

Conversations in Tinnitus #2: Tyler Podcast Transcript

- S1 00:00 Welcome to Conversations in Tinnitus, a podcast of the American Tinnitus Association. The American Tinnitus Association is a nonprofit organization dedicated to research, advocacy, education, and support for people who live with tinnitus. Conversations in Tinnitus podcasts are an extension of ATA's magazine, Tinnitus Today, the only publication dedicated to educating the public and practitioners about ongoing research, treatments, and management of the condition. [music]
- S1 00:48 Welcome to Conversations in Tinnitus. This is John Coverstone, and as always, with me is my colleague and good friend, Dean Flyger. And joining us today on Conversations in Tinnitus is Dr. Rich Tyler, who is a PhD audiologist at the University of Iowa, and a professor in both the department of-- excuse me, Department of Otolaryngology-Head and Neck Surgery, as well as the Department of Communication Sciences and Disorders. And speaking of the University of Iowa, one of the first things we wanted to talk about today with you is the upcoming tinnitus conference that you have on an annual basis. I'm sure many of our listeners have probably heard of that or are familiar with it. But why don't you go ahead and tell us what's coming up with that conference this year and what that conference typically offers to people.
- S2 01:33 Well, thank you, John. Let me start off saying this is the 25th annual conference.
- S1 01:39 Wow.
- S2 01:39 And I'm always careful to point out to people that I started this when I was 16 years old [laughter]. Not completely true, but it's amazing how things have progressed over the years. It is wonderful to see how there are so many people now interested in tinnitus and so many options, and good options, to help patients. And so this is something that we started 25 years ago because I was transferring from a tinnitus researcher, trying to move into the realm of actually helping some patients. And at that time, there was nothing offered at all to try and help patients-- to try and help clinicians to learn how to connect with and to provide support for tinnitus patients. So, I decided to just go ahead and start my own conference. So over the years, the conference has focused on clinicians, but I always include some researchers, so people stay up-to-date on what the important futuristics and what important research and clinic

trials are being done. And I also include people with tinnitus. So, we actually have probably anywhere from 8 to 10, 12 tinnitus patients show up every time as well. And that's exciting because they are given some opportunities to share their experiences. And so for the clinicians who are just getting started in the field, that's just as an opportunity for the patients to share their stresses and their frustrations with going through the kind of framework of trying to get help.

S2 03:27

So the conference is pretty structured, that is it's not open to any clinician or researcher just to come and give a presentation. As are most conferences, this is by invitation only. And I structure it so, for example, there's always a presentation on the medical aspects. There's always a presentation on neurophysiology. And then we go through a variety of things, including new treatments that might involve cochlear implants or new treatments that might involve things like, oh, different kinds of sound therapy devices. We also always have counseling, and so we've developed the counseling procedure over the years. We call it Tinnitus Activities Treatment, and that goes along with sound therapy. And we always have a variety of different sound therapy options available for patients. I also invite select manufacturers. So 15 years ago, there were only 4 or 5 manufacturers producing devices for tinnitus patients, and now there are probably 30 or 40 manufacturers. And that's because patients find them helpful and are purchasing them, so more and more companies are getting involved and providing the manufacturer devices, both wearable and non-wearable devices. So in the manufacturer's forum, I control the amount of time they're able to speak, but they're able to give the clinicians an up-to-date overview of the kinds of sound therapy devices, and how they might differ, and how they might benefit their patients.

05 S2:12

I also work on a related presentation. So, for example, this year we will have a sleep specialist talk about sleep management. It's one of the most common problems that patients have, and we'll also have a specialist talk about mindfulness, one of the newer procedures that's catching on to try and help people be at peace with their tinnitus. So that's sort of a broad overview. It's two days, and this year will be held June 15th and 16th here in Iowa City.

S1 05:45

When we talk about the different methodologies and treatment approaches or management approaches, if you want to call it that, for patients, one of those you spent quite a bit of time and came out with a few years back. And I thought maybe we'd spend a few minutes and let you describe that particular approach and how that's different from some

of the other strategies that people can use to help patients manage their tinnitus and live with their tinnitus.

S2 06:15

Okay. Our approach is called Tinnitus Activities Treatment, and Tinnitus Activities Treatment differs from Tinnitus Retraining Therapy because we use collaborative counseling, not directive counseling. We also focus on the four primary functions affected by tinnitus, and most of the patients that come out of the clinic have problems with tinnitus in terms of thoughts and emotions and hearing. And then Tinnitus Activities Treatment also has modules that has to do with sleep, which is the most common problem tinnitus patients complain about, and concentration, trying to read a book or focus on a hobby or an activity. So, Tinnitus Activities Treatment focuses on thoughts and emotions, hearing, sleep, and concentration. But it's individualized, so different people require different modules. We call it activities because there's activities that happens in the clinic. They have to practice some things. They have some homework assignments. They go home. They usually come back within one or two weeks and follow up. We go through and review their homework, and we start them on the next module.

S2 07:37

I've been lecturing and helping people with this for many years around the world, and I'm glad to say that it is now widely used worldwide. And we publish some pictures on our Internet site that have been used and translated even into different languages around the world. Tinnitus Activities Treatment also uses a much lower level of sound therapy. We had proposed when I first started in this because I was worried that the broadband and the noise that was being used to totally cover the tinnitus, I was concerned that that could make the tinnitus worse in some patients. And also because I thought some people with noise-induced hearing loss, for example, might be more susceptible to noise-induced hearing loss and noise-induced tinnitus, and therefore, a high-level noise might make their hearing loss worse as well. Also, it might interfere with communication. So, we proposed very early, in the 1980s, that people use a low-level partial masking. And so we differed because when TRT was introduced, they recommended a higher level of partial masking that was called the mixing point. And the mixing point and total masking certainly works for some patients, but for the most part, partial masking, where the sound is in the background - the tinnitus becomes less loud and less intrusive, more acceptable - is a much better starting point. So that's the brief introduction to Tinnitus Activities Treatment. And this is done, as I said, throughout clinics now worldwide.

S1 09:29

Let's talk a little bit about some of the masking strategies out there because there are different philosophies on that. Although I have to say, it's been a while since I talked with someone clinically or in research who believes that a total masking approach is really the way to go. But especially for those patients that have hyperacusis, that can pose some problems sometimes with a high level of masking. And do you find that using the TAT methodology makes it a little easier for the patient

sometimes with those levels? And also, I'm curious if you've done much work in the different types of sound therapies that are out there, and if you found any to be more effective than the other. It sure seems like some of the research, what little there is, is showing us there may not be as much of a difference as we thought that there would be originally. But I'm curious what your thoughts are on that.

S2 10:25

So, let's just talk about sound therapy for tinnitus patients, first of all. So, I think, again, it is effective, and it is effective for many patients. Having a well-designed study and getting funding for a well-designed study is a bit of a problem. But I think there are some studies out there, and we have published some, and that we know from clinical experience that indeed patients benefit. I will say that, again, total masking helps some patients, but for most patients a low level of partial masking is desirable. I'll also say that there are a variety of different sounds out there. And our experience is that one sound is not superior to any other sound. You will play one sound to a patient and that patient will say, "Oh, that's just right. I really like that. That's fine. My tinnitus is less prominent." And then the next patient that comes in, you'll play the exact same sound, and that patient will say, "You've got to be kidding [laughter]. I could never listen to that sound." All these patients are individual. They all have different preferences. And you have to accommodate that when you're working with these people. And so sometimes we give patients two or three different sounds that they can play with over the next few days or weeks. But we don't expect one sound to be superior than any other sound.

S1 11:55

Sure. Sure. Do you find there's any benefit or has anybody done any research? Because I haven't seen any. Any research you're aware of looking at the efficacy of a more pleasurable sound versus possibly one that's maybe not annoying, but just not as pleasurable to a person, such as say a white noise-- I don't think very many people find white noise to be a very comforting or enjoyable sound to listen to, but do you know if anybody's looked at that?

S2 12:23

Well, I think that most studies have tried to adapt the noise to fit the patients. So the white noise actually is better named "broadband noise," but that works for a lot of people. It isn't like it doesn't work completely, and a lot of studies have been done using broadband noise. And that's a nice noise because it's easy to ignore. You don't want to be too engaged. And of course, it's also true that a lot of the manufacturers have tried to be clever and different, and so they've had to come up with something that's not broadband noise to try and make their products sound like it's different, and new, and unique. And again, that's okay. There's nothing inherently wrong with that. But again, I think that you can take broadband noise and increase the low frequencies, or increase the high frequencies, or modulate the noise, or add tone or music, or cut out part of the sound. And I think that we're just different and different people. So, I'm not convinced, again, that one is better than the other.

- S2 13:31 I do want to talk about hyperacusis because you mentioned that. And so I'll say, first of all, just that hyperacusis will be a focus actually. In our conference this year, our guest of honor will be Craig Formby, who has done some very elegant studies on hyperacusis, showing that it can help some patients. And the Tinnitus Activities Treatment, sometimes we call it Hyperacusis Activities Treatment, can also be applied. It has been proposed, I'll say, that broadband noise and other kinds of sounds can also help hyperacusis patients. But again, we usually start off with a pretty low level of sound. And Jonathan Hazell first suggested that people use low-level sounds throughout the day. Jack Vernon suggested for hyperacusis that patients actually listen to the sound in their living room when they are under control over it, and then listen to that at higher levels and for longer durations at their own speed. So, they can increase the level after a week or increase the duration after a few days. And I think that also helps some hyperacusis patients.
- S2 15:02 The hyperacusis strategy that we introduced and added to the clinician's strategy is patients often complain of hyperacusis. They often have very specific sounds that they're annoyed by. And so what we suggested is that people actually record those sounds, or we help them make simulations of those sounds. For example, it could be dishes being clanked. And so we then tell the patient to again listen to the sounds in their living room, just like Jack Vernon did, only again, now they're under control of these specific sounds. And they can control the level of the sounds. They're not surprised by them. They can increase the duration or increase the variety of those dishes making noise, and then eventually work their way through successive approximations to the kitchen, and make the noise in the kitchen. And then they can produce the sounds of the dishes clashing themselves, so. And I just use dishes as one example, but the idea, again, is starting off at a very low level, starting off with the patient in control of the sounds, and then moving forward to approximate the sounds that they're bothered by. We also make the distinction in hyperacusis patients between loudness, annoyance, fear, and pain hyperacusis. And so there's different forms of hyperacusis, and some of the patients, especially those with pain hyperacusis, are very, very distressed. So, it's important to start off at a low level. Sometimes, indeed, we have to use hearing protection, noise-cancellation devices with microphones, or sometimes even hearing aids with the gain turned way down, and the maximum output controlled so that high-level sounds do not reach the individual's ears, even if they don't have much of a hearing loss. So, there's a lot that can be done for hyperacusis patients as well.
- S3 17:09 Tinnitus and hyperacusis can go hand-to-hand, what part of that population has both symptoms, and what part of that population has just tinnitus alone?
- S2 17:22 Okay. So, it turns out that that's an interesting issue, tinnitus versus hyperacusis. And actually, in a study I did on trying to measure tinnitus loudness in the 1980s, we discovered that many of these patients with

tinnitus actually had loudness discomfort levels of tones-- they were much lower than a normal. And so that publication, our study, was the first study to actually link tinnitus and hyperacusis. And so there's been an attempt in a few situations to try and do some large surveys to see what the proportion is. And so the surveys are a little different, and that depends on the specific questions. But it turns out probably about 30% of patients with tinnitus also have hyperacusis, particularly loudness hyperacusis. And if you have hyperacusis, there's probably about a 70% chance that you have tinnitus. So there's quite a bit of overlap, which is important because at least in some cases, there will be some common mechanisms. And again, the sound therapy, and the Tinnitus Activities Treatment, and Tinnitus Hyperacusis Treatment has a lot of overlap as well. I think that the hyperacusis, again, can be quite challenging for a lot of people, so requires a careful approach. But a lot of patients can benefit from our treatments as well with hyperacusis.

S1 19:06

Is there any research coming out right now that you're particularly interested in or that kind of excites you for some new areas that we're looking into for the future?

S2 19:16

I think that it's a real tough one. I'll say that I've been involved in trying to develop a cochlear implant for tinnitus for a number of years. Many patients get a cochlear implant and say, "Oh, thank you so much, I can hear so much better." But even better than that, "My tinnitus has gone," or "My tinnitus has reduced." I've also been involved with some dietary supplements and finished a study recently on trying to do vagal nerve stimulation. And I think that there's been some successes and some failures. But I think that in all these things, there's often a few patients that are helped, even if most patients are not helped. And one of the things that we've highlighted over the years is that there are many different subgroups of tinnitus. So, we talk about tinnitus as if it's one thing, but in fact, there are many different causes and likely many different mechanisms. And there will never be one pill, or one mechanism, or one treatment that is going to help everybody. So, if we can help 10, or 15, or 20 percent of the population with tinnitus in a particular study, and if we can link and identify what's special about that subpopulation, then that's a significant contribution. Again, even helping 10 or 15 percent of the people with tinnitus would be a fantastic contribution.

S3 20:56

And to dovetail with some of the other interviews we've had, the worst thing that a provider can say to a patient, especially a patient who is in distress is, "I can't help you at all."

S2 21:11

Yeah, that's absolutely right. And let me just follow up on something that I think is really important here. You talked about future treatments and what was I excited-- or future research in the area and looking at mechanisms and things. And I think that I'm really happy now that there's a lot more research going on in actual exploring different treatment approaches on humans because I think that's a really important strategy. As I said, it's somewhat difficult to come up with the right animal model,

and know what sort of chemicals are involved, and know which parts of the brains are responsible for this. We know that the temporal lobe has to be active in order for someone to hear a sound. Then again, we've known that for decades.

S2 22:02           What I think needs to happen is I think there needs to be more of an interest in training and training clinicians to know what to do to help tinnitus patients. There are too many people that are being told by clinicians, and physicians, and audiologists, and other healthcare providers that there are nothing that can be done. There's nothing that can be done, and that's not true. The problem is a lot of people, a lot of clinicians, don't know what to do. But that's only part of the problem. The other part of the problem is that there's no reimbursement for it. So, I would like to see a larger emphasis on a lot of these self-help groups and a lot of associations, including the American Tinnitus Association, to spend some of their resources trying to help, if not training clinicians, then trying to lobby and strategize to help patients be reimbursed. Because if there's no reimbursement for clinicians working with these patients, then it's not so likely that they're going to take up on it. Now, of course, patients that can afford it can get help, but most of the healthcare insurance programs don't provide help. And so I think that it's time, and it's an important opportunity for the American Tinnitus Association, for people in different states, for tinnitus sufferers in general to get together, and do some lobbying, and figure out how we can get reimbursed, how clinicians can get reimbursed, to help tinnitus patients. The help is there, but the reimbursement is not there.

S1 23:51           Yeah, no argument here.

S3 23:53           Well said.

S1 23:54           Yeah, this is certainly not something that should be a procedure for the wealthy or something like that. But it is very time intensive. It takes a lot of clinical time to do this kind of work. And it also takes a lot of time and investment to even be able to do this kind of work. It is very specialized, and it's something somebody has to dedicate themselves to in order to even start doing or at least do well.

S2 24:21           Well, I think one of the other interesting things I'll just mention is that in the state of Iowa, you can now be compensated for noise-induced tinnitus, independent of noise-induced hearing loss. And so I started doing this a few years ago, and I do telephone interviews. I have a questionnaire, and I've mostly been trying to help workers who have been working in a factory for 10 or 15 years. And they often get noise-induced hearing loss and noise-induced tinnitus. And I think that a lot of these workers over the past two years are now being compensated for their tinnitus. And because of that, I think a lot of the factories are now doing a much, much better job at protecting workers' hearing. And that's a wonderful thing, and something that I feel really positive about, and something that I've contributed. That because people working in the factory for 20 or 25 years, it's almost

normal that they're going to get some kind of noise-induced hearing loss and noise-induced tinnitus. And I think it's a-- fortunately, I think the factories are doing a better job of protecting their workers. The technology has been around for decades, but in only the last 4 or 5 years, they're taking a stance because it's costing them money to reimburse their workers. Because they have not just noise-induced hearing loss but noise-induced tinnitus.

- S1 26:04 You are there in a medical center and a training facility, a medical school. Have you had any success in getting any kind of training or awareness involved in the physician program there, so that general practitioners are more aware of tinnitus if they're coming out of the University of Iowa's medical school?
- S2 26:28 Yes. So, I certainly teach about tinnitus and hyperacusis to all of our otolaryngology residents, and also in our annual basic science program, we actually have physicians come out from around the world. In addition to that, I give a lecture to our general practitioners every year and emphasize the importance of hearing, and hearing aids, and tinnitus to those clinicians. Again, because they can't help the patients. They don't have a pill they can give them [laughter], and they don't have any surgery they can offer in almost all cases, not always, but in almost all cases. They don't know where to refer to often. And they don't know what to do themselves. And so even if they want to help the tinnitus patients, it isn't obvious to them what the next step is because they have trouble finding a clinician. So, one of the things we try and emphasize when I go out and teach clinicians is to make connections with medical professions and professionals and try and let them know that you're there. That might involve sending them reports, finding out from the patient who they see.
- S2 28:01 Even if you don't get a referral from a physician, you can send a report to them saying that you've seen their patient, and you're helping them by doing A, B, and C. And then the physician knows that you're there, and he's aware or she's aware that you're a tinnitus specialist in your area. So, I think that's an important strategy to try and connect with other professionals. We also have to refer some of our patients to psychiatry because some of the patients are very desperate and need our help. And also, we end up getting referrals from psychiatrists. Because although there are pills for depression, and anxiety, and sleep, for a lot of the patients that end up in a psychiatrist office, they don't really know what to do and what kind of counseling strategies to offer to these tinnitus patients. So, we end up getting referrals from psychiatry as well.
- S1 29:06 Sure. You mentioned sleep, and the longer I've been seeing patients with tinnitus, the more I think that these patients that have bothersome tinnitus, and especially the really severe bothersome tinnitus, that we really can't underestimate the effects of getting sleep. And I'm curious what your thoughts are. So, you have a patient, and they're anxious about their tinnitus, which is very understandable. They may have even depression. There are a whole host of mental conditions that can

accompany tinnitus, especially those that need the treatment services. Where do you stand? What are your thoughts on working with patients - as you said, referring to a psychiatrist or physician for management of these other conditions, so that that's managed, and possibly even before we address the tinnitus, or simultaneously to addressing the tinnitus - so that they're getting sleep, so that they're able to focus on the activities we want them to do, and not so stressed out and anxious about the tinnitus?

S2 30:22

Well, again, sleep is one of the four primary areas affected by tinnitus, different in different people. And so that is part of our Tinnitus Activities Treatment. We have a sleep module. We go over the recent research on sleep, and what causes bad sleep, and what factors contribute to good sleep, and preparing the bedroom, and using sound therapy at night. We talk about and share sound pillows, talk about putting in a sound generator that they can control the level of in their room, talk about leaving the sound therapy in their room all the time. So they don't go bed and turn something on, so it reminds them of their tinnitus every day. So I think it's a common problem, and there are some good sleep habits that people can get into. There are some good sleep organizations, and our hospital even has sleep brochures.

S2 31:19

So I think that because sleep is one of the primary areas affected by many tinnitus patients, I think you're right. It's something that needs to be addressed early on. And once that can be helped, then that makes it a lot easier. One of the first studies we did, we found that most of the problems people have, including sleep, are most pronounced in the first six to eight months. And what I tell patients is when they first have this tinnitus, it's quite reasonable to be upset, and annoyed, and bothered, and trying to deal with this. It would be true for all of us trying to deal with something like this, unexpected, and we'd have no control over it. But after a few months, perhaps with some good treatment, and some exercises, and some strategies to do with sleep and other things, a lot of people after those first six to eight months are able to relax, and put it down in the background a little bit, and been able to move forward. They would still like the tinnitus to go away, but they've found a way to make their tinnitus less important in their life and move forward.

S1 32:28

Have you ever looked, in all the research that you've done over the years, at the number of patients who have bothersome versus non-bothersome tinnitus, what percentage that is?

S2 32:42

Not really, it's a difficult question.

S1 32:46

It is. Yeah, I agree.

S2 32:48

And I'll tell a little anecdote here. I had a research project. We were doing a funded research project, and it was covered by our university newsletter that went out to alumni all around the country. And it was a three- or four-page newsletter, and we had like two paragraphs on our study. And it was interesting because I had about 200 emails in the next month from people,

alumni all around the country. And they all pretty much said the same thing. They said they'd had tinnitus for 10 years, and it doesn't bother them. But if you found a cure, we will fly to Iowa City next week [laughter].

S1 33:35

Yes. And I can't think of a better way to wrap up the episode. So, with that, I'm just going to remind everyone that we've been talking with Dr. Rich Tyler, who is an audiologist at the University of Iowa in the Department of Otolaryngology-Head and Neck Surgery, as well as the Department of Communication Sciences and Disorders. And he hosts a conference each year on tinnitus specifically, which will this year be again at the University of Iowa on June 15th and 16th. And you can go online. I'm going to recommend doing a search because the URL I have in front of me is quite long. But if you search on Iowa tinnitus conference, I think you'll find it pretty easily. I just want to thank you for joining us here for this Conversation in Tinnitus.

S2 34:23

Thanks for having me. [music]

S1 34:38

The American Tinnitus Association is a nonprofit organization dedicated to research, advocacy, education, and support for people who live with tinnitus. Gifts and donations to ATA are used to support research for a cure and other critical missions described on our website at [www.ata.org](http://www.ata.org).