The Connection

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A Publication of the Acoustic Neuroma Association of Canada

Association pour les Neurinomes Acoustiques du Canada

www.anac.ca

Inside this issue:

Surgical Treatment of Vestibular Schwannomas: Does Age Matter?

The number of older persons in the U.S. diagnosed with an acoustic neuroma/ vestibular schwannoma (VS) is expected to increase significantly as total population grows, life expectancy rates continue to rise, and easy access to MRI diagnostics expands. Median patient age at diagnosis increased from 49.2 years in 1976 to 60 years in 2015. Life expectancy at birth has increased more than 60% since 1900 from about 50 to 80 years. The table below shows the corresponding increase in life expectancy for seniors at age 65 for the period 1980-2020.

Life Expectancy in Years at Age 65: United States, 1980-2015*

Date	White Male	White Female	Black Male	Black Female
1980	14.2	18.4	13.0	16.1
1990	15.2	19.1	13.2	17.2
2000	16.1	19.1	14.1	17.5
2005	17.0	19.7	15.0	18.3
2010	17.8	20.3	15.9	19.3
2015	18.0	20.5	16.4	19.6
2020	18.1	20.6	16.1	19.5
National Center for Health Statistics				

There are many single-institution medical journal reports comparing surgical outcomes for older and younger acoustic neuroma (VS) patients. The present article provides a sampling of reports available to read (in abstract or sometimes full text) at www. PubMed.gov.

- Researchers at the University of Utah, Clinical Neurosciences Center, asked (2016): "Does age matter?" They reviewed their records for patients (>65 years) treated for VS, 2000-2012. The average tumour size was 16.5 mm.

Surgical Treatment of Vestibular Schwannomas: Does Age Matter?

They found no significant differences in surgical complications, facial nerve outcome, or hearing preservation rates between 23 older and 220 younger patients." They concluded: Age alone may not be an absolute contraindication to surgical management of VS. Other factors need to be considered, such as general health, tumour size, surgical approach and preoperative hearing.

- A Mayo Clinic study (2014) compared outcomes for 20 surgery patients 70-86 years old and a matched group of younger adults 25-69 years old. The mean tumour size was approximately 3 cm. Overall, the elderly patients had poorer preoperative physical status and were 13 times more likely to have long-term post-operative imbalance. There were no differences in surgery related complications or facial nerve function. For the elderly patients, there was a high risk of further tumour growth following STR (subtotal removal); six patients required intervention for tumour remnants after STR.
- The acoustic neuroma team at the University of California/San Francisco reported (2003) on the effect of age on hearing preservation, facial nerve outcome, and complication rates following surgery. 150 older patients (>60 years) were compared with 55 younger patients (< 40 years). The team found that there is a lower chance of preserving good hearing in older patients but age was not associated with a difference in the rate of good facial outcome. There was a trend toward slightly higher rates of cerebrospinal fluid leak in the older patient group but no difference in the rate of other complications. The team also looked specifically at outcomes in an attempt for hearing preservation. Age, they found, was associated with a lower rate of preservation of good hearing.
- The University Health Service Consortium compiles a national inpatient discharge database that can be queried for information about VS surgery patients treated at nearly all academic medical centers and hundreds of U.S. hospitals. Researchers at the Medical University of South Carolina, Charleston, used this national UHC database to identify and analyze 3,697 VS surgical cases for a 3-year time span, 2012-2015.

Abstract: Surgical outcomes, such as length of stay (LOS), complications, and mortality, were analyzed on the basis of race, sex, age and comorbidities during the 30-day postoperative period.

Results: The overall mortality rate was 0.38%, and the overall complication rate was 5.3%. Advanced age significantly affected intensive care unit LOS, mortality, and complications. Comorbidities, including hypertension, obesity, and depression also significantly increased complication rates.

Surgical Treatment of Vestibular Schwannomas: Does Age Matter?

Conclusion: Modern VS surgery has a low mortality rate and a relatively low rate of complications.

Discussion: Specific information that is key to VS surgery including tumour size, individual institution case volume, surgical approach, facial nerve function, and hearing status is unfortunately not available through this database. The study only involved the 30-day postoperative period which precludes long-term data. Weight loss, a comorbidity associated with advanced age and/or chronic illness, was associated with much poorer outcomes. African Americans were found to have a higher complication rate than other races in this study. However, a statewide study of general surgical complications in African American patients found it was mostly due to an increased prevalence of comorbidities. As results and other studies demonstrate, the potential benefits of watching and waiting in the older population must be balanced against the risks of having surgery at advanced age.

- The University of South Carolina researchers have also used the UHC national database to investigate the extent to which institutions that perform higher volumes of VS surgery (HVHs) have lower complication rates, shorter LOS, and more routine discharges. For outcomes, the focus is on the importance of surgeon experience rather than patient age.

This article, reprinted with permission, first appeared in the ANA New Jersey Newsletter March 2022.

ANAC Welcomes Matt Madott to the Board of Directors

Matthew obtained his law degree from the University of Ottawa and practices family law, estate planning and civil litigation in Mississauga. He has appeared before the Ontario, Superior and Divisional Courts and is a skilled advocate.

Matt is married with three young children. He enjoys coaching youth, playing competitive hockey, golfing and cheering on the Maple Leafs with friends.

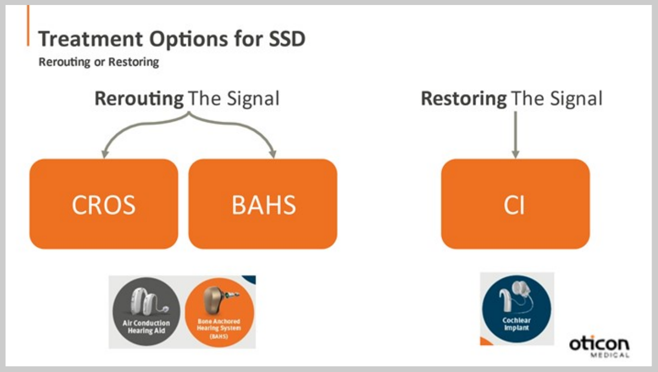
Matt joined ANAC in 2018 and attended the symposium that same year to learn more about his acoustic neuroma. Since joining the board in March, Matt has already brought his advocacy and networking skills to help ANAC grow.

Alternative Treatment Options for Single-Sided Deafness (SSD)

By: Jennifer Harris, M.Cl.Sc., Reg. CASLPO

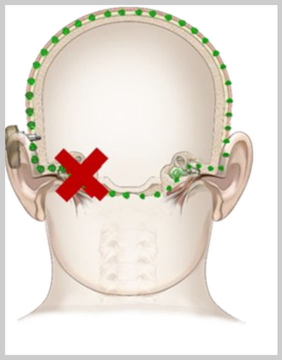
Hearing loss comes in many shapes and sizes. With all the variations in hearing loss, it is important to understand the different types of solutions available. One solution may be more appropriate than another given the type, severity and etiology (cause) of the hearing loss. Conventional hearing aids are appropriate for mild to severe hearing loss, but a hearing implant may be better for a severe to profound hearing loss. Patients with unilateral hearing loss – like Single-Sided Deafness (SSD), with one normal functioning ear and one deaf ear – are now being considered potential implant candidates for either a Bone Anchored Hearing System (BAHS) or a Cochlear Implant (CI).

With SSD, most people are familiar with a CROS or BiCROS system. These devices work by transmitting sound wirelessly from the deaf ear into the better ear. CROS/BiCROS is often the first treatment option considered because clinicians are most familiar with this solution, and it does not require surgery. However, for patients who are unsuccessful with a CROS/BiCROS, it may be time to discuss an implant!



Bone Anchored Hearing Systems (BAHS) for SSD

A BAHS is a hearing device that transmits sound through vibrations of the skull. Rather than sending an acoustic signal through the ear canal to the inner ear (air conduction pathway), the signal is transformed into vibrations and sent via the skull to the inner ear (bone conduction pathway). Bone conduction is the reason why you think '*do I really sound like that?!*' when you hear yourself on a recording. When you listen to a recording of your own voice, you are missing the sound transmitted via bone conduction.



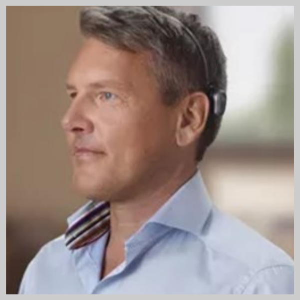
Patients with SSD can take advantage of this bone conduction pathway by using a BAHS to transmit sound from their deaf side to their better ear via vibration of the skull. The BAHS is placed on the deaf ear where it picks up sound, converts the sound into vibrations which are then sent along the skull to the opposite (good) ear. One of the major benefits of this type of system compared to a CROS is that both ears

Alternative Treatment Options for Single-Sided Deafness (SSD)

remain completely open – there is nothing sitting in the ears. Another advantage is that you only need to wear ONE device. Nothing is required on the good ear.

A BAHS can be worn surgically (recommended) on an abutment or non-surgically on a headband. The benefit of implantation is better access to sound, improved aesthetics, and comfort. With a surgically worn BAHS, there is no skin in the way dampening the sound, meaning users get an extra boost in the pitches responsible for speech clarity and understanding. Additionally, when implanted, there is no need for a headband, making it a more discreet option with no sensation of pressure:

BAHS on Headband / Softband



BAHS on Abutment

(Abutment seen here)

BAHS vs. CROS for SSD

Remember that these are two different systems that function in a similar way – by *rerouting* the signal from the deaf ear to the good ear. There are pros and cons to choosing one system over the other and it usually comes down to patient preference and subjective benefit from a trial with each system. Benefits to choosing a BAHS for SSD from the literature:

- Patient's subjective benefit rated higher than with CROS
- Better speech understanding in noise compared to CROS System
- Subjective tinnitus ratings decreased over 6 and 12m of BAHS usage
- Higher rates of retention compared to CROS

Alternative Treatment Options for Single-Sided Deafness (SSD)

Cochlear Implants (CI) for SSD

A cochlear implant is a hearing device that converts sound in your environment into an electrical signal that is sent via your hearing nerve to be interpreted by your brain. It is a device for individuals who have a severe to profound sensorineural hearing loss, and for whom conventional hearing aids are not sufficient.

A cochlear implant is another implantable solution for SSD. This type of implant is different from a BAHS in that with a CI, we are attempting to *restore* the hearing in the poor/deaf ear. One major advantage of this treatment option compared to CROS or BAHS, is that patients will have access to sound through both ears. It is well documented that hearing with two ears is beneficial. These benefits include better speech understanding in noise and improved localization.

There are several other advantages to cochlear implantation for SSD:

- Improvements in:
  - speech-in-noise perception for adults
  - isolated speech perception using only the implanted ear
  - speech understanding in background noise in children
- Long-term improvements in localization and subjective improvements in speech intelligibility and spatial hearing
- Potential improvement in tinnitus symptoms 1-2 months post-activation

Candidacy for a CI is more complex than with a CROS or a BAHS. Given the complexity of the surgery and the different method of hearing that is achieved with a CI (hearing by electrical stimulation rather than acoustic), there are more factors that need to be considered in determining candidacy for CI:

- Duration of deafness
- Cause of deafness
- Age of patient (In Canada there is no upper age limit for a CI)
- Medical comorbidities/general health of patient
- Patient's motivation and dedication to better hearing

Alternative Treatment Options for Single-Sided Deafness (SSD)

How do I know if a BAHS, CROS or CI is best for me?

To start, identify what your main goals are with amplification; is it to hear better in noise? Regain hearing in your deaf ear? Improve your sound awareness? Answering these questions will be helpful in determining which solution(s) is most appropriate. This table summarizes the benefits/ considerations for each system:

CROS/BiCROS	BAHS	CI
• No limits on duration of deafness • No binaural processing benefits • No surgical component • Ability to trial device • Audiologist and patient familiarity with system • Two devices required: one on each ear • Minimal rehabilitation required • Continued care with existing audiologist	• No limits on duration of deafness • True SSD, not ideal for patients with hearing loss in better ear • No binaural processing benefits • Ability to trial device on softband/headband prior to implantation • Only one device required: worn on deaf side • Minimally invasive surgery (~30min outpatient procedure, local anesthesia, minimal recovery) • Minimal rehabilitation required • Ongoing care typically provided by BAHS centre	• Short duration of deafness preferred • Patient must be highly motivated and dedicated to rehabilitation • No ability to trial a CI • Patient must have trialled CROS or BAHS with limited success prior to CI evaluation • Improved binaural processing • Potential for tinnitus reduction • More invasive surgery (~2hrs), general anesthesia • Ongoing care provided by CI centre

Questions to ask your Audiologist:

- Am I a candidate for a BAHS or CI?
- Is there funding for BAHS or CI in my province?
- Where can I get a BAHS or CI?
- Are there patients I can speak with who have been through this process before?

To learn more about BAHS and CI, visit https://www.oticonmedical.com/ca.

Jenny Harris, M.Cl.Sc., Reg. CASLPO

Jenny is an audiologist with Oticon Medical Canada, a bone anchored hearing system and cochlear implant manufacturer. She is the Clinical Support and Business Development Manager for BAHS and CI. Based on her clinical background, Jenny is passionate about sharing her knowledge on implant candidacy and technology. Prior to joining Oticon Medical , Jenny worked for the Infant Hearing Program in Ontario.

My Uninvited Guest

By: Judit Genovart Jané, Dundas, Ontario

Once upon a time I met a new friend.

I wasn’t looking for him when suddenly he showed up in an MRI; he was found in February, 2020, just a couple of weeks before the pandemic started.

That was when I got a call from my neurologist letting me know about three different issues they discovered in the MRI: “a tumour in my ear (probably benign)”, a massive sinus infection, and a rotting tooth which had caused a hole in my jawbone. (This last issue was probably due to a poorly-performed root canal about eight years before.)

I considered myself lucky that there was nothing more serious. At that point I was unaware how my newfound friend would complicate my life!

The neurologist referred me to a neurosurgeon in my home town of Hamilton. Five months later I got a phone call from the neurosurgeon, who finally put a name to my new friend: acoustic neuroma (AN).

Given that the size of the tumour was 1.9 cm, he recommended a “watchful waiting” approach. He gave me very little other information about my friend.

Meanwhile, I decided to go ahead and have the other two issues dealt with: I had sinus surgery in September, 2020 (since then I have been free of the chronic sinusitis, which had plagued me for years), and I had my root canal revision completed by 2021. That left me only to figure out what to do about the acoustic neuroma.

I should mention that I was 49 when the tumour was discovered. If it had caused any symptoms up until then, they were mild and would never have led me to suspect anything serious. The initial MRI was ordered because of a completely unrelated episode. Over the course of the following two years, my symptoms remained mild, but included slight hearing loss, sometimes a little bit of dizziness (like floating), and hyperacusis (hearing distortion), which started in February, 2021. To date, it’s the hyperacusis which bothers me the most, but so far it hasn’t limited my activities. I do, however, take musicians’ ear plugs with me whenever I go to the theatre or a concert.

During 2020–2021, I had two visits with an otolaryngologist in Hamilton. He performed a substantial number of tests to assess my hearing, nerve function, vision, and balance. He explained to me that acoustic neuromas can greatly impact the sense of balance, and encouraged me to do some exercises to try to compensate. Since then, all during the lockdown periods, I have

My Uninvited Guest

forced myself to go on long walks every day, moving my head around as if I were "window shopping". Whenever the gyms were open, I continued to play squash and ping pong with my husband, seemingly very good workouts for this issue.

In February 2021 I had my second MRI (about a year after the first); the tumour had grown to 2.2 cm. I waited for a month for my neurosurgeon in Hamilton to reach out and interpret the results for me. I finally called his office.

Unfortunately, I felt anything but positive about this doctor's approach: he was abrupt on the phone, scolded my husband for interrupting with a question, offered few details about the different kinds of treatments possible, and said very little about the possible consequences of surgery (hearing loss, facial paralysis…). He didn't mention the possibility of gamma knife at all. At one point, he asked me about my hearing in the affected ear and I said that it was "not very good." Based partly on this comment, it seemed, he recommended translabyrinthine surgery. (He did not call it such, but said that it would "sacrifice my hearing.")

I was in total shock after this conversation. But I was sure of two things: he wouldn't be my neurosurgeon and I wanted to find a treatment as soon as possible.

Starting that day (in March, 2021), my husband and I started seriously researching acoustic neuroma treatments. We worked as a team—he did the Canadian research and I did research about Spanish options (I'm from Barcelona and my family still lives there).

Spain has an excellent healthcare system, just like we have in Canada. Unlike Canada, however, theirs is a mixed public-private system. Not having lived in Spain for almost a decade, I no longer have public medical coverage, but I was able to arrange for virtual appointments with three different neurosurgeons from different hospitals in Barcelona. It was money well spent; for the first time, someone explained to me very clearly the nature of acoustic neuroma, the treatment options, and the process. They were able to log into my online health records and illustrate what they were talking about with my Canadian MRIs (comparing my right and left auditory nerves, for example, so that I could more clearly understand the size and position of the tumour). (Interestingly, all three Spanish neurosurgeons seemed to be perplexed as to why the MRIs had been done "without contrast".) I had also provided them with access to my audiological assessment. Although I discussed gamma knife with them, all three of these surgeons recommended that I undergo retrosigmoid (suboccipital) surgery, partly in order to try and preserve my useful hearing. When we asked about wait times, the answer was basically "as soon as you're ready." I was very close to packing my suitcase and getting the surgery done there.

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As I said, my husband was doing his research in parallel, and came across the website of the Acoustic Neuroma Association of Canada.

And, oh my goodness, what immediate relief! I took out a membership right away and the next day I got a call from the Executive Director, Carole Humphries. Everything started to become less stressful and more hopeful. For the first time in the process, I felt that I had someone informed, objective and trustworthy to whom I could turn.

Carole passed along the contact information of others with an acoustic neuroma with whom I could get in touch. Some of them had already had surgery or gamma knife. I emailed three people from the list, and I got responses from all of them. It was very reassuring to hear about their experiences.

Carole also provided me with the names of neurosurgeons at Toronto centres of excellence in acoustic neuromas. I asked my family doctor (in April, 2021) for a referral. Surprisingly, my family doctor not only tried to convince me to stay with the Hamilton neurosurgeon, she also refused to make two referrals, saying in part that too many opinions would just confuse me. She said I would have to choose one of the two, and I picked Dr. Zadeh from Toronto Western Hospital. From there everything proceeded quickly, and I was grateful for that.

After less than three weeks I received a call from Dr. Zadeh (mid-May). She was the first doctor who asked me personal, lifestyle questions such as if I had children and what my job was. I really appreciated this because it was obvious that she was trying to evaluate the impact which unintended surgical outcomes (loss of hearing, facial paralysis etc.) could have on my life.

We talked about retrosigmoid surgery, possible post-surgery complications and how difficult it was to perform. (One of her most interesting statements was that, at least in my case, on a scale of complexity from 1 to 10, retrosigmoid surgery rates about 9.5!) It was also interesting to learn that my being relatively young could make the surgery more complicated: because my cerebellum would not have shrunk too much yet, it would be more susceptible to damage when they had to move it aside to access the site of the tumour.

Finally, she advised me that she thought gamma knife radiosurgery would be a good option for me if, after further evaluated by her team, I was found to be a suitable candidate. She left it up to me to decide what to do. I told her that I would like some time to think about the two options. She told me that she could perform either conventional surgery or gamma knife in September 2021 (just 4 months later).

My Uninvited Guest

The following Monday I called Dr. Zadeh's office to let them know that my decision was to go with gamma knife.

Why Gamma Knife?

- I was told that in 85% of patients it stops the tumour from growing any further.
- I can live a normal life with the tumour, even if I need follow-up MRIs for the rest of my life.
- It's much less invasive than conventional surgery, and there is a better chance that the adjacent brain and nerves can be preserved.
- I certainly hope I am among the 85% whose tumours stop growing, but even if it doesn't work it's not the end of the world because there are still other options.
- On the downside, I was informed just prior to gamma knife that many patients will still experience total hearing loss on the affected side; some of them very quickly after the treatment and others gradually, over a period of years.

Everything was quick and easy after that. I received Instructions from Dr. Zadeh's office. Finally, the big day arrived, and I had gamma knife on July 28th, 2021.

I was extremely nervous the day of the radiosurgery, even though I knew how it would unfold. (In one of the calls, a doctor explained it very clearly and they even sent of video of what to expect.)

I arrived at Toronto Western Hospital early in the morning. Due to COVID-19, my husband wasn't allowed to come in with me. A nurse took care of me the whole time.

Before undergoing the radiation treatment, four members of the gamma knife team attached the frame to my skull, using only a local anesthetic. I have to say that I was terrified and shaking, but the team made me feel safe and comfortable.

I had to wait for another scan, performed with the frame attached, and then was finally taken to the gamma knife machine. It feels very similar to getting an MRI, but better because it doesn't make any noise. I was in the machine for 50 minutes; I was able to relax, practise my breathing, and try to think good thoughts. I felt a great sense of freedom when I emerged.

Author Joshua Kai reminds us:

"Even the smallest shift in perspective can bring about the greatest healing."

I'm imagining what that might take, perhaps reading an article or book or joining a group of like-minded people in order to gain a new point of view. Just one small shift in perspective can change everything.

My Uninvited Guest

I felt physically great the day after the treatment. My hyperacusis worsened for a couple of weeks, and for the first time ever I experienced some tinnitus. My ear felt blocked for long periods of time. Fortunately, the tinnitus disappeared after a month, and the hyperacusis went back to the same level that I had before. The feeling of fullness only occurs occasionally, and may be associated with congestion from head colds.

Two weeks after the radiosurgery, I flew to Barcelona with my husband and daughter to visit family whom I hadn't seen for two years. The trip was a gift to myself for two years of negotiating this unexpected acoustic neuroma journey.

We're almost at the end of (this part) of my story; in January, 2022 I had my first follow-up MRI after gamma knife, and I'm happy to report that the tumour has not grown and may in fact have shrunk slightly. Woo-hoo!

I'll finish by saying once again how grateful I am to ANAC, its many members who have shared their stories and experiences, and in particular to Carole Humphries for her guidance and support.

Judit Genovart Jané, Dundas, Ontario

Note: The views expressed in this article are strictly those of the author and do not necessarily reflect those of ANAC, physicians or other health care providers.

Challenges for People with Hearing Loss

By: Shari Eberts

What Covid-19 Has Taught Me about Hearing Loss

As a hearing loss advocate — and a person who has lived with hearing loss for more than half my life — I pride myself on knowing a lot about the challenges it brings. Over the years, I have become skilled at self-identifying, using assistive listening technologies, adjusting the environment for better hearing, and asking others to use communication best practices. But as the pandemic has shown me, there is always more to learn.

Challenges for People with Hearing Loss

I rely on lipreading more than I thought

I have always used speechreading cues to help me fill in the blanks of my residual hearing, but I didn't know to what extent until they were gone. Trips to the grocery store, the doctor, or an outdoor restaurant have become increasingly challenging with everyone's face hidden. Asking people to face me when talking to me, one of my go-to strategies, is no longer effective. I never expected to long for the days when only facial hair was the barrier between me and the information carried by someone’s lip movements and facial expressions.

With only my residual hearing available (boosted by my hearing aids, of course), I feel awkward and ill at ease when running errands or trying to socialize. Keeping six feet apart only adds to the discomfort, as this distance is often the outer limit of usefulness for many hearing devices.

Everyone’s hearing loss is different

Masks do more than block speechreading cues; they also muffle sound, especially higher-pitched sounds critical for speech understanding. A recent study showed that sound dampening effects vary significantly by type of mask. Surgical masks had the least impact, blocking only 5 dB of sound, while clear masks, popular with people with hearing loss because they allow speechreading, block 12–14 dB, depending on the brand.

For people who rely on residual hearing to communicate more than speechreading, clear masks may actually make it harder to communicate. But if you are primarily a speech reader, they are of enormous benefit. The vast differences in how people experience hearing loss make it hard to find one solution that works for us all.

My hearing loss confidence has taken a hit

Hearing loss exhaustion is a common side effect of hearing loss. I describe it as the feeling at the end of the day that you cannot bear to interpret even one more sound. When you have hearing loss, understanding speech takes effort to combine the sounds that we hear, context clues, visual clues, and body language to determine what is being said. It's not easy, mainly because the conversation does not pause while doing all this mental processing. And then, you may need to reply!

The pandemic has only made this phenomenon worse, given the added strain of communicating with masks. The fear of not understanding adds to the exhaustion of each communication encounter — whether online or in person. My hearing loss confidence falters at times, but I am rebuilding it by embracing new technologies, including speech-to-text apps like Google's Live Transcribe (Android only) or Otter.ai.

Challenges for People with Hearing Loss

Hearing loss is invisible

Most people take their hearing for granted, so they assume everyone else can hear too. Grocery check-out workers speak at a normal volume despite being masked and behind plexiglass, as do doctors and nurses, and almost everyone else. This is only natural given their life experience. And because hearing aids are small and hard to see, people may not realize we do not hear well unless we tell them.

Wearing a button or a pin declaring your hearing loss is an easy way to make your hearing loss more visible. Some people have even embroidered "Please speak louder" or "I am deaf" onto their masks. How we choose to let people know about our hearing loss is our choice, but we must do it. Self-identification is the first critical step toward better communication.

Self-advocacy is the key to success

Self-advocacy has always been the key to success with hearing loss, and it continues to be. Once we identify ourselves as a person with hearing loss, we must let others know the specific things they can do to help us understand. The more detailed we are, the higher the chances are for successful communication. Making our requests with a smile, even one hidden behind a mask, is more likely to get results. Everyone is struggling in these challenging times. When we ask for what we need with kindness, there is a much higher likelihood the person will do as we ask.

Shari Eberts is a hearing health advocate, writer, speaker, and avid Bikram yogi. She is the founder of LivingWithHearingLoss.com, a blog and online community for people living with hearing loss and tinnitus. She has an adult-onset genetic hearing loss and hopes that by sharing her story, she will help others to live more peacefully with their own hearing issues.

Shari serves on the Board of Hearing Loss Association of America (www.hearingloss.org) and is the former Board Chair of Hearing Health Foundation (www.hhf.org). She serves as Lead Patient Advocate and Co-Lead of the Stakeholder Advisory Team for the PCORI study "Addressing the Clinical Dilemma and Patient Preference for Unilateral versus Bilateral Hearing Aids.

Earl Nightingale, author and motivational speaker reminds us to:

"Never give up on a dream just because of the time it will take to accomplish it.
The time will pass anyway."

What a powerful piece of encouragement. Time will pass no matter what. There is no stopping it. So, you might as well focus on your dream. To do otherwise is to abandon the very thing you most want to achieve and then the time will be gone anyway.

Research Abstract

Pub Med Gov Brain Res. 2021 Jan 7;147277.

Salience, Emotion, and Attention: The Neural Networks Underlying Tinnitus Distress Revealed Using Music and Rest

Somayeh Shahsavarani, Sara A. Schmidt, Rafay A. Khan Yihsin Tai, Fatima T. Husain

In the study, innovative music-rest interleaved fMRI paradigm was to investigate the neural correlates of tinnitus distress.

Background: Tinnitus where individuals perceive sounds in the absence of an external source is poorly understood. Although the great majority of individuals habituate to chronic tinnitus and report symptoms, a minority report debilitating distress and annoyance. Prior research suggests that a diverse set of brain regions, including the attention, the salience, and the limbic networks, play key roles in mediating both the perception of tinnitus and its impact on the individual. Salience is the way researchers understand what information will most likely capture one's attention in a given situation and have the greatest influence on one's cognitions about the stimuli. The limbic system is thought to be an important element in the body's response to stress, being highly connected to the endocrine and autonomic nervous systems.

However, evidence of the degree and extent of their involvement has been inconsistent. The conventional resting state fMRI was minimally modified by interleaving it with segments of jazz music.

Results: The functional connectivity between a set of brain regions-including cerebellum, precuneus, superior/middle frontal gyrus, and primary visual cortex-and seeds in the dorsal attention network, the salience network, and the amygdala, were effective in fractionating the tinnitus patients into two subgroups, characterized by the severity of tinnitus-related distress. Further, the findings revealed cross-modal modulation of the attention and salience networks during the music segments. On average, the more bothersome the reported tinnitus, the stronger was the exhibited inter-network functional connectivity.

Conclusion: This study substantiates the essential role of the attention, salience, and limbic networks in tinnitus habituation, and suggests modulation of the attention and salience networks across the auditory and visual modalities as a possible compensatory mechanism for bothersome tinnitus.

Upcoming Chapter Meetings Planned

KITCHENER—WATERLOO CHAPTER

Date: **Wednesday, April 20, 2022**—7pm—9pm
Location: Virtual Meeting—Details to follow
For more info: Linda Darkes
(519) 696-3445 / pdarkesc659@rogers.com
Helen Horlings
(519) 954-5581 / healto@rogers.com

BRITISH COLUMBIA: COURTENAY/NANAIMO CHAPTER

Date: **Saturday, May 28, 2022**—10am—12noon
Location: Virtual Meeting
For more info: Evalyn Hrybko
(250) 282-3269 / wehrybko@saywardvalley.net
Caroline Bradfield
(250) 897-3553 / digitalgal@shaw.ca

TORONTO CHAPTER

Date: **Tuesday, May 31, 2022**—6:30pm—8:30pm
Tuesday, June 28, 2022—6:30pm—8:30pm
Location: Virtual Meeting—Details to follow
For more info: Kathryn Harrod
(905) 891-1624 / kath.harrod@live.ca
Linda Steele
(416) 993-0065 / lindasteele2@gmail.com

ANAC
P.O. Box 1005
7 B Pleasant Blvd.
Toronto, ON M4T 1K2

T: 1-800-561-2622
T: 1-416-546-6426
E: director@anac.ca

Website: www.anac.ca
Facebook: Acoustic Neuroma Association of Canada–ANAC
Twitter: @CanadaAN