

Conversations In Tinnitus

With Jennifer Gans, PhD

Transcription:

John Coverstone, AuD: Hello, I'm John Coverstone along with Jenne Tunnell.

Jenne Tunnell, AuD: Welcome to Columbus.

JC: We are back for another live record-- Live recording, that's an oxymoron, isn't it?

JT: Right. Because it might not be live later.

JC: So in person recording. I don't know. Onsite recording.

JT: Yes.

JC: There you go. Onsite recording of Audiology Talk. Welcome to everyone who's out there in the audience.

JT: Welcome. Welcome.

JC: And we are going to talking in a little bit with Erin Miller. Hopefully, she can make it. She's in rehearsal right now for the general assembly. But she's going to help give us a preview of the week. Instead, we are really, really excited to talk with our first guest today.

JT: Very excited.

JC: And that is Dr. Jennifer Gans, who is a clinical psychologist, specializing in tinnitus and mindfulness out in California, in the Bay Area. Is that close enough?

JT: Lucky dog.

JC: Sure is.

Okay. Yes, exactly. Where it's probably a lot warmer than it is here.

Minnesota. Minnesota.

It's raining.

Right. And you gave a wonderful session this morning, so I hear because unfortunately, I had to be here setting up and what have you. But I hear it was a wonderful session on mindfulness and tinnitus this morning. And we have not really explored that much. So I'm kind of excited to talk to you about this because being involved in tinnitus practice myself, I hear and see a lot of people moving towards mindfulness as a strategy with tinnitus patients. So first of all-- Unless you have a--

JT: Well, I was just going to jump in and say I was there because I wasn't helping you with anything. So I got to go, and I took seven pages of notes, and I can take a whole lot more. So we're really, really lucky to have you here to pick your brain.

JC: We may not have time for all that, but.

JT: Yes. Well, okay. Great. [crosstalk].

JC: I want to start with this though because we banter that word around sometimes. I don't know how many people--

What word? Mindfulness?

JT: Mindfulness. Yeah. I don't know how many people truly know what the definition of mindfulness would be. So can we start there?

Jennifer Gans, PhD: That's a good place to start. And you're right. I think that it's a word that has been popularized but not necessarily understood. And mindfulness is really a state of being. It's a process of coming to the present moment with a special kind of attention or an awareness of what is. It's bringing curiosity and openness, acceptance, and most importantly, and unfortunately, most difficultly, compassion for yourself to every moment. Breath by breath by breath. And it sounds very simple, but it is one of the hardest things to do. It's simple, but not easy.

And so, I look at a mindfulness practice as really an opportunity to retune the brain in the same way you would-- a conductor would get up in front of an orchestra and retune all the different sections of the instrument. And so, I said in the talk this morning, I mean, who do we think we are to leave the house in the morning without having tuned our own instrument, our own brains? And that could very well be a large part of what the problem is with tinnitus, which in and of itself, is a benign body sensation that the brain has misunderstood as something important to pay attention to. And so, perhaps it's the brain's misappraisal of benign sensation. And so, unless we have a way of retuning our brain, how do we approach this suffering that comes with tinnitus with strength? Unless we have done our mindfulness meditation practice.

JT: You said this morning, and I quote, "Amazing people can get bothersome tinnitus." And I loved that because I'm also guilty of looking at my schedule and going, "Oh, no. Not one of those." But the way you describe these-- just reframing it to what personality type actually suffers from tinnitus? Why can two people have the same sound, but one's bothersome and the other is not? And we don't care about the bothersome because there's nothing to fix, right? So what makes someone amazing, then, that they have bothersome tinnitus?

JG: Well, what I think you're talking about is something that hasn't necessarily been researched in a very satisfying way yet. But because of my years of experiencing working with tinnitus, I've started to notice a type of personality that comes into my office. And 50 million Americans, that's the number that we all throw out these days, 50 million Americans experience tinnitus. But 50 million Americans are not bothered by tinnitus. And so, I'm curious, why would somebody with tinnitus be bothered and one would be non-bothered? And so, when I look at the types of people that come into my practice they-- Again, anybody can get tinnitus. But the ones that seem to come across my threshold seem to have a little bit of anxiety picture or an intensity, call it what you will. Maybe an obsessing quality to them. And so--

JT: I think you used the word pedantic.

JG: Pedantic.

JT: There we go.

JG: There we go. Yeah. Words are tough. Words are tough. And honestly, I think what you're talking about is, is that I actually use these words in a positive light. Because these are the very same quality, I think, that is causing somebody to check for a benign body sensation like tinnitus, over and over and over again, and not let it habituate back into the woods, is the type of person that has high anxiety. But that same high anxiety is also what makes them amazing. I was kind of joking this morning that we're middle of tax season right now, and I kind of want my CPA to have a little bit of anxiety.

JT: Right? Yeah.

JG: So a good CPA is going to be pedantic, is going to really check. Dot the Is and cross the Ts. But at what point does that anxiety kind of crossover a threshold and turn into a problem? And I think that's what a lot of people with tinnitus are struggling with. The same quality that they love about themselves that maybe makes them successful of what they do or a certain type of wonderful personality, can also be what's actually causing or contributing to their tinnitus bother. And so, in my work, I'm not interested in changing people. But I am interested in maybe shaving off some edges so that they can still be the amazing person that they are, without bringing so much stress and fear and anxiety to the table which makes tinnitus really grow and flourish.

JT: So you talked a lot today about how, in the neuroanatomy of it all, the prefrontal cortex really regulates kind of our reasoning, our response, our attention, our judgment, our emotional regulation, based on feedback from the

limbic system, the amygdala. And you said something that I thought was really interesting that there probably is a cure for tinnitus, i.e., removing the amygdala, but we probably don't want to remove the amygdala.

JG: Probably not. I think it's more our friend.

JT: That's probably no way to live, right. So how does this work? How does mindfulness-based tinnitus stress reduction work to strengthen that prefrontal cortex? What's actually happening?

JG: Well, you're asking a really important question. And so, it's really a combination where our brain has an amazing ability to change itself. And we know from research, over the last decade or so, that our medial prefrontal cortex is really, the area right behind the forehead, is the place where the magic happens for us humans. It's the last part of our brain to develop. It's a very conscious part of our brain to develop and very unique to humans.

JT: I think mine's still developing, but yeah.

JG: Yes. It's actually is. It's funny you say that because the prefrontal cortex doesn't fully develop in adults, on average, until around the age of 26, 27, they say.

JT: Oh, yeah. Because I'm right on that threshold.

JC: Yeah. You're just a little below that. All right.

JT: Shut up. Shut up, John.

JG: Below that, so. Any day now. Any day now. Right?

JT: Yeah. Yeah.

JG: Any day now. But anyway, getting back to your brain development, what we think is happening with tinnitus is that the amygdala is misappraising or misunderstanding a benign body sensation such as tinnitus. And its job is to be a relay station, in a sense, where it makes a decision. Is this stimuli coming from the internal or external world something I need to pay attention to because it could mean my life? Or is this something that I can just ignore and forget about and pay attention to something else? And so, what's happening is the amygdala might be misappraising the tinnitus. It's putting it in the wrong category. It thinks it needs to pay attention to it. When, in fact, it can just let it go into the forest and not be this tree that's standing right in front of you. So the wonderful thing is that we have this amazing part of our brain, this medial prefrontal cortex, that is conscious. And we can use it for reasoning, for judgment, for thinking before acting. For choosing our response. For fear modulation. For emotional regulation.

And so, if we can strengthen that part of our brain-- We actually have these fibers that can grow down into the amygdala. They're called down-regulating neuropeptides, such as GABA. Not to get too much into the weeds, but it is-- We can use our prefrontal cortex to dip into the amygdala to chill it out, basically. So you mentioned before, there is no cure for tinnitus, but maybe there could be. Well, there could be if we destroy the amygdala. I mean, that's my thinking. And the reason why we don't have that cure yet, in the form of a pill or a surgery, is because you'd have to be out of your mind to want to hurt your amygdala. It's more our friend than our foe. And so, using a meditation mindfulness approach is a non-pharmacological way of basically, going to the gym and strengthening a part of our brain so that we can gently and more organically help another part of our brain that's misappraising a benign body sensation such as tinnitus.

JC: Sure. That makes sense. I mean, to a certain extent, and this is the way I've described it for many years with patients and colleagues is-- This is what we talked about, at least in my graduate program years and years ago, we're a little bit hardwired for these new, novel stimulant-- to pay attention to these new, novel stimuli. In a way that one of my professors used to describe it was, you think of early man in the bush, and the ones that paid attention to the rustling in the grass and ran away, are the ones that lived to have kids. And the ones that didn't probably didn't. And so, we're a little bit hardwired to pay attention to these stimuli. So it's something we understand why it happens. And I try to be very understanding with patients and I describe this kind of a thing to them sometimes that what your doing is a very natural response, to pay attention to those things. But we've got to let the brain know, we don't want to pay-- this is not an important stimulus. This is the refrigerator running in the background. This is the clock ticking that we don't pay attention to. This is the 60-hertz fluorescent lights that we learn to ignore. We need to put tinnitus in that box. And I didn't know I was doing mindfulness, but.

JG: Well, and like I was saying before--

JC: Way back when.

JG: You're right, the brain is hardwired for certain things. But sometimes things get a little bit out of whack.

JC: Right.

JG: If you think about a string on an instrument, you can tighten it too much and it sounds sharp. And you can loosen it too much and it sounds flat.

JC: Yup. Flat. Yeah.

JG: And so, that can certainly happen. And so, we are like an instrument. And sometimes there are parts of our brain, parts of our thinking that can be either too tight or too loose and it's our responsibility to kind of walk the line, so to speak. Or tune our instrument so that things can function as needed or allow certain natural processes to happen, such as habituation to happen. So, again, it's about pruning. It's about not throwing out the baby with the bath water. A little bit of anxiety is good for us.

JC: Right. Sure.

JG: I was saying in this morning's talk that stress is not the enemy, but too much stress can--

JC: Overwhelm you. Yeah.

JG: Overwhelm us. Too little anxiety keeps us in bed in the morning. And too much anxiety keeps us in bed in the morning. So we have to find that happy medium so that we can function to our potential. And something like tinnitus is pulling us away from our potential. And so, if we can learn ways to retune the brain. And one wonderful way to do that is by strengthening certain parts of the brain using a meditation or mindfulness approach, so that we can, again, live to our potential.

JT: So I find it fascinating that something that-- I mean, some of our patients would describe as fluffy is so deeply rooted in science. And I don't know if the study you're referring to earlier was about chronic pain or tinnitus. And maybe you can talk a little bit about how it's not really about the tinnitus or the pain, it's about the mindfulness. But that a study in 2005, was it, showed that brain areas in that prefrontal cortex were thicker. Which thicker is better in this case, right? Don't want to say you're thick, but thick is good.

JG: There's more blood flow in that area.

JT: Yes. More networks happening in people that practice insightful meditation, than the control subjects who didn't meditate. Do you want to talk a little bit about that? Why is that?

JG: Sure. I think you're referring to Sara Lazar, who's a professor at Harvard, who was curious about, what is going on in the brain of the meditator? So she took experienced meditators and she put them through an fMRI machines in pre and post, and what she found was that experienced meditators had a larger medial prefrontal cortex. And what's interesting-- I mean, you could say that people that even meditate, to begin with, have a larger prefrontal cortex, but her studies shows that actually, the more experienced you were, the larger that area was. So there have been several studies since that time, but this was a--

I remember reading it at the time and that's what really excited me was that people who are experienced meditators have a larger medial prefrontal cortex and a less activated amygdala, and that's exactly what we're talking about with tinnitus. How can we "go to the gym" and build that prefrontal cortex so that we can relax the amygdala. And so, when I looked at these studies that are showing changes in the brain with a meditation approach, in light of the fact that there's really no pill and no surgery that anybody would want to have with tinnitus, I'm looking for, you call it fluff, but it's becoming less and less fluff, the more randomized controlled research we're able to do with meditation. And what we're finding is that if a person takes responsibility for their tinnitus, they can change their own brain using their own natural abilities.

JC: That's fascinating because the prefrontal cortex is also involved in so much sensory processing. And it's connected with so many different areas that have to do with reactions of that with some of the gating mechanisms

for what we hear and don't hear, see and don't see. Some of the sensory processing areas. And so to know that we can strengthen that is fascinating to me.

JG: Well, you're also bringing up a very important point is that-- you can read all these studies about our brain research, but I do have to say we really are at the very, very beginning of understanding this amazing brain.

JC: Oh, yes, we are.

JG: And so, anytime that I say, oh, this part of the brain does this, you have to hear it as, well, this part of the brain is attributed with doing this--

JC: Involved with. Yeah.

JG: But every other part of the brain has to be involved as well. So take it for what it is. I mean, you're right. Anytime I say this part of the brain does this, I think to myself, "Well, it also does this and this and this and this and this." But we're starting to learn more and more and more. I mean, it's very hard to open up a journal without seeing a new fMRI study that's showing that we're starting to isolate certain behaviors to certain parts of the brain.

JT: So can you reiterate or maybe talk to us some more and expand on what mindfulness is in terms of, we know it's paying special attention on purpose and the present, but what kind of awareness is required? And how does one go about exercising that muscle?

JG: That's a great question because it's not just about being present. I mean, you can be present and be very hard on yourself or being present and not being very open to what you're being present with. And so, there's certain, as I mentioned before, there are certain qualities that are required for us to be showing up to the moment in a mindful way. And the moment is not always pleasant. The present moment can actually be very unpleasant, as somebody with tinnitus can attest. But this is the only moment we have. And so, if we can-- The best analogy I can say is if we can show up with the eyes of a child. Without the judgment. Without the comparing. Without the stories that tend to get wrapped around whatever we're experiencing in the present, in it's bare naked from, with curiosity like a child. With openness to whatever's there, whether it's pleasant or unpleasant. With an acceptance that, "You know what? I don't have to like it, but this is here."

But, again, most importantly, with a loving kindness towards ourselves. And I was mentioning in the talk earlier today that, I don't know about you, but that's the hardest part, for me. We're our own worst critic. And one of the hardest things to do is to bring compassion to ourselves, especially for a person that is struggling with tinnitus who might have spent a lot of time blaming themselves for the tinnitus. Or blaming someone else for the tinnitus. So a meditation or mindfulness practice helps us to unravel the story that gets so tightly wound around tinnitus that can turn it from non-bothersome to bothersome very quickly.

JT: You use a very powerful quote from-- Is it Viktor Frankl, Holocaust survivor? And was he a psychologist or psychiatrist?

JG: Yes. He became a psychiatrist.

JT: Psychiatrist. And you said, and maybe-- I don't know if I wrote it correctly, so correct me, but "Between each stimulus and response is a space, and in that space is a freedom to make a choice." I think that's a very powerful statement. Do you want to talk about what that means for you in your practice?

JG: It's a really, it's a wonderfully powerful statement in that, in one sentence, he really has encapsulated, for me, where we need to be as far as approaching the moment. Approaching tinnitus. So, again, to say his quote again, "Between every stimulus and response is a space, and between that space lies our freedom and our choice." Okay. And so somebody with tinnitus doesn't feel like they have a lot of freedom and choice in their lives. They are experiencing the stimuli of tinnitus and they're reacting. Stimuli, reacting, stimuli, reaction. And so, there's no real space in between the two. And they can live an entire day, an entire year, an entire lifetime with this feeling so tight around the tinnitus because they have no freedom of choice to choose any other way but to react with depression, anxiety, and sleep difficulty and whatever the other top complaints might be.

And so, what Viktor Frankl's quote teaches us is that if we can create some space, we can certainly choose that same reaction, but we are open up to many other reactions. And so, the big question is, "Okay, that's fine. But what creates that space?" And the ingredient or the tool, I should say, that we use to create that space is awareness. If we

can become aware of our reaction to tinnitus, not just act it out, but actually observe it, almost. Observe the stories that get created. Observe the body reaction. The tightness around it. We can pause for a moment, again, using our medial prefrontal cortex, to pause for a moment and stop and think and choose a different response. For example, somebody who wakes up in the morning and checks for their tinnitus, which many people do.

JC: Right. Yup.

JG: Instead of checking for their tinnitus at 6:00 AM and saying, "Oh, there it is. It's going to be a horrible day." I wonder what other choices are out there that could shape their nervous system for more form of positive living? For example, that same person can say, "Oh, I just caught myself thinking, 'Oh, there's my tinnitus, it's going to be a horrible day.'" Maybe yes, maybe no. Can I open it up to a possibility? "I had tinnitus the other day and it was actually a fine day." So that's what I mean by creating space. Creating options so that we don't feel so tightly wound and a prisoner to the tinnitus and our thoughts that keep us stuck.

JC: I think that's one of the things that I struggled with the most when I started providing tinnitus care was, we had the model of, okay, you hear tinnitus, we need to change how you're reacting to that tinnitus. And trying to work with a patient to not react negatively to the tinnitus because that's really hard for some people. Because we can't tell you it's a sound you want to hear. We can't do that because that's just not true. And none of us really wants to have tinnitus. How do you get over that hurdle? What do you find is most effective to get over that hurdle with patient so when they are reacting to their tinnitus, getting away from those negative reactions?

JG: Well, it can be very hard and some patients are very loyal to their tinnitus. Loyal to their tinnitus.

JC: Yeah. Yes, they are.

JG: I see that all the time. First of all, I always think that with a person that is like that, the best-- or thinks in those terms, we need to make sure that they're understanding what tinnitus is and what it isn't. If somebody really thinks that tinnitus, "Oh, this has to be a brain tumor," or, "This is all my fault. It's all that music I listened to when I was a kid." We need to start to help them to tell their story. And once you can help them to tell their story, you can use a lot of tinnitus education to help with erroneous beliefs about tinnitus. And that's where it kind of dovetails into the psychology of tinnitus. I said before that people who are stuck and they're very dedicated to the trauma and the drama and the story around the tinnitus are going to be very difficult to teach to respond to it rather than react to it.

But once we start to listen to their story, we can often find a road in. It's often helpful for them to flesh out what the words are that they're saying to themselves when they experience the tinnitus. Literally, have them even write down, when you are experiencing your tinnitus, what words are you saying to yourself? There can be a lot of guilt, there can be a lot of shame. And things like shame and guilt are things that can go undiscovered. And so, as a clinician, we can massage around the stories that have kept it in the Gordian knot, I call it so that a person who is willing to let go of the tinnitus is able to. And then we also get certain patients that are very loyal to their tinnitus, and they are very difficult patients to work with. And so, if we feel that this becomes more of an emotional mental health issue, we can certainly make a referral to a psychologist, to a therapist who is trained in this area to, again, help them tell their story and massage it out, so that they can see that this is your reaction to tinnitus, but I wonder if you can respond to tinnitus in a different way.

JC: Sure. No, that's great. You say those things so much more elegantly than I do. I love the way you describe things.

JT: I wish I could just put you in my pocket and pull you out during tinnitus evals.

JC: Right. Could you just come work at my clinic? Yeah. I did want to bring this up if that's okay.

JG: Please.

JC: You have a website. It's mindfultinnitusrelief.com, mindfultinnitusrelief.com. And this contains, it looks like, because I just went there for the first time a few minutes ago, it looks like it contains an online program to help people deal with their tinnitus. Can you talk a little bit about that?

JG: Sure. Absolutely. So in 2014, when I was at UCSF in San Francisco, I was curious about a course that I was designing called Mindfulness Based Tinnitus Stress Reduction. And it was an eight week course, or it is an eight week course that teaches people the skills to develop a mindfulness program and also apply it their experience of tinnitus. And so, I did this research and had amazing results.

JC: Good.

JG: And at the end, everything that we thought was going to up went up. Everything that we thought was supposed to go down went down. For example, depression scores went down. Anxiety scores went down. Quality of life scores. And tinnitus bother went down. Excuse me, quality of life went up.

JC: Sure. Yup.

JG: So everything worked in the right direction. And so, when the study was over, I was both excited but frustrated because there was only one me and millions of people, obviously, throughout the world that could benefit from a course like this. So living in the Bay Area where nobody is safe from developing things on the internet, I decided to basically mirror my Mindfulness Based Tinnitus Stress Reduction course into an online program. So that people all over the world could benefit from this eight week program. And that's the birth of mindfultinnitusrelief.com which has been met with an awful lot of success.

JC: Okay. And that's completely self-driven program?

JG: 100% self-driven. You can do it on your own time, in the privacy of your own home, on a personal computer, even a smartphone. And it's really a way of bringing this mindfulness approach to tinnitus to maybe people that don't have access to programming to help them with it. People who can't leave their home. People who don't really want to go to a group, per se, to talk about tinnitus with a group. It's a very private, very personal way of going through the course. And there's a lot of tinnitus education and a lot of skill building exercise for mindfulness so that a person in eight weeks can then become ready to practice mindfulness for the rest of their lives. And again, it's been quite well received.

JC: That's great. Yeah. So once again, just in case you didn't write it down yet and your listening to this later, it's mindfultinnitusrelief.com. So visit that. I wish we could keep talking for another hour.

JG: Oh, I could. Yeah. I love to talk about this.

JC: Because this has been absolutely fantastic. But we do have to move on. So I just want to thank you for joining us. And we've been speaking with Dr. Jennifer Gans who's a clinical psychologist in the Bay Area.

JT: Truly incredible work. Thank you so much for coming.

JC: And Jenne has more to say, so go ahead.

JT: Well, I just think you're amazing, and not just tinnitus person amazing, but just amazing, amazing. And just keep up the good work.

JG: Oh, too kind.

JT: And I hope that those ticklers out there that you put out to the course today and throughout your work with folks leads to more research so that we can back you up and help with spreading the good word, so.

JG: Well, thank you. And all the work that you do at ATA, it's pretty inspiring.

JC: Great. Yup. Thanks so much for joining us.

Thank you.

So, we are going to take just a quick break. We did see Dr. Erin Miller walk by a second ago and so.

JT: She thought she escaped, but--

JC: Yup. There she's waving at us. So, she's all ready to go.

There she is.

We're going to let her come over and do a quick preview of what the rest of the week holds for us here in Columbus, Ohio, and so, stay with us. We'll be back in just a moment.

[music]

