore also recommended establishing and maintaining a soothing pre-sleep routine, which might entail

an hour of doing such things as writing down concerns so that the thoughts are put to rest; mindfulness practices of deep breathing and relaxation; limiting exposure to blue light emitted from computers and phones. She also recommends, of course, the avoidance of stimulants, from scary movies, caffeine, alcohol, and eating shortly before bed to help facilitate a better night's rest.

To learn more about the science of sleep, watch videos found at: <http://healthysleep.med.harvard.edu/>

For information on SHUTi, visit: <http://www.myshuti.com/>

For an example of a sleep diary, see: https://hr.uiowa.edu/sites/hr.uiowa.edu/files/sleep_diary.pdf

For a Better Sleep Check List, go to: https://hr.uiowa.edu/sites/hr.uiowa.edu/files/sleep_checklist.pdf

T-shirts That Spark Tinnitus Awareness and Conversation

Tinnitus Tees unveiled its line of t-shirts during *Tinnitus Week 2018* to help spread awareness of the condition and support the American Tinnitus Association (ATA) in its research efforts. Jake Alford, who has tinnitus and hearing loss, founded the company because he felt t-shirts were an easy and powerful tool for bringing attention to this widespread condition. "I was shocked that I had never seen a shirt depicting the conditions I faced. I figured it would be an awesome way to raise awareness and provide funds for researching cures," Alford said, adding that all proceeds are donated to the ATA.

The t-shirts are made from high-quality cotton and come in a range of colors, with various messages about tinnitus, for men and women. The shirts are \$20 each, plus \$4.95 for mailing. Everyone involved in the design, printing, and shipping is donating their time because tinnitus touched their lives in some way. "My goal is getting a tinnitus shirt in the hands of everyone who suffers from this condition and their family members ... The only way to really make a difference is to educate the public, so they know about tinnitus, the options to treat tinnitus, and how to protect themselves [from getting it]," Alford said.

To order a *Tinnitus Tee*, visit: <https://tinnitustees.com>



ATA Tinnitus Advocacy in 2018

Charting a New Pathway to Advance Tinnitus Research, Prevention, and Treatment

By Deborah Outlaw

The American Tinnitus Association

(ATA) first began a concerted effort in 2007 to raise tinnitus awareness among policymakers in Washington, D.C. What we found in those early years of advocacy outreach was staggering. Despite being the number one service-connected disability for Veterans, with hearing loss being second, federal research dollars devoted to tinnitus was low. Most tinnitus research was conducted by the National Institutes of Health (NIH), which continues to this day to provide much of the basic science research; but, budget pressures and growing competition among health groups for a shrinking pool of federal dollars often meant that tinnitus was given less attention than the tinnitus community believed was merited. Further compounding the problem was a large knowledge gap on Capitol Hill about tinnitus, its causes, effects, and its toll on society, both in terms of financial impact and human suffering.

In 2007, ATA set out to change the "tinnitus trajectory" and, by any measure, our efforts were met with resounding success. Between 2007 and 2013, we launched a comprehensive education and outreach program targeted not just at the NIH, but also the VA and the Depart-

ment of Defense (DoD), meeting with countless legislators and agency officials to convince them to ramp up their

efforts toward research on and funding for tinnitus. We obtained congressional report language urging NIH to increase its research efforts. Through congressional action, we were able to have tinnitus added as a researchable condition in a special program run by the DoD.

ATA actions included:

- helped establish a new DoD Center of Excellence devoted to tinnitus and hearing loss conditions,
- participated in a congressional staff briefing on tinnitus to raise awareness and garner more support,
- spearheaded a multi-agency workshop devoted to tinnitus, and
- were instrumental in causing a congressional hearing on tinnitus.

These and other efforts contributed to a dramatic increase in tinnitus research funding, from the original \$1 million to almost \$19 million between 2007 and 2013.

While ATA members can and should be proud of these accomplishments to date, we recognize that the battle is far from over. While the number of tinnitus grants funded through



AMERICAN TINNITUS ASSOCIATION

NIH has remained fairly constant, we know that the overall amounts funded per grant have decreased over the last few years. And, with the constant turnover of Members of Congress, we must continually re-engage to educate new members about tinnitus, if we are to be successful. Put simply, there are just too many competing issues within healthcare for tinnitus to stay on the front burner with Congress and other influencers without continued work to keep focus on it.

For these reasons, ATA decided to revitalize its advocacy outreach. To accomplish this, we have reached out to colleagues and allies in the hearing, defense, and veterans communities to work collaboratively where possible on issues of mutual interest. We also have contacted senior researchers at NIH, as well as staff in other agencies with tinnitus oversight, to reestablish our previous working relationships.

As of press time, many large-scale 2018 healthcare issues have yet to be fleshed out by Congress. Given recent experiences, however, we believe 2018 will present both challenges and opportunities for those

committed to advancing tinnitus research. There will continue to be financial pressures put on NIH that could impact the flow of tinnitus research dollars, and we must ensure that tinnitus is given the attention it clearly deserves. The VA has appeared interested in exploring privatization of certain health services for veterans. The ATA is working to ensure that the 2.7 million veterans who are awarded service-connected disability for tinnitus/hearing loss have access to the full continuum of care, from prevention to diagnostics

to treatment and follow-up. And, over the next few years, the Food and Drug Administration (FDA) will be charged with implementing a 2017 law providing for the availability of certain Over-the-Counter (OTC) hearing aids. We must ensure that implementation is done responsibly to keep tinnitus patients from being inadvertently harmed through a law designed to make some hearing aids more affordable and accessible.

ATA's advocacy efforts have helped propel tinnitus research forward in several important areas. We look forward

to continuing to advance the tinnitus cause and keep moving toward better methods to prevent, treat, and ultimately find cures for tinnitus. 

Deborah Outlaw, ATA's Health Policy Advisor, has spent more than 35 years in health and public policy arenas, serving in two presidential administrations and on Capitol Hill for a U.S. Senator. Since 2001, she has served as a healthcare consultant, providing federal legislative and regulatory services to numerous organizations with healthcare interests, including physician specialty groups, allied health providers, medical device manufacturers, safety net facility prescription drug providers, hospitals, and trade associations.

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Spotlight on Tinnitus Healthcare Providers

GOLD LEVEL

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"This \$500 donation is in honor of the physicians who care for our patients and for patients with whom we facilitate the journey of reclaiming their lives."

— Gail Brenner, AuD, Philadelphia, PA

The American Tinnitus Association thrives through individual donations from people across the United States who support our commitment to the tinnitus community and scientific endeavors to develop effective treatments and cures for tinnitus. We wouldn't be here without your financial support!

SILVER LEVEL

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When making an appointment, please say you learned about patient providers through the ATA website or *Tinnitus Today* magazine. With such information, providers understand the value of being a part of the ATA network of patient support.

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Brain Training Helps Understanding Speech in Loud Places

According to a double-blind placebo-controlled study conducted by Massachusetts Eye and Ear researchers, playing a specially designed brain-training audio game can increase understanding of speech in noisy places among those with hearing loss. The 24 participants, with an average age of 70, had mild to severe hearing loss and had worn hearing aids an average of 7 years. With audio game training, their speech recognition improved by 25 percent.

For more information, see *Current Biology's* Audiomotor Perceptual Training Enhances Speech Intelligibility in Background Noise, by Whitton, Jonathan P. et al., Vol. 27, Issue 21, 3237-3247.e6

One Square Inch of Silence: Savoring Natural Sound and Guarding Against Hearing Loss and Tinnitus

By Marion and Rich Patterson and
Jennifer Reekers, AuD

Nestled in the understory of Olympic National Park's towering trees is a magical place that author and acoustic ecologist, Gordon Hempton, declared has "one square inch of silence." To reach it, one must drive up the Hoh River Valley, then hike three miles through the moss-draped forest. There, in the primordial woods of Washington state, is a place as free of human-generated noise as can be found today in America. It's not soundless. Water drips, insects chirp, and frogs call. Occasionally, an airplane buzzes overhead. But normally, the gentle sounds of nature provide visitors rare moments free from man-made noise.

Experiencing one square inch of silence is like a journey back in time before cars, mowers, airplanes, vacuum cleaners, and loud music became part of the background noise of our daily existence. Prior to the Industrial Revolution, people lived in a hushed world. They routinely heard domestic and wild animals, muscle-powered tools, live music, and conversation. The loudest sounds might have been thunder, crowing roosters, or a baby's



Hoh Rainforest, Olympic National Park, WA, where the sound of man is seldom heard.

cry. The home soundscape — lacking televisions, blaring radios, music, chiming phones, and screeching smoke alarms — was a place of soft sound.

Hempton, recognizing that modern America had few places untouched by manmade noise, set out on a journey to find and record places that are truly quiet. This journey became the basis for his book *One Square Inch of Silence*, published in 2009 by Simon and Schuster.

One quiet square inch may seem an absurd notion; but, for a tiny spot

to be silent, the surrounding terrain also must be quiet. He found several places, some of which have since been invaded by modern noise, but declared the spot up the Hoh Valley to be the best place to enjoy natural quiet.

Few people today experience the quiet that once was normal. Moreover, we are constantly exposed to noise that has the potential to damage hearing and cause tinnitus.

According to Jennifer Reekers, AuD, and coauthor of this article, hearing loss and tinnitus are com-

Credit: Marion Patterson

mon today and happen in a variety of ways. Exposure to noise over 85 decibels (dB) can cause cumulative damage. Noise-induced hearing loss and tinnitus can be sudden and instantaneous if one is exposed to high-level impulsive noise, such as a gunshot. It also can happen gradually from prolonged exposure to such things as lawn mowers, power tools, and loud music. Audiologists usually can help people with hearing loss improve their ability to hear, but preventing damage is, of course, preferable.

Unfortunately, many people are unable to avoid exposure to loud noise. Anyone who has heard a New York City subway train roar by in an underground platform understands this. However, most of us are bombarded by noise at lower, but still dangerous, levels at home, work, and while out and about.

Awareness of the importance of protecting hearing is the first step.

Reduce Exposure to Loud Noise

Among the loudest sounds a person can experience are the muzzle blasts of a rifle, handgun, or shotgun. Older hunters and target shooters frequently have hearing loss, tinnitus, or both. Unsurprisingly, the number one service-connected disability is tinnitus, which is usually linked to military-related noise exposure.

"There's wide recognition that firearm noise causes hearing problems, so nearly all of today's shooting ranges require target shooters to wear hearing protection," said Ernie Traugh, who owns a firearms store in Marion, Iowa. "I encourage customers to buy

Hempton, recognizing that modern America had few places untouched by manmade noise, set out on a journey to find and record places that are truly quiet.

and use hearing protection devices, and I sell several types."

However, hunters rarely use hearing protection, because they want to listen for the sound of whatever it is that they're hunting. An easy solution is to wear electronic ear muffs, which reduce gunshot sound intensity while permitting conversation. Audiologists can fit hunters with custom in-ear sound protection devices that may be more comfortable than over-the-counter ones and are appropriate for hunting. Other ways to reduce gunshot noise are by using low-power ammunition or mounting noise suppressors on firearms.

Enjoy Music at Safe Volumes

It's hard to imagine life without music, but until Thomas Edison invented the phonograph in 1877, music was only experienced at live performances.

Today, technology has given us music on-demand and at any volume. Earbuds can channel dangerous levels of sound directly into the ears, and concerts are so loud that sitting through them often causes ringing in the ears, a symptom of hearing damage.

Professional musicians are routinely exposed to loud sound, which is why those conscious of hearing loss wear

musicians earplugs or see an audiologist to be fitted with custom molded ones. Such earplugs allow them to hear surrounding sound and their own instrument at safer noise levels. While sound levels vary by instrument, repertoire, and position, most musicians would benefit from wearing customized hearing protection.

Unfortunately, loud music is enjoyed daily by many, especially teenagers who are likely unaware — or unconcerned — that attending live concerts or listening to music at high volume can cause hearing loss. A 2016 study¹ in *Scientific Reports* found that nearly 30 percent of teens has experienced tinnitus. The World Health Organization warns that 1.1 billion young people are at risk of hearing loss due to use of portable music players and the noise level of concerts, where the decibel level can reach 120 dB.

The simple solution is to enjoy music at safe volumes, limit exposure to higher volumes, keep distance from the sound source, and wear earplugs at concerts. However, anyone who has raised a teen knows that telling them what they *should* do can be futile. Hence, it's important to model behavior that demonstrates the importance of hearing health. Visiting an audiologist together to learn more

about hearing and hearing protection is a good step. Another option is to have each family member fitted for customized earplugs so each can have more control over unexpected exposure to loud noise.

Be Aware Around the House and Workplace

The modern home is a noisy environment. Even people who protect their ears from loud noise at work, often neglect precautions at home. Power tools, televisions, stereos, children's toys, hair dryers, and vacuum cleaners create what can feel like an environment of constant noise.

Screeching leaf blowers, mowers, and roaring chainsaws are among the loudest tools homeowners use. Fortunately, simple inexpensive ear muffs are effective for ear protection from these and other sources. To make sure they're not forgotten, store them alongside outdoor tools.

Luckily, many yard tools are becoming quieter. Ian Hunt, a territory manager for the Stihl Company, which makes chainsaws and other outdoor power tools, said, "In recent years, our company has introduced battery powered tools that produce no exhaust and sometimes generate less sound than gas-powered counterparts." He stressed that users should read instruction manuals and wear appropriate personal protection equipment (PPE), which often means wearing muffs or earplugs.

Children's toys also often are noisy, and this can place young children at risk of hearing damage. Opt for quieter toys when you can. If a child insists on a loud toy, look for options with

volume control or place tape over the speaker to reduce sound levels.

Measure Recreational Noise

Recreation and travel can be noisy, as anyone who has used a modern hand-dryer in a public restroom can attest. Spectators' ears are bombarded by massive noise at ballgames and concerts. Even a night on the town can be hazardous to future hearing. Jovanni Tapia, a young IT specialist, loves attending concerts and dropping by his favorite bar. After installing a decibel-reading app on his phone, he measured the sound of the tavern's food blender, which registered at an average 94.4 dB — loud enough to cause hearing damage. Again, carrying earplugs enables you to protect your hearing when you arrive at a place that is louder than anticipated.

Savor Quiet Mornings on the Weekend

It's a long trek to that one square inch of silence on the Olympic Peninsula, but anyone can create a quiet sanctuary at home by removing humming electronics and other noise makers from one area. That soothing space then becomes a place to rest and enjoy moments of true quiet.

Nearby natural areas also offer a refuge from noise. Much has been written about the mental and physical health benefits, including quiet, that are offered by nature, and millions of Americans live close to public woodlands, prairies, and marshes that allow them to absorb natural sounds with minimal human noise. Some



Philadelphia Eagles' Nick Foles celebrates with his daughter after winning Super Bowl LII.

places even point visitors to quiet spots. For example, the Indian Creek Nature Center in Cedar Rapids, Iowa, identifies the quietest places on its 300 acres and encourages people to walk them to enjoy the subtle sounds of nature.

While society operates at a frantic pace most days of the week, many places pause on weekend mornings. Car traffic is low, fewer trains roar by, airplanes fly over less frequently. Such windows of calm move neighborhoods the closest they will come to a square inch of silence. Take a moment to enjoy those times to listen to modern society on pause. 

Marion Patterson is a physical education instructor at Kirkwood Community College. Rich Patterson is a professional naturalist. They founded Winding Pathways LLC in 2014, which can be found at: www.windingpathways.com

Jennifer Reekers, AuD, is a licensed audiologist and co-owner of Heartland Hearing Center in Cedar Rapids, Iowa. Website: www.heartlandhearingiowa.com

¹ Ganz-Sanchez T, Moras F, Casseb J, Cota J, Freire K, Roberts L. Tinnitus is associated with reduced sound level tolerance in adolescents with normal audiograms and optoacoustic emissions. *Scientific Reports*. 2016 doi:10.1038/srep27109

#TinnitusWeek 2018

Let's Talk About Your Tinnitus

Throughout Tinnitus Week 2018, which ran February 5 to 11, the American Tinnitus Association partnered with The British Tinnitus Association, Tinnitus Hub, Tinnitus Research Initiative, Action on Hearing Loss, Better Hearing Australia, HEARsmart and Deutsche Tinnitus-Liga, to make this an international endeavor.

Each day, a question was posted on social media to learn more about how people manage tinnitus.

- Monday: What techniques do you use to manage your tinnitus?
- Tuesday: How do you manage your sleep with tinnitus?
- Wednesday: How do your significant others help you manage your tinnitus?
- Thursday: Do you use apps to manage your tinnitus? If so, which ones and why?
- Friday: What makes your tinnitus worse?
- Saturday: What do you find helps take your mind off tinnitus?
- Sunday: What advice would you give to someone else who has tinnitus?

If you were unable to participate in that conversation, we'd like to invite you to send us your answers via email to editor@ata.org, or by mail to ATA, 8300 Boone Blvd., Suite 500, Vienna, VA 22182

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This program is approved for 16 hours of continuing education credit approved by the International Hearing Society and is approved by the American Academy of Audiology to offer Academy CEUs for this activity. The program is worth a maximum of 1.6 CEUs. Academy approval of this continuing education activity is based on course content only and does not imply endorsement of course content, specific products, or clinical procedure, or adherence of the event to the Academy's Code of Ethics. Any views that are presented are those of the presenter/CE Provider and not necessarily of the American Academy of Audiology.

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Using Art Therapy to Engage the Mind, Body, and Spirit to Cope with Tinnitus

Perhaps because the world of

music and art is occupied by people with extraordinary talent and training, the world of Art Therapy seems like a place where you need a portfolio to get an appointment. That misperception means that many people who might benefit from it may not understand its purpose, application, and power to address such issues as anxiety, depression, and addiction. To learn more about Art Therapy and how it can be applied to coping with tinnitus, the American Tinnitus Association (ATA) interviewed Cara Fisher Wellvang, an Art Therapist and Licensed Professional Counselor at the Institute for Therapy through the Arts (ITA) and Linden Oaks Hospital in Chicago.

Joy Onozuka (JO): *What exactly is Art Therapy?*

Cara Fisher Wellvang (CFW): Drawing on the American Art Therapy Association (AATA) definition, Art Therapy is a mental health and human services profession that integrates art making, creative processes, and applied psychological theory within the psychotherapeutic relationship.

Art therapists use interventions to support the personal and relational goals of clients informed by knowl-



edge of artistic traditions, visual media, and advanced training in clinical psychology. Some applications of art therapy include improving cognitive and sensorimotor functions, fostering self-esteem and self-awareness, cultivating emotional resilience, promoting insight, enhancing social skills, and reducing and resolving conflicts and distress.

JO: *How do you measure progress? Is progress self-sustaining, or do people typically engage in Art Therapy for long periods to maintain their sense of well-being?*

CFW: As with all forms of therapy, there are many ways of implementing and measuring progress in Art Therapy. Some clients are seeking long-term therapy and continue to work with their art therapist for months or years; others may choose to attend a limited number of sessions. The treatment setting, insurance coverage, and goals of the individual client can affect the decision as well. Many art therapists are dually licensed as counselors, so — depending on the client's needs and the licensure of the therapist — they may act as the client's primary therapist, co-treat him or her alongside another primary

therapist, and/or be integrated into the client's treatment team.

JO: *Does insurance cover Art Therapy?*

CFW: This is a somewhat tricky question — the simple answer is yes, sometimes. It depends on state laws and the individual art therapist's licensure. Art Therapy has its own licensure board (Art Therapy Credentials Board), and, as I mentioned, many also are licensed as counselors (National Board for Certified Counselors).

JO: *What do you say to the person who feels anxious and stressed about participating, because he/she lacks artistic talent?*

CFW: Everyone has the capacity for creativity and the ability to engage in Art Therapy, no matter their familiarity or comfort with art or art materials. Many adults find the process of creating art to be a daunting or intimidating task, due to past experiences with art and/or social constructs around what constitutes "art" or being an "artist."

In Art Therapy, there is great value in the *process*, as well as the product. We often remind people that, because art is a mode of self-expression, there is no right or wrong way to create. Many people who did not previously identify as "artists" can find meaningful ways of engaging and connecting through art media and creative experiences. That being said, we also recognize that individuals have their own personal preferences, and Art Therapy may not be for everyone. Others may prefer to connect through

music, dance, drama, writing, or other forms of creative expression.

JO: *Is there research that shows the benefits of Art Therapy?*

CFW: A great deal of research has been done, or is being done, on the benefits of Art Therapy. For more information on that, I'd suggest referring to the AATA website: <https://arttherapy.org/upload/media-kits/Research-fact-sheet.pdf>

JO: *Those bothered by tinnitus often are distressed, because the sound disrupts their ability to sleep, concentrate, or enjoy things that previously gave them pleasure. This can result in anxiety, chronic stress, depression, isolation, and feelings of hopelessness. How might Art Therapy help?*

CFW: Through Art Therapy, participants develop ways to express and communicate experiences they find difficult to verbalize. As a result, it can help individuals increase feelings of empowerment, hopefulness, and self-worth. Art Therapy also can help participants build a sense of connection to themselves and others, as well as build a sense of belonging to a community.

Through Art Therapy, participants can strengthen the practice of mindfulness and begin to use art as a coping skill to help manage symptoms of anxiety and depression. I have had many clients who have experienced anxiety, depression, irritability, isolation, chronic stress, and suicidal ideation, in conjunction with a variety of medical issues, some including

tinnitus. Art Therapy certainly can be a beneficial part of treatment for tinnitus.

JO: *Cognitive Behavioral Therapy (CBT) is an evidence-based method for coping with tinnitus distress. Is CBT applied in Art Therapy?*

CFW: There are art therapists who use numerous theoretical models, including CBT, in their work. Generally, the therapist will use principles of CBT as a basis to guide the therapeutic process; however, there are many different ways that CBT can be incorporated into Art Therapy. For example, art could be used to help illustrate some of the abstract concepts or principles of CBT, practice cognitive and behavioral skills, or help clients to see a visual representation of their change/progress over time, to name a few possibilities.

JO: *Are certain methods of Art Therapy better than others for reducing depression and anxiety? Is there research that shows the benefits of one type over another?*

CFW: Art Therapy interventions include a diverse range of art media and experiences, many of which have shown effective results in treating anxiety and depression. Because individual experiences with art and reactions to various materials differ so greatly, a process that may benefit one client may increase symptoms in another. To select effective treatments, art therapists incorporate their clinical theoretical orientations, training in specific media/processes,

and the client's needs to create an individualized treatment plan. Specific research focused on anxiety and depression is growing, and there are many interesting studies in the *Journal of the American Art Therapy Association* detailing this.

JO: It's been suggested that structured creative expression — like coloring a mandala — as opposed to free form drawing, is better at reducing anxiety, because it requires greater focus. What are your thoughts on that?

CFW: It is true that it could be one way of reducing anxiety for some individuals, but I would not say that it is necessarily "better." Some individuals may appreciate structure, while others may find structured activities to be constraining and stressful. A qualified art therapist can help an individual, or group, explore what feels most comfortable, and also may help participants engage with art practices in new, or less familiar, ways to try to facilitate growth and encourage new forms of expression. Sometimes the processes are used to help understand, explore, express, or commu-

nicate about a difficult emotion or experience. Therefore, using structured activities doesn't always allow for the most creative expression and self-exploration, even though it can be helpful in certain circumstances.

JO: Are you surprised by the popularity of coloring books among adults? Is there merit to the claim that they reduce stress?

CFW: I'm not surprised by their popularity. In our society, artistic ability is often thought of as a skill that you either have or you don't, which is something art therapists would dispute. For many people, as they age, they tend to feel increased pressure and judgment around their artistic abilities. As this happens, their interactions with art in general tend to decrease. Coloring books have become a bridge for many to reintroduce art-making in a safe and comfortable environment. Coloring books are a great recreational activity and can be stress-reducing tools for many people. The common misconception is that coloring books are Art Therapy, which is not the case. Art Therapy requires a qualified

therapist to be present and cannot be done independently. That being said, if one finds coloring books to be a useful tool, or coping mechanism, that is great! It is just important to know the difference between recreational activities that can be used as coping skills, art as a therapeutic tool, and Art Therapy as the treatment intervention.

To learn more about Art Therapy, see: <https://arttherapy.org/about-art-therapy/>

Cara Fisher Wellvang received her Masters of Arts in Counseling Psychology, with specialization in Art Therapy from Adler University (formerly the Adler School of Professional Psychology) in Chicago, IL. At the Institute for Therapy through the Arts, Cara works with individuals and families and runs groups in nursing homes, residential facilities, schools, and communities throughout Chicago. At Linden Oaks, Cara works in the in-patient and out-patient psychiatric treatment settings with adolescent, adult, and geriatric populations, providing Art Therapy and Dialectical Behavioral Therapy. She works with clients to address such issues as chronic mental illnesses, neurodevelopmental disorders, social isolation, acculturative stress, school, and family challenges. She uses a variety of approaches in therapy that integrate art, play, and creative expression.

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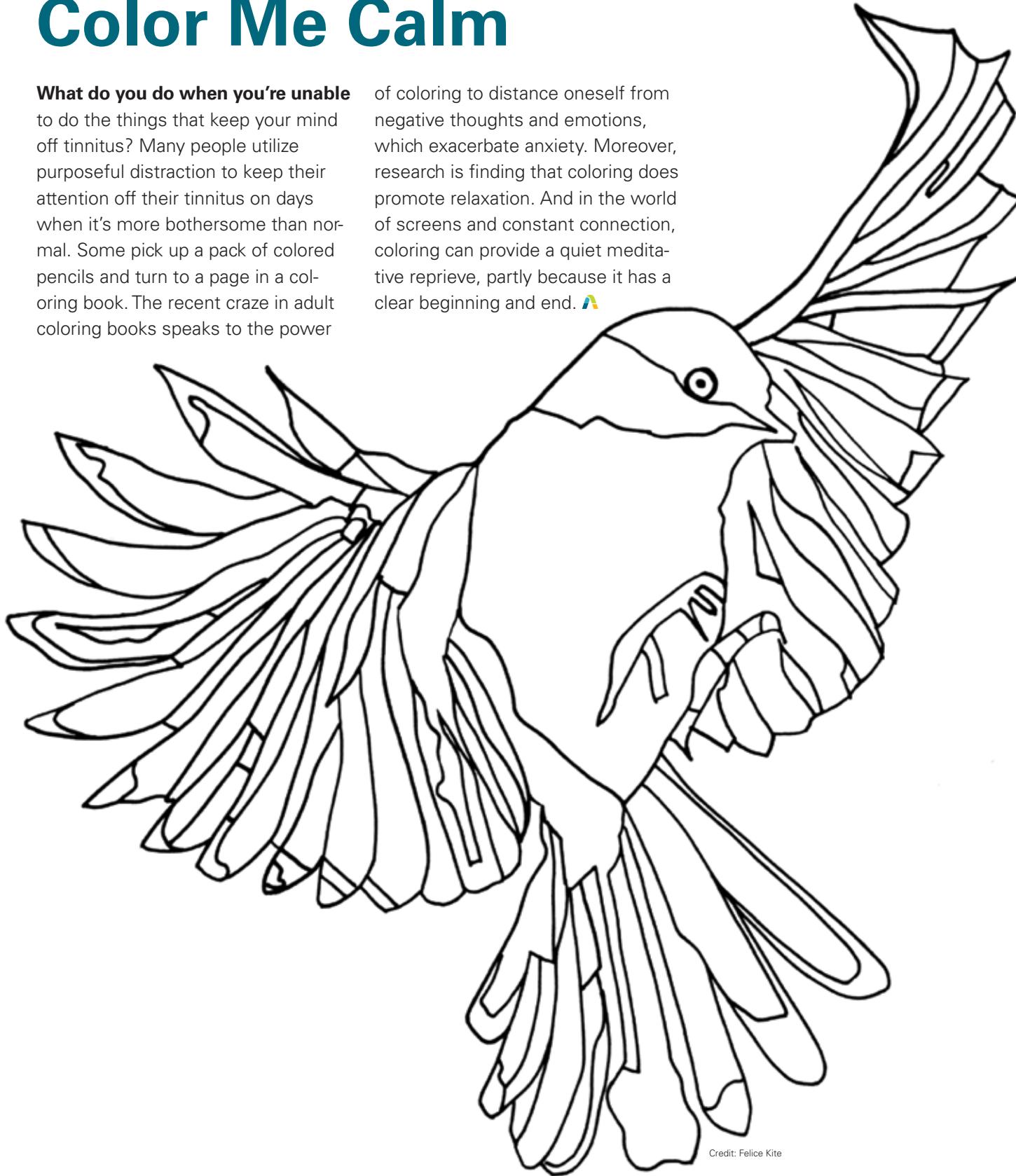


Color Me Calm

What do you do when you're unable

to do the things that keep your mind off tinnitus? Many people utilize purposeful distraction to keep their attention off their tinnitus on days when it's more bothersome than normal. Some pick up a pack of colored pencils and turn to a page in a coloring book. The recent craze in adult coloring books speaks to the power

of coloring to distance oneself from negative thoughts and emotions, which exacerbate anxiety. Moreover, research is finding that coloring does promote relaxation. And in the world of screens and constant connection, coloring can provide a quiet meditative reprieve, partly because it has a clear beginning and end. 



Credit: Felice Kite

We'd like to invite you to color the page above to see if doing so provides you with a sense of calm and distraction from your tinnitus. Let us know your thoughts by emailing: editor@ata.org

Support Group Calendar

People with tinnitus at every stage in their journey, from the first few days to years

later, can benefit from attending a support group. Every tinnitus support group operates somewhat differently; but, they all share a passion for providing meaningful discussion and a caring environment where one can be understood through shared experience.

Below is a list of groups and meeting dates, current at time of print. To reconfirm dates and times, please email/call the point-of-contact person listed.

As new groups continue to be formed, we advise you to check our website periodically for new locations at:

<http://www.ata.org/managing-your-tinnitus/support-network/support-group-listing>



Arizona

NEW Location: Phoenix Tinnitus Support Group

Granite Reef Senior Center, Room 7
1700 N. Granite Reef Rd.
Scottsdale, AZ 85257
Contact: Richard Morgan
T: 480-990-1136
E: r.morgan037@gmail.com

April 19—2:00 pm
May 17—2:00 pm
June 21—2:00 pm
July 19—2:00 pm

California

Los Angeles/Orange County Tinnitus Support Group

Mariposa Women and Family Center
812 Town and Country Rd., Bldg. C
Orange, CA 92868
Contact: Barry Goldberg
E: bargold06@yahoo.com

April 7—1:30 pm
May 19—1:30 pm
June 16—1:30 pm
July 21—1:30 pm

San Diego Tinnitus Support Group

San Diego City Library
North University City Branch
8820 Judicial Dr.
San Diego, CA 92122
Contact: Jack Innis; Loretta Marsh
E: Jinnis1@san.rr.com
E: loretamarsh@hotmail.com

Meetings held 1st Wednesday of the month from 6:00 pm.

San Francisco Tinnitus Support/Education Group

Hearing and Speech Center of Northern CA
Conference Room
1234 Divisadero St.
San Francisco, CA 94115
Contact: Malvina Levy, AuD;
Tracy Peck, AuD
T: 415-921-7658
E: mlevy@hearingspeech.org
E: tpeck@hearingspeech.org

April 17—5:30 pm
May 15—5:30 pm
June 19—5:30 pm
July 17—5:30 pm

Los Altos Hills Tinnitus Support Group

Congregation Beth AM
2670 Arastradero Road, Room 15
Los Altos Hills, CA 94022
Contact: Ken Adler; Amy Nelson, AuD
T: 650-839-1770
E: karmtac@aol.com,
amy@landmarkhearing.com

April 12—6:45 pm

Colorado

Denver Tinnitus Support Group

Lutheran Medical Center
2nd Floor Learning Center
8300 West 38th
Arvada, CO 80033
Contact: Rich Marr
T: 303-875-5762
E: r.marr@comcast.net

April 9—7:00 pm
May 14—7:00 pm
June 11—7:00 pm
July 9—7:00 pm

NEW: Mesa County Tinnitus Support Group

Community Hospital
2351 G Road, Legacy Room 1
Grand Junction, CO 81505
Contact: Elaine Conlon
T: 970-589-0305
E: conlonelaine@aol.com

Meetings held 3rd Wednesday of the month from 7:00 pm.

Florida

Sarasota Tinnitus Support Group

Silverstein Institute
1901 Floyd St.
Sarasota, FL 34239
Contact: Carmen Trotta
T: 941-993-7616
E: cartro7@aol.com

Meetings held 3rd Friday of the month.

**The Villages Tinnitus Support Group**

Churchill Street Recreation Center
2375 Churchill Downs
The Villages, FL 32162
Contact: Sal Gentile
T: 813-503-1421
E: TVTINNITUS@gmail.com

April 26—3:30 pm

Tinnitus Self-Help Group of Palm Beach County

South County Civic Center
16700 Jog Road
Delray Beach, Florida 33446
Contact: Ellen Gartner
T: 800-732-9217

*Meeting dates and times TBD.**

Georgia**Atlanta Tinnitus Support Group**

Dekalb County Public Library
Dunwoody Branch, Meeting Room
5339 Chamblee Dunwoody Rd.
Dunwoody, GA 30338
Contact: Erica Caplan
E: elcatl@aol.com

*Meeting dates and times TBD.**

Illinois**Chicago Suburban Tinnitus Support Group**

Glenview Public Library
1930 Glenview Rd.
Glenview, IL 60025
Contact: Margie B
E: maggie138@yahoo.com

April 7—10:00 am

June 2—10:00 am

Maryland**Washington D.C. Tinnitus Support Group**

Potomac Audiology
11300 Rockville Pike, Ste. 105
Rockville, MD 20852
Contact: David Treworgy; Gerry Baill
E: david_treworgy@yahoo.com
E: gsbail1@yahoo.com

*Meeting dates and times TBD.**

Massachusetts**NEW: Boston Tinnitus Support Group**

Athan's Bakery
407 Washington St.
Brighton, MA 02135
Contact: Christopher Page
E: Christopher.z.page@gmail.com

Meetings held last Thursday of the month from 7:00 pm.

Michigan**Holland Tinnitus Support Group**

Holland Doctors of Audiology
399 E 32nd St.
Holland, MI 49423
Contact: Stelios Dokianakis, AuD
T: 616-392-2222
E: info@holaud.com

April 24—6:00 pm

May 29—6:00 pm

June 25—6:00 pm

July 23—6:00 pm

Minnesota**Minneapolis Tinnitus Support Group**

University of Minnesota Masonic Children's Hospital
Dining Room F
2450 Riverside Ave.
Minneapolis, MN 55455
Contact: Treva Papparella
E: trp-mmp@prodigy.net

Meetings held 1st Saturday of the month from 10:00 am. If the 1st Saturday falls on a holiday, meeting held the 2nd Saturday of the month.

Missouri**St. Louis Tinnitus Support Group**

St. Louis County Library Headquarters
East Room
1640 S. Lindbergh Blvd.
St. Louis, MO 63131-3598
Contact: Tim Busche
T: 636-734-4936
E: tennisfancincy@gmail.com

Meetings held last Thursday of the month from 7:00 pm.

Nevada**NEW: Reno/Sparks Nevada Tinnitus Support Group**

Modern Audiology of Sparks
634 Pyramid Way
Sparks, NV 89431
Contact: Scott Sumrall
E: scottsumrall@sparkshearing.com
T: 775-336-0211

Meetings held 4th Thursday of the month from 6:00 pm. Time subject to change.

New Jersey**Jersey Shore Tinnitus Support Group**

302 Hawthorne Ave
Point Pleasant Beach, NJ 08742
Contact: James Malone
T: 732-714-7040
E: james@njhypnotist.com

*Meeting dates and times TBD.**

Tinnitus Self-Help Group, Ewing

First Presbyterian Church
100 Scotch Road, Ewing, NJ
Contact: Dhyan Cassie, AuD
T: 215-984-8380
E: Dhyan1@verizon.net

April 14—10:00 am

June 16—10:00 am

South Jersey Tinnitus Support Group

1020 North Kings Highway
Ste. 201
Cherry Hill NJ 08034
Contact: Linda Beach; MaryAnn Halladay; Barbara Kennedy
E: linda.beach@gmail.com
E: mhalladay@verizon.net
E: harleyonholly@comcast.net

April 5—7:00 pm

May 3—7:00 pm

June 7—7:00 pm

New York

Bronx Tinnitus Support Group

260 W. 231st St.
Bronx, NY 10463
Contact: Dr. S. Karie Nabinet
T: 917-797-9065 or 718-410-2301
E: kkwn12u@aol.com

*Meeting dates and times TBD.**

The Long Island Tinnitus Group

Long Island Jewish Hospital
2nd Floor Conference Room
900 Franklin Ave.
Valley Stream, New York 11580
Contact: Lisa Kennedy; Anthony Mennella
T: 516-313-8061, 516-379-2534
E: aem830@verizon.net

April 23—7:30 pm

May 29—7:30 pm

North Carolina

NEW: Raleigh Tinnitus Support Group

Raleigh Hearing and Tinnitus Center
10010 Falls of Neuse Rd., Ste. 12
Raleigh, NC 27614
Contact: Saranne Barker, AuD;
Sheri Mello, AuD
T: 919-790-8889
E: info@rhatc.com

April 19—5:00 pm

May 17—5:00 pm

June 21—5:00 pm

July 19—5:00 pm

Oregon

VA Portland Health Care System

Tinnitus Education Group
National Center for Rehabilitative
Auditory Research
3710 SW US Veterans Hosp. Rd.
Portland, OR 97239
Contact: Bryan Shaw
E: Bryan.Shaw2@va.gov

*Meeting dates and times TBD.**

South Carolina

NEW: Greenville Tinnitus Support Group

Location coming soon
Contact: Anthony Russo
E: AnthonyRussoSC@outlook.com

*Meeting dates and times TBD.**

Texas

Dallas/Ft. Worth Tinnitus Support Group

Texas Health Presbyterian Hospital Plano
6200 W Parker Rd.
Plano, TX 75093

or

Callier Center for Communication
Disorders
1966 Inwood Road
Dallas, TX 75235
Contact: John Ogrizovich
E: dfwtsg@yahoo.com

*Meetings held Mondays from 6:00 pm or
6:30 pm, depending on location.*

Virginia

Northern Virginia Tinnitus

Support Group

Northern Virginia Resource Center for Deaf
& Hard of Hearing Persons (NVRC)
3951 Pender Drive, Ste. 130
Fairfax, VA 22030
Contact: Elaine Wolfson; Marian Patey
E: erwolfson@comcast.net
E: mpjatey@fcps.edu

May 15—7:30 pm

Washington

Seattle Tinnitus Support Group

Greenwood Public Library
8016 Greenwood Ave. N
Seattle, WA 98103
Contact: Keith Field
T: 206-783-7105
E: keith_r_field@outlook.com

*Meetings held typically on the 3rd
Thursday of the month.*

Each support group referenced here is independently operated and led by volunteers who wish to provide education and support to the tinnitus community. The American Tinnitus Association (ATA) does not sponsor nor endorse these activities and expressly disclaims any responsibility for the conduct of any independent support group or the information they may provide. ATA is not a healthcare provider and you should consult with a primary care physician or hearing healthcare professional for qualified medical advice on tinnitus and related disorders.

*Some groups do not schedule meetings far in advance to allow for flexibility in planning. The above information was provided to ATA at the time the magazine went to print; therefore, please confirm meeting details with the contact person prior to a meeting or reference our website at: <https://www.ata.org/managing-your-tinnitus/support-network/support-group-listing>

This is a partial listing of support groups and scheduled meetings. A complete list can be found using the above link. New groups continue to be formed, particularly in areas of need, so please check the website for updates periodically.

If you're interested in forming a group, please contact Jennifer Born at: supportgroups@ata.org

If there isn't a group in your area, ATA has an extensive Help Network of volunteers who provide email and telephone support and educational information. To connect with a volunteer in your time zone, see: <https://www.ata.org/managing-your-tinnitus/support-network/help-network-listing>



The Old Guitar

By Ann Ramsey

Like a plectrum broken in half,
Or a worn-out string snapped in a flash,
I've felt split, splintered, and voiceless.
Without music and choiceless.
The way I used to play and sing
Seems infeasible, since my inner ring
Produces tangled, tuneless fragments —
An injustice to all instruments.
This instrument — long a family heirloom,
Repaired over and over again —
Has become my long-abandoned thing.
Yet, if handled right, could it not spring
To life again like a flower in bloom?
Perhaps with my long time of gloom,
With all the grief allowed to be,
It's time to do the same for me.
Another's hand just played it now,
Another's song just showed me how
I've let Tinnitus keep me from
This sweet-sounding guitar I loved to strum.



Rebuilding Life, One Step at a Time

Ann Ramsey, an ATA member since 2008, utilized art in conjunction with therapy to work through stages of habituation, from anger, grief to accommodation. "My cognitive behavioral therapist had recommended 'light problem-solving' to cope with my tinnitus," Ramsey said. "Poetry was a helpful way to express feelings that I couldn't otherwise manage to say."

In her poem *The Old Guitar* (2014), Ramsey reflects on her inability to play music, something that had been central to her life since childhood. "Just looking at my instruments upset me ... so they sat untouched in my attic for years," she said. As Ramsey's hyperacusis lessened, she regained the ability to attend concerts. One day it occurred to her that she wasn't applying the Cognitive Behavioral Therapy techniques she

had learned to *playing* music. "All that needless avoidance and agitation ... was keeping me from something I enjoyed," Ramsey said. When a musician friend asked to play her old guitar, she realized as she listened that she had been needlessly denying herself the pleasure of making music. With courage and deliberate steps, Ramsey reclaimed one more piece of the life she loved.

How Do You Protect Your Hearing?

Keep hearing the sounds you love! Earplugs and earmuffs help protect your hearing from harmful noises. You'll still be able to hear the sounds you love, but your hearing will be protected from damaging noise.

There are many types of hearing protectors, so you can wear the ones that fit your style and are the most comfortable. Choose a great color or design that matches what you're wearing. 

Foam Earplugs



Earmuffs



Canal Caps



High Fidelity Earplugs



Tips for wearing hearing protectors

Bring an extra pair of earplugs or earmuffs when you go to a concert, game, or other noisy event. Share them with your friends so they can protect their hearing, too.

TINNITUS TODAY

Editorial Calendar

Tinnitus Today magazine is a print and electronic media magazine published in April, August, and December, and circulated to 10,000+ ATA members, patients, supporters, researchers, and healthcare professionals.

The magazine editorial team empowers readers with information, including up-to-date medical and research news, feature articles on urgent tinnitus and hyperacusis issues, questions and answers, self-help suggestions, and letters to the editor from others with tinnitus and/or hyperacusis. Strong service journalism, compelling storytelling, first-person narrative, and profiles are presented in a warm, vibrant, and inviting format to encourage readers to reflect, engage, and better understand a medical condition that affects millions.

Issue	Theme	Editorial Copy Due	Photos Due	Ad Close	Digital Launch	Issue Mailed
Spring—Apr 2018	Habituation	2/1	2/1	2/1	4/15	April
Summer—Aug 2018	Pharmacology	5/1	5/1	5/1	7/15	August
Winter—Dec 2018	Annual Research Issue	10/1	10/1	10/1	12/1	December
Spring—Apr 2019	Veterans Affairs	2/1	2/1	2/1	4/15	April

Editorial Calendar is subject to change.

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MISSION AND CORE PURPOSE

The mission and core purpose of the ATA are to promote relief, help prevent, and find cures for tinnitus evidenced by its core values of compassion, credibility, and responsibility.

CORE VALUES AND GUIDING PRINCIPLES

Compassion: Evidenced in a spirit of hope reflected in the commitment to finding a cure, preventing the condition, and supporting those affected by the condition.

Credibility: Evidenced in accurate information from reliable sources, transparency in decision-making, and an earned reputation for trustworthiness.

Responsibility: Evidenced in patient-centered advocacy by a collaborative community of forward-thinking leaders accountable to its mission and members.



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UPCOMING PODCASTS

ATA's Conversations in Tinnitus, with John A. Coverstone, AuD, & Dean Flyger, AuD

Podcast 6: Shared Decision-Making in Tinnitus Care

SUBJECT MATTER EXPERT: Helen Pryce, MSc, PD (Health)

TOPIC: Dr. Pryce explains how healthcare providers can implement shared decision-making with tinnitus patients through use of the Tinnitus Care Options Grid, which was developed in the United Kingdom and presents evidence-based treatment choices. By empowering patients in conversations that weigh the pros and cons of each care option, Pryce believes patients are more likely to commit to a treatment plan that proves successful because it meets their needs and interests.

Podcast 7: Mapping Tinnitus in the Brain

SUBJECT MATTER EXPERT: Phillip Gander, PhD

TOPIC: Dr. Gander discusses how the brain makes sense of the tinnitus sound, from the perspective of cognitive neuroscience. He discusses his research, which includes use of psychophysics and neuroimaging, to explain how the brain processes the phantom tinnitus sound. Gander explains how progress in neuroscience is providing the knowledge to develop more effective treatments for tinnitus. He also elaborates on current obstacles in research and prospects for the future.

Podcast 8: Breakthrough Using Multisensory Stimulation to Reduce Tinnitus

SUBJECT MATTER EXPERT: Susan Shore, PhD

TOPIC: Dr. Shore discusses groundbreaking research in tinnitus treatment using bimodal stimulation. She heads the team of researchers at the University of Michigan, where it was discovered that 'touch'-sensitive neurons in the auditory part of the brain become hyperactive and synchronized with each other in guinea pigs and humans with tinnitus. The team's preliminary studies found that bimodal stimulation, which calms neurons using specially-timed multisensory stimulation, reduces tinnitus distress and loudness.

Podcast 9: Research on Mindfulness-Based Cognitive Therapy for Tinnitus Treatment

SUBJECT MATTER EXPERT: Laurence McKenna, PhD

TOPIC: Dr. McKenna discusses recent research findings from his large-scale study on the effectiveness of Mindfulness-Based Cognitive Behavioral Therapy (MBCT) for treating tinnitus. As a cognitive behavioral therapist, specializing in the psychological aspects of tinnitus and hearing loss, he offers unique insights into the challenges that patients face and best practices for treatment. He also elaborates on why he's pushed for greater usage of MBCT for tinnitus treatment in recent years.

Podcast 10: Habituation to Tinnitus Using Cognitive Behavioral Therapy

SUBJECT MATTER EXPERT: Bruce Hubbard, PhD

TOPIC: For over 20 years, Dr. Hubbard has helped people improve their lives using Cognitive Behavioral Therapy (CBT), mindfulness, and relational therapy strategies. He explains how CBT and mindfulness are applied to treatment of tinnitus and what patients should expect in regard to habituation. Dr. Hubbard, who has tinnitus, also offers insights into using the internet and support systems to manage tinnitus distress.

Podcast 11: Talking About Tinnitus with Children

SUBJECT MATTER EXPERTS: David Baguley, PhD, and Claire Benton, MSc

TOPIC: Dr. Baguley and Claire Benton discuss their efforts to educate parents, teachers, and healthcare providers on talking to children about tinnitus. The widespread misconception that children don't have tinnitus has meant children suffer alone and miss critical opportunities for early intervention. They also discuss their research findings on the topic and tools to help children manage tinnitus.

Podcast 12: ATA Advocacy Efforts in Washington

SUBJECT MATTER EXPERT: Deborah Outlaw, JD

TOPIC: With decades dedicated to advocacy work on Capitol Hill, Deborah Outlaw provides in-depth insights into the challenges of securing increased federal funding for tinnitus research. She talks about her past and present activities on behalf of the American Tinnitus Association to bring tinnitus to the forefront of discussions with lawmakers. Outlaw also explains who the relevant players are and what ATA members can reasonably expect in the near- and short-term for increased federal funding of tinnitus research.

To ensure that podcast content is available to the broadest audience possible, particularly those with impaired hearing or noise sensitivity, transcripts are available on our website: www.ata.org