Tinnitus Questions With Robbyn Brodie

Robbyn Brodie, MSc, Registered Audiologist, Tinnitis Training Therapist

About the Author

Robbyn obtained her undergrad degree at UBC and her Master's Degree in Audiology from Dalhousie University in Halifax. She worked at the Children's Hospital of Eastern Ontario (CHEO) and the Ottawa Civic Hospital for five years before moving back to the West Coast and settling in Victoria with her husband and two children. She now works in private practice at NexGen Hearing Clinic (Royal Oak) and has been practicing Tinnitus Retraining Therapy since 2011.

Why or how did you get into audiology?

Growing up, both of my parents had significant hearing loss – my mom is deaf in one ear and my father has severe noise-induced loss – and I watched my grandfather withdraw into isolation as he stubbornly refused to wear his hearing aids. Then, while I was researching different career path options, I was volunteering in a speech-pathology clinic in Vancouver and within this clinic I discovered a tiny audiology department. I worked there for a bit and found it was a perfect fit.

You're originally from White Rock BC but went to Dalhousie to study audiology, right? How come?

There are so few options for places to study audiology (in English) within Canada – UBC, Western, and Dal! I did my undergrad at UBC and wanted a change for my master's degree. Dalhousie had a great program and the East Coast seemed to call to me more than Ontario (no offence Ted!)….little did I know that I would head to Ottawa for five years, right after finishing at up at Dal. Both my kids were born in Ontario!

At NexGen Hearing, you are one of the consultants with a specialty in tinnitus; when did you become interested in tinnitus?

As a student, I did a placement with Mark Gulliver at Nova Scotia Hearing and Speech Centre – he led group tinnitus sessions. I learned a lot there. In Victoria, there were few services for those who struggled with their tinnitus. I was seeing many patients whose primary complaint was tinnitus, not hearing loss. I could give them a little information, but felt that I would like to offer more.

As you know, there are lots of different and varying approaches to treating tinnitus; what is yours?

I use Tinnitus Retraining Therapy (TRT) principles to treat tinnitus. In 2011 I travelled to Maryland to study TRT under Dr. Pawel Jastreboff. TRT is based on the neurophysiological model of tinnitus developed in the late 1980s by Drs. Jastreboff and Jonathan Hazell.

This model of tinnitus suggests that it is the limbic system – the parts of the brain responsible for emotions – that assigns importance to tinnitus sounds (Figure 1). According to this model, if we perceive tinnitus sounds to be a threat or a danger (Figure 2), this provokes an emotional response, which in turn can provoke a stress response from the autonomic nervous system. Our awareness of tinnitus is heightened and so we perceive it to be louder or more persistent. This becomes a vicious cycle.

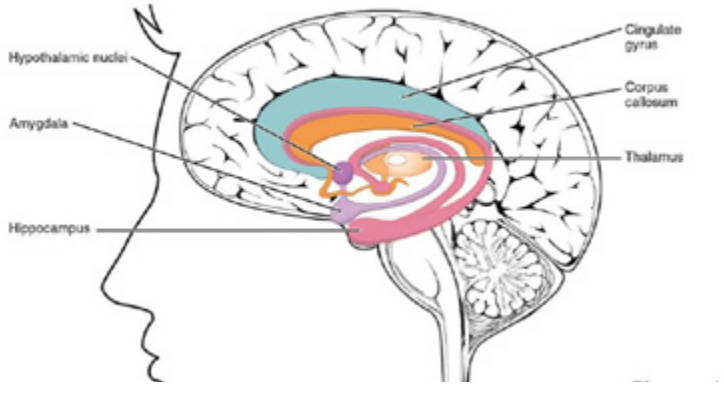

Figure 1. Showing parts of the limbic system from below (from Wikipedia)

Figure 2. The reaction to the tinnitus creates *distress*! Not the intensity of the tinnitus itself.

TRT combines counselling and low-level sound therapy. When we demystify tinnitus while simultaneously reducing awareness of the tinnitus, over time one's awareness of the tinnitus is reduced, and should only be noticeable when focused upon. This is known as 'habituation' and is the ultimate goal of TRT.

What do you think is the most common cause of tinnitus?
Well, noise-induced hearing loss is a big one, but I find that STRESS is definitely a common denominator in many of those with tinnitus. When someone is in the throes of great stress or anxiety, it is very difficult for them to "tune out" the tinnitus. Stress in turn can cause sleep issues, and when stressed and tired, coping mechanisms often go out the window.

Is there any kind of audiogram you often associate with tinnitus?
Typically a high-frequency loss, such as the typical noise-induced hearing loss pattern (Figure 3) though any shape of loss, conductive, and even perfectly normal hearing, is common too.

So how do you get going in treating clients with tinnitus? What steps do you go through?
First, I start by having them fill out some questionnaires which inquire about how their tinnitus sounds to them, which ear, how bothersome it is, their medical history, stress levels and sleep patterns, and also whether they have hearing loss. I then do a hearing assessment and I measure the tinnitus. Here, I get them to subjectively match the pitch and volume of their tinnitus. I also try to find the minimum masking level, and if there is any residual inhibition (Figure 4). Using all the gathered information, I decide which TRT category they fall into, which determines the appropriate treatment for them.

For some clients, basic information and education about their hearing (whether they have normal hearing or hearing loss) and tinnitus, and some brainstorming of ideas on use of environmental sound therapy to manage their tinnitus works wonders. Questions I hear often are "Will my tinnitus keep getting louder and louder?" "Will I go deaf?" "Do I have a tumour?" Many are relieved to find out that tinnitus is a fairly common issue and doesn't necessarily mean they have a tumour or disease (of course, I recommend further assessment where required), and this knowledge can be a help in learning to habituate to the tinnitus.

For those with hearing loss and mildly bothersome tinnitus, *often fitting them with hearing aids* (and always the counselling and educational component) brings in enough environmental sound that sound generators may not be required. However, hearing loss accompanied by a moderate or severe degree of tinnitus may require a combination device of hearing aid and sound generator in one.

There are two major components of TRT: educational counselling and sound therapy. The protocol is tailored to the client, as far as number of treatments, direction of counselling,

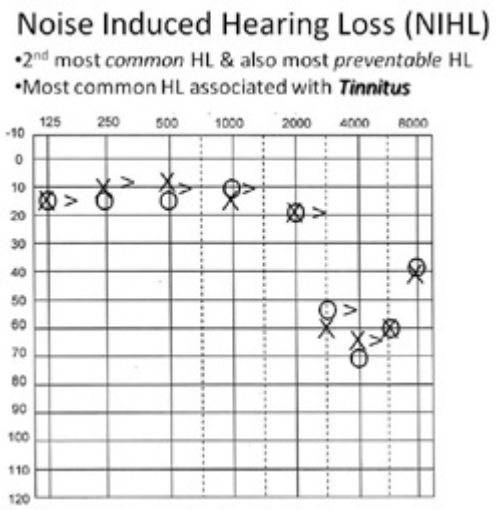

Figure 3.

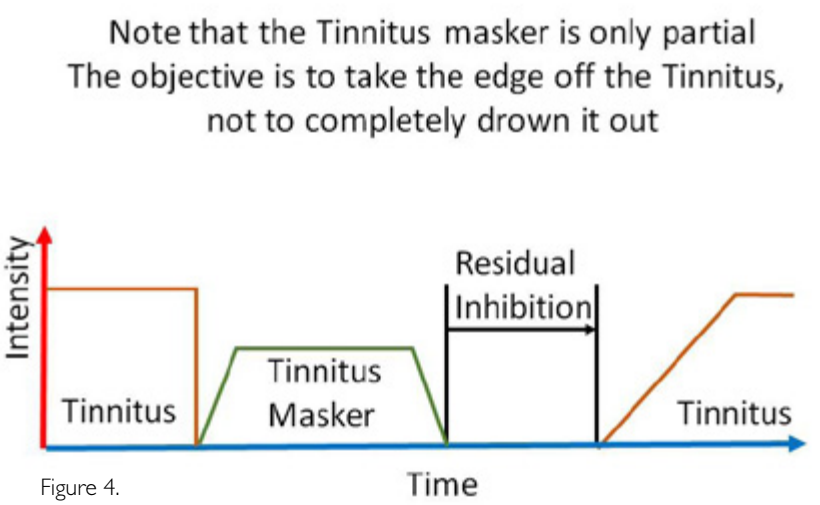

Figure 4.

and type of sound, ear-level device or environmental sound etc., but always involves counselling and sound therapy.

What do you think is the most important thing a client has to do when going for treatment of tinnitus?
They need to be willing to believe that their situation can improve. If they believe they have an unknown underlying disease or tumour which is causing the tinnitus, no degree of counselling or sound therapy will get them to habituation. This is why it is important that, when they start TRT, they have seen their doctors, had various tests done (i.e., MRI), have been assured that the tinnitus is not a symptom of something more sinister. The educational component of TRT is about demystifying tinnitus, and if they continue to believe the worst, the treatment will be unsuccessful.

A clinician not specialized in tinnitus has a client with tinnitus; what should they do?
I think that most audiologists and HIPs, with a bit of effort, can be well-equipped to deal with tinnitus. Education and patience are important in equal amounts!

I ask because Richard Tyler is now involved with International Hearing Society (IHS) in developing a tinnitus training program. The more hearing specialists equipped to work with tinnitus patients, the better! I'm all for it, as long as the professional is educated in treating tinnitus.

About what percentage of your clients complain of tinnitus?
I would speculate that approximately 25% of my clients complain of tinnitus. Tinnitus affects about 15% of the general population, though 75% of this group are not bothered by their tinnitus.

Do most of your clients with tinnitus have it in one or both ears?
Such variation! One ear, both ears, one louder than the other, some hear it in the middle of their head, while others hear it coming from out in front of them somewhere.

I recently attended a talk by Richard Tyler at the Western Canadian Symposium here in Victoria; he said that of clients who have had the VIII nerve severed to get rid of the Tinnitus, 30% still experience it! What do you make of that?
It's fascinating, isn't it? For the lucky patients who found this surgery to be successful, their tinnitus must have been originating in the damaged ear – sending abnormal patterns of activity to the brain. For the remainder of the patients whose tinnitus was not relieved, the tinnitus must be stemming from somewhere else in the brain or body. I have certainly never recommended this option to any of my clients! There is still so much about tinnitus that isn't understood.

Ever experience tinnitus for a brief moment and then it goes away? What do you think that is?
Most of us experience brief episodes of "hearing loss" accompanied by loud high-frequency tinnitus which fades away in less than a minute. This is a normal event, caused by muscle spasms of the tensor tympani, contracting and tightening the eardrum. This is simply a muscle twitch! Don't worry, these episodes are not a sign of auditory damage. They may be associated with caffeine intake or head or neck movement, but they are just as likely to be randomly occurring.

What do you recommend as an inexpensive home-made treatment to ease the negative effects of tinnitus?
Stress-reducing activities. Avoid silence – use a fan, music, TV, one of many free tinnitus apps on a smartphone or iPad, bedside sound generator – 24 hours a day. Understand that the less you react to the tinnitus, the less prominent it will become.

Thanks Robbyn for describing your clinical encounters with tinnitus! I think our readers in the clinical trenches will appreciate your common-sense approach. All in the spirit of learning from each other; Cheers!