



# Canadian Hard of Hearing Association North Shore Branch

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## Mountain Ear

### From the desk of the President.

If yesterday wasn't the day before today, I wouldn't know what day it is, so tomorrow could well be Covid day. Have you been getting a little like that, with everyday being the same? We should re-name the days of the week to something like Someday, Today, Everyday, Anyday, Anotherday, Tomorrow and Yesterday. I'm not sure that it's been any harder for us hard of hearing folks, but, just like everyone else taking it just one day at a time is a lot like saying, "I'm sorry, would you repeat that"

With all this social distancing, we've been finding newer ways of meeting, have you tried Zoom yet? The nice thing about zoom, or skype or duo, is that you get to see everyone in your conversation/meeting face on, so it can actually be a little easier for us folks, of course, you've still got to get the video and audio working first, but once that's done, well, now you can see everyone.

2 weeks ago your board had its first zoom on-line meeting, big thanks to Deborah who got the technicalities (and technology) out of the way, we managed to get lots accomplished. Most importantly, as it was our year-end, we got all the finances up to date and put to bed for another year.

Not surprisingly, we are in good shape, financially, but unfortunately we're not getting much done these days, but this too will pass, and we'll be ready when it does.

VCC's "speechreading/Learning" classes are over for this year, and we have just heard that they are going online starting in the Fall. Lisa has given us a full report and it is printed on page 7 & 8 of this newsletter. The information on how to register is included and I suggest you get your notification that you are interested in early.

I was in a grocery store the other week, and at the check-out, with her mask on, the cashier asked me something. I asked her to repeat, trying to explain that I had no idea what she had said, but with all the noise around, she could not make out what I said either. So, I raised my hand to stop her talking, reached into my wallet, and withdrew an "I am hard of hearing" card. When I showed it to her she stepped back an additional 2 or 3 feet, removed her mask, and slowly repeated what she had said. It was quite miraculous. At our next meeting, ask one of the board members for one of these cards, they can be very useful.

Talking about being useful, remember, if you need help with anything, especially hearing related, call one of the board members, or just leave a message on the office number. We're still here, at 604-926-5222 and our advice is always there when you need it, and still as sound as ever.

And, speaking of advice, have you had a chance to look over the new website, just full of stuff. In case you didn't know, or perhaps forgot, the address of the website is <https://www.chha-nsb.com>.

With the summer just around the corner, (I hope) and with some of the covid-19 restrictions about to be lifted, or at least eased, (I double hope) It seems that we may be able to get out and “mingle” just a little bit. Just a heads up, for those of you with hearing aids with filters, this may be a good time to get those little critters cleaned, or, even better, changed. Call your hearing aid supplier, there should be no charge for this service.

So, that’s it for now, let’s hope that we can see each other, in person, before you get to read my words again, but in the meantime, Be kind, stay safe...

You know the rest.

All the best,

Alan Dion

## Hearing Loss, Recruitment and Hyperacusis

by Neil Bauman, Ph.D.

***Editor:** Recently, I have had some questions from people about sounds that are annoyingly loud and even painful. Also, for many years I could never understand why my late wife frequently had to remove herself from situations that she found excessively noisy and disturbing, while I myself didn’t perceive them to be a problem. This went back many years, even before I had any significant hearing loss myself.*

*The perception of sound can be a very complicated issue to discuss and the three conditions in the title of this article can occur singly or in combination, sometimes all three together. I set out to do some research that would answer some of these questions and came across some articles written by Neil Bauman, Ph.D., a hearing loss coping skills expert who owns the website: [hearinglosshelp.com](http://hearinglosshelp.com). With his permission, I am reprinting them here hoping that they may answer some of the questions that people may have related to these three topics.*

The first one is titled,

### “Recruitment from Hearing Loss Explained”

Neil was asked the following question by a lady.

“Some people can’t wear hearing aids because of severe recruitment. Recruitment seems to be such a

weird word for this problem. The word means “to enlist.” The dictionary doesn’t describe anything to do with hearing loss and hearing aids. So what really is recruitment and how did it get this strange name?”

Good questions. No wonder you are confused! Even many of the hearing health care professionals don’t understand this condition that goes by the strange name of recruitment. There is a lot of misunderstanding about recruitment. Actually, recruitment really is a good word to describe this phenomenon—once we understand what goes on in our inner ears.”

### What is Recruitment?

Very simply, recruitment is when we perceive sounds as getting too loud too fast.

Before we look at how recruitment got its name, there are two things we need to know about recruitment.

First, recruitment is always a by-product of a sensorineural hearing loss. If you do not have a sensorineural hearing loss, you cannot have recruitment.

Second, there are two other phenomena that often get confused with recruitment. These are hyperacusis (super-sensitivity to normal sounds) and phonophobia (fear of normal sounds resulting in super-sensitivity to them). Both hyperacusis and phonophobia can occur whether you have normal hearing or are hard of hearing. In fact, if you have a sensorineural hearing loss, you could suffer from all three conditions at once!

### How Recruitment Got Its Name.

Now let’s look at how recruitment “works” and how it got its name. Perhaps the easiest way to understand recruitment is to make an analogy between the keys on a piano and the hair cells in a cochlea. The piano keyboard contains a number of white keys while our inner ears contain thousands of “hair cells.” Think of each hair cell as being analogous to a white key on the piano.

The piano keyboard is divided into several octaves. Each octave contains 8 white keys. Similarly, the hair cells in our inner ears are thought to be divided

into a number of “critical bands” with each critical band having a given number of hair cells. Each critical band is thus analogous to an octave on the piano.

Just as every key on the piano belongs to one octave or another, so also, each hair cell belongs to a critical band. When you play a chord on the piano—you press two or more keys together but they send one sound signal to your brain. Similar—but yet different—when any hair cell in a given critical band is stimulated, that entire critical band sends a signal to our brains which we “hear” as one unit of sound at the frequency that critical band is sensitive to. This is the situation when a person has normal hearing.

However, when we have a sensorineural hearing loss, some of the hair cells die or cease to function. When this happens, each “critical band” no longer has a full complement of hair cells. This would be analogous to a piano with some of the white keys yanked out. The result would be that some octaves wouldn’t have 8 keys any more.

Our brains don’t like this condition at all. They require each critical band to have a full complement of hair cells. Therefore, just as our government, when it runs short of military personnel, puts on a recruitment drive, so too, our brains do the same thing. However, since all the hair cells are already in service, there are no spares to recruit.

What our brains do is rather ingenious. They simply recruit some hair cells from adjacent critical bands. (Here is that word recruit or recruitment.) These hair cells now have to do double duty or worse. They are still members of their original critical band and now are also members of one or more additional critical bands.

If only relatively few hair cells die, then adjacent hair cells may just do double duty. However, if many/most hair cells have died, then in order to have a full complement of hair cells in each critical band, any given hair cell may be recruited into several different critical bands.

### **The Result of Recruitment**

The result of this recruitment causes us two basic problems.

First, the sounds reaching our brains appear to be much louder than normal. This is because the recruited hair cells still function in their original critical bands and also in the adjacent one(s) they have been recruited into.

Remember that when any hair cell in a critical band is stimulated, the whole critical band sends a signal to our brains. So the original critical band sends one unit of sound to our brains, and at the same time, since the same hair cell is now recruited to an adjacent critical band, it stimulates that critical band also. Thus, another unit of sound is sent to our brains. Hence, we perceive the sound as twice as loud as normal.

If our hearing loss is severe, a given hair cell may be recruited into several critical bands at the same time. Thus our ears could be sending, for example, eight units of sound to our brains and we now perceive that sound as eight times louder than normal. You can readily see how sounds can get painfully loud very fast! This is when we complain of our recruitment.

**The second article is titled:**

### **When You Have Hyperacusis, How Do You Know When Loud Sounds Are “Ear Damaging Loud” or Just “Hyperacusis Loud”?**

This lady who’s hearing was damaged during an Acoustic Reflex Threshold Test and basically asked the question that is the title of this article.

What started off as an unwanted side effect from a simple acoustic reflex test has now escalated to consume your life. This is not good. You need to get things under control as quickly as possible so it doesn’t continue to get worse.

Unfortunately, your experience with this test is not unique. I’ve heard from other people who also have experienced much the same things as you have from taking this test. Obviously, the acoustic reflex test either needs to be modified or dumped so it doesn’t continue to damage people in this way.

Now let's get to the heart of the matter—how to know whether a loud sound is really “ear-damaging” or only seems that way because you have hyperacusis (where normal sounds now seem too loud).

You are missing one vital piece of information and that is understanding the difference between real sound loudness and perceived sound loudness.

Real sounds are what your ears actually pick up. They may be soft or loud or extremely loud based on the amplitude of the sound waves that strike your ear drums.

In contrast, perceived sound levels are the loudness at which you “hear” these sounds after your brain processes them. Perceived sound levels may or may not bear any resemblance to real sound levels.

This is because all sounds are filtered through your limbic (emotional) system. Your limbic system adjusts the volume of what you hear based on any emotional “flags” associated with that sound.

Let me give you two examples to show how this works out in real life. First, think about the noise your fridge makes. Your ears hear it all the time, but I'll bet if I asked you right now, “Is your fridge on?” you'd have to stop and specifically listen to see if you can hear your fridge running. This is because the sounds your fridge makes are totally unimportant to you.

Your ears hear the real sounds your fridge produces, but before you hear the sound, your limbic system checks its database of “flags” to see how emotionally important that sound is to you. Since you don't care at all about the sounds your fridge makes, your limbic system has flagged its sounds as being totally unimportant to you. All sounds with this flag set have their volume turned way down. Thus, you typically aren't even aware your fridge is on. Your ears hear the real sound level (at its normal volume) while you hear the perceived sound level (at a greatly reduced volume). That's the way God designed your ears to work for sounds that are totally unimportant to you.

Now let's consider another (opposite) example. In this scenario you are a beautiful young lady and you live alone in a ground floor apartment. It is summer

and you have your bedroom window half opened and you are sound asleep.

At 2:00 AM your ears hear a very faint, furtive foot-step right outside your bedroom window. (Note: your ears never sleep.) What happens? Your ears pass this very faint sound on to your brain. There, your limbic system checks its database to see how this sound is flagged. It finds this sound is not flagged as “totally unimportant” but that it is flagged as “extremely important” to you emotionally. Essentially, it is flagged with a big red (bogyman) flag.

To your limbic system, a red flag means “emergency” and so it immediately cranks up your internal (perceived) volume to “full volume” and blasts you with perceived sound. You spring from your bed from a dead sleep ready to fight or run.

Now get this. It wasn't the volume of the real sound that bolted you awake (remember, it was a very faint sound). Rather it was the enormous volume of the perceived sound that blasted you out of your bed. Again, your ears hear the real sound level (at its real almost inaudible level) while you hear the perceived sound level (in this case as very loud). That's the way God designed your ears to work for sounds that are emotionally very important to you.

As you can now see, you never hear the real sound levels. You only hear the perceived sound levels. In any case, if you have normal hearing, for most sounds the real and perceived levels are about the same.

However, if you have hyperacusis things go all screwy. Your ears still hear sounds at their normal loudness levels. That isn't the problem. The problem is that your limbic system has your internal volume control set much too high.

This often happens when you are a “high-strung” type of person and worry about everything. When you are anxious about something, your body goes into “fight or flight” mode until it can determine if there is a threat to your well-being. In “fight or flight” mode, among other things, your limbic system cranks your internal volume up so you can hear faint (possibly threatening) sounds better.

Normally, this just happens for a few seconds at a time, but when you are anxious all the time, your limbic system is stuck in the “flight or fight” mode and the internal volume remains at a higher level than it should be. The result is now you notice many normal, everyday sounds are just too loud.

In reality they are the same volume they always were, but you now perceive them as being much louder than they really are. This is one cause of hyperacusis. Another cause of hyperacusis is sound trauma. Sudden, very loud noises can also result in your internal volume becoming stuck on “high”.

As you can appreciate, if you have both—you are high-strung to begin with, and you experience a sudden loud sound (like the acoustic reflex test you took), you can experience a “double-whammy” that results in what you are now experiencing.

When you hear everyday sounds, you jump and/or wince because you perceive these sounds as being so loud that you actually experience pain in your ears. Thus you (logically) conclude that they **MUST** be damaging your ears.

This pain is real, make no mistake about that, but it comes, not as a response to extremely loud sounds, but because you perceive these sounds at an extremely loud level.

That is why you question, “Is that loud sound you hear really too loud (and you need to protect your ears now), or it is just a normal sound that you are perceiving as too loud?”

At this point you need to consider the source of the sound to see whether logically it could be ear-damaging or not.

One way is to observe those around you. Are they wincing, jumping or otherwise reacting to the sound? If not, then it probably isn’t an ear-damaging sound.

Another way to know how loud sounds really are is to use a sound level meter and “take a reading”. If the sounds are less than 80 dB, you know they are not ear-damaging, no matter how loud they seem to you. (If you have a smart phone, there are sound

level APPs you can use for free that turn your phone into a reasonably-accurate sound level meter.)

Therefore, if someone is setting the table and the clattering cutlery is so loud it hurts your ears, you know it has to be your perceived loudness causing you problems, because these ordinary, everyday sounds are not bothering anyone else.

Since you have hyperacusis, you do not want to expose your ears to sounds louder than you can handle, and you definitely don’t want to expose your ears to ear-damaging sounds.

The current sound level standards say that you can expose your ears all day to sounds that are under 80 dB. However, once the sound level reaches 85 dB, it is only safe to listen to for 8 hours.

Above that, as the sound level increases by 3 dB, the safe time exposure reduces by half. Thus at 88 dB your safe time exposure limit drops to 4 hours. At 91 dB it drops to 2 hours. At 94 dB it drops to 1 hour. At 97 dB it drops to 30 minutes, and so on.

Note, these figures are for the average person. Some people are more sensitive so their ears may be damaged by shorter exposure times at those levels.

In contrast to the above sustained sound levels, a sudden, sharp, sound, if loud enough, can cause instantaneous damage. The result can be as you have found—noxious tinnitus and hyperacusis. Fortunately, most, people do not get hyperacusis from such episodes.

As you have found, living with hyperacusis is often even worse than living with tinnitus. Once you have hyperacusis, it can feed on itself, just like tinnitus can. What happens, as we have seen, is that your emotional (limbic) system gets involved. The more you focus on, and worry, about your tinnitus and hyperacusis (and this is what you have been doing), the more your limbic system increases the emotional flag level for those sounds. Thus, they became ever louder and more intrusive.

You need to work on not allowing this to happen if you want to get your tinnitus and hyperacusis under control. The way you do this is to learn to be emotionally neutral towards your tinnitus and hypera-

cusis (difficult to do, to be sure). The result is that your limbic system will then “unflag” this sounds and consequently turn down the internal volume.

However, each time you expose your ears to loud enough sounds, your tinnitus will spike and your hyperacusis will get worse again as you have found.

Thus, when you had several acoustic trauma events in short order, each one builds on the previous one and the result is raging tinnitus and unbearable hyperacusis.

It takes time to recover from such events. I liken each acoustic trauma event to getting “whacked” resulting in a bruise. It takes time for a bruise to heal. If you get “whacked” on the bruise before it has fully healed, it hurts even more than it did originally and takes even longer to heal.

What your ears need more than anything at this point is several months of relative quiet in which to heal. During this time you want to be careful not to expose them to louder sounds. Thus you need to wear ear protectors when around louder sounds. but, and this is very important, you must not overdo this. If you forget and don’t take the ear plugs out when the sound level drops to normal, you will make your condition even worse.

Here’s why. If you don’t take the ear plugs out as soon as sounds return to normal, your brain turns up its internal volume trying to hear normal sounds again. Then, when you take the ear plugs out, everything is now too loud. So the trick is to always protect your ears when sounds around you would cause you more ear trauma, but the second that is not true, take the plugs out.

I know it is virtually impossible to protect your ears from everything because unexpected loud sounds occur from time to time. In these situations, quickly cover your ears with your hands. The best way is to push on the fleshy prominence (tragus) at the entrance to your ear canal to seal your ear canal. I’ve found this gives the best and quickest protection.

Your tinnitus and hyperacusis may get worse for a time. You’ve suffered a set back in your progress. Do not be discouraged but continue on. You are on the road to recovery. It will just take longer.

## Personal Coping Strategies

by Flo Spratt

The first place is to start with ourselves. We cannot expect others to understand our hearing loss and help us appropriately if we do not understand and/or help ourselves. When we are well equipped with these personal strategies, others can help us appropriately and the result is positive communication.

### **Be knowledgeable:**

Understand your hearing loss:  
 be able to explain the type of loss (eg, high frequency) you have and its severity.  
 have your audiogram explained to you and be able to describe the implications of your hearing loss.  
 recognize that it is not a temporary problem; hearing loss is here to stay.

### **Be realistic:**

know your strengths; use them to your advantage  
 know your weaknesses  
 where do you set your boundaries (eg size of group, time of day, off-limit locations).

### **Keep a positive attitude about your hearing loss.** This takes time and effort!

read about hearing loss  
 accept your disability.  
 seek counsel if necessary  
 seek support from friends and family  
 listen to and learn from the successes of other HOH persons.  
 use your disability for good  
 try humour as a stress reliever.

### **Keep a positive attitude toward others:**

give others grace in their forgetfulness and misunderstanding.  
 show your desire to make things easier for the speaker  
 don’t assume the speaker doesn’t want to repeat for you.

### **Be patient with yourself and with others**

All opinions expressed in this newsletter are those of the contributors and not necessarily those of the Canadian Hard of Hearing Association or CHHA – North Shore Branch.

## “Speechreading” Course Options for Fall 2020 and Beyond

What a strange and challenging time it’s been these past few months! Beginning in March, the Speechreading courses both at Silver Harbour and Vancouver Community College (VCC) were mandated to be held online rather than in-person. While this change was certainly daunting at first, the change has been interesting and has given us some exciting alternatives for future delivery.

I am also very happy to report that the Speechreading course now has a new name!

### “Living Successfully with Hearing Loss”

We have now developed curriculum for three levels of the course. The first level is primarily information-based and allows the students the opportunity to create more effective personal communication, to identify and select communication strategies and tools, to increase self-confidence levels, and to learn to self-advocate. The second level focuses on classroom practice with speechreading and communication skills, feedback, and reflections. The new third level emphasizes real-life experiences both in and out of the classroom.

#### Topics covered in Level 1 include:

- ◆ hearing anatomy and audiological testing
- ◆ categories of homophonous sounds (e.g., /p b m/, /f v/, /t d n l/, /s z/)
- ◆ speechreading practice with words, sentences and conversation practice
- ◆ factors that affect the ability to communicate (i.e., environment, speaker, listener, message)
- ◆ relaxation exercises
- ◆ hearing assistive technology (e.g., hearing aids, telephones, FM and infrared systems)
- ◆ conversational strategies (e.g., repetition, rephrasing)
- ◆ communicating in difficult situations (e.g.,

telephone, restaurant, groups, children)

- ◆ assertive behaviour (i.e., definitions, comparisons, practice, reflection)
- ◆ body language and facial expressions
- ◆ humour as a strategy

Although there is some uncertainty around the ability to offer in-person classes in the Fall, we can confirm **we will be offering Level 1 as an online course that will begin in September**. If you are interested in registering for the course in the Fall (or at any time in the future), please get in touch with me to put your name on a waitlist. Let me know if you would prefer to wait for face-to-face classes or if you are interested in the online option.

The online course covers all the same material and activities as the in-person course. There is a course website, and each week the material (information to read, videos to watch) is posted for you to cover at your own pace before the online meeting. There is a designated group class time each week for an online video meeting to review, practice, and discuss the material. One-to-one time is also available, if needed.

Here is what some of the current students say about their online experience:

*“I found the online course most worthwhile. The sharing of experiences and coping strategies among classmates worked particularly well because we were in the comfort zone of our own homes – less intimidating than a classroom setting.”*

*“As a 79-year-old, I was initially dubious about the computer aspect and for the first one or two lessons I did encounter problems. However, with Lisa’s patience and kind help, it all came together.”*

*“The course content is both extensive & practical. Lisa’s knowledge, experience and teaching style are all outstanding. This course is highly recommended.”*

*“I joined the course to share the experience with my partner who has hearing loss. I, myself, have moderate hearing*

Loss.”

*“I found the online classes a very effective medium. I do not think anything was lost by using Zoom meetings, although I do recognize the experience of meeting face to face would provide a slightly different experience. With Zoom, the audio and visual were consistent but could be adjusted to meet individual needs.”*

*“Lisa is a very pleasant and effective communicator, herself. The lessons were well planned and presented. The material was very practical. It would be beneficial for anyone, regardless of hearing ability. The homework was not overwhelming and was fun. It gave us good preparation for the topics of the class. Classes were very participatory and people congenial. The small number of students was a bonus.”*

*“Lisa was very generous in responding to questions and willing to do additional research to answer questions and provide further information.”*

*“I looked forward to our sessions and vow to always pronounce the last word in phrases.”*

*“Although I registered to “support” my partner, I am certain I got as much value as he did.”*

*“I am a participant in Lisa Dillon Edgett’s online speechreading Level 1 course that is occurring in the spring of 2020. I heard about the course from friends who had taken the course previously in person at Vancouver Community College, and from my audiologist. I have found the course to be an excellent source of information to assist me in dealing with my hearing loss. The information that I have found most useful, includes strategies to be able to communicate and receive information more effectively. I have learned about the significance of “context” in listening and receiving information both in observing lipreading and watching for facial movements. I now more fully understand how better to cope in situations where hearing is more difficult (e.g. restaurants, larger venues, etc. How to tactfully advise persons of my hearing loss and ways that*

*they can speak and I can also do to make the situation and communication more comfortable for both of us. I have also learned about additional devices electronic and otherwise that will assist me in hearing better with my hearing aid. We have also been given exercises to practice speechreading and be able identify sounds of different letters and phrases. The above list of what I have been able to learn is far from exhaustive!!“*

*“As to our teacher, Lisa, I cannot speak highly enough about her. She comes with a wealth of knowledge, experience and is always prepared for each class. She speaks clearly and articulately, and provides examples of the particular topic she is discussing. For the online course we receive it on “Zoom” every Tuesday evening and it runs anywhere from 90-120 minutes. By Thursday evening or Friday morning of the previous week before the online course is offered, the entire lesson is posted online for the participants to review, respond to exercises, as well as a number of videos of Lisa for us to view. We are often asked to express how we personally feel about certain situations that we may find ourselves in, as well as practice speechreading, words, sounds and phrases. She is easy to understand and takes care in responding to all questions that are asked of her. Where there is a question about a topic that she requires further research on, she will get back to us with a detailed response. She is kind compassionate, and very understanding of the difficulties of persons facing hearing loss.”*

*I cannot recommend the online speechreading course and our teacher Lisa Dillon Edgett highly enough, to anyone with hearing loss.”*

**Please contact me if you are interested in registering, putting your name on a waitlist, or getting more information. I’d love to hear from you!  
Lisa Dillon Edgett, Ph.D., RAUD, Aud(C).**

**Email: [ldillonedgett@vcc.ca](mailto:ldillonedgett@vcc.ca) — Best Option. Or  
Phone: 604-871-7348 — Please leave a message and I’ll get back to you.**