Canadian Hard of Hearing Association

North Shore Branch

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Tel: 604-926-5222 Fax: 604-925-2286 email:chha_nsb@telus.net
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Editor: Hugh Hetherington

Issue 52 March 2006

Mountain Ear

President's Message

A Hearing Thermometer

Please take a seat, and let me take your hearing temperature.

When a thermometer picks up a non-normal temperature, we know there is a problem. We don't yet know what exactly is the problem. This is the same with this hearing thermometer. We may pick up a high "temperature". But we still don't know for sure why or the source of the problem. The first step is to know if there is a problem.

Here are ten questions to check your hearing "health". Answer each question with a number: **1 = never occurred; 2 = occurred at least once; 3 = occurred more than once**. Then you can tally up the results to get your temperature.

1. When I listen to the radio or TV, others tell me I have it on too loud.
2. I can't hear well when someone is speaking to me from another room.
3. People mumble and/or talk too fast for me to understand them easily.
4. Concerts/musicals/theatre don't sound as clear or loud as they used to.
5. I do not enjoy a visit in a restaurant because of all the background noise.
6. I miss the punch line of jokes.
7. I confuse similar sounding words like 50/15 or street/sweet or John/Don.
8. Names of people I meet are difficult to figure out the first time I hear them.
9. Someone has suggested I get my hearing checked.
10. I have told someone that my hearing isn't bad enough to be checked out and I'm doing fine without help.

A score of 10 places you in the "Excellent hearing" category. A score of 10 to 13 places you in the "Maybe I have a hearing loss". If you have a score above 13, I want to encourage you to have your hearing checked by a professional if you haven't already.

CHHA-North Shore Branch is here to help you. We want you to become aware of your hearing health, to guide you along with what to do about it, where to go and what to ask the professionals. We provide a variety of avenues for you to access the information you need. In this issue you will learn about our upcoming meetings and what we are doing to make your community hearing accessible. We hope to see you soon.

Til next time,

Flo Spratt

F.K. Spratt

Hearing Accessibility on the North Shore

Over the last year your Branch has been working with many facilities on the North Shore to assist them in making their meeting and activity rooms hearing accessible by installing inductive loop systems. The locations where this has been done are:

- West Vancouver Seniors' Activity Centre
- John Braithwaite Community Centre in North Vancouver
- West Vancouver Aquatic Centre Fishbowl meeting room
- Parkgate Community Centre
- West Vancouver Lawn Bowling Club meeting room
- West Vancouver United Church meeting room/ lounge

We are continuing to work with other developments still under construction and these will also be similarly equipped. They include the new West Vancouver Community Centre and the Kiwanis Development on 21st Street.

How will the Hard of Hearing be able to benefit from these loop systems?

If you have a hearing aid equipped with a telecoil (sometimes referred to as a T-Switch or a telephone program), you will be able to hear much better and with reduced background noise by switching your hearing aid to the "T" position or selecting the telephone program on your aid. You can ask staff at the various locations as to which rooms are accessible and watch for the hearing access symbol that should be posted in or near the room.

If you don't have a telecoil in your hearing aid, you may still be able to benefit from the loop system by asking to borrow one of the loop receivers that some of these locations have purchased for your benefit. They consist of a small receiver with a volume control similar to a pocket radio and can be used with the earphones provided.

If you are considering the purchase of a new hearing aid make sure you ask your audiologist or hearing aid dispenser about having a telecoil included in your hearing aids. The telecoil is not just used for the telephone, but can be used anywhere an induction loop system is installed. The advantage to the hearing aid wearer is much clearer sound without the distractions of background noise.

What is an inductive loop system, and how can it help the hearing impaired?

Inductive loop systems are one of the simplest forms of hearing assistance systems. It consists of a loop of wire running around the perimeter of a room into which a signal is provided from an amplifier. This sets up a magnetic field within the loop that can be picked up by hearing aids that are equipped with a telecoil or T-Switch. Many behind-the-ear and in-the-ear hearing aids have this feature for use with the telephone.

When purchasing a hearing aid it is always a good idea to discuss having your hearing aid equipped or programmed with a telecoil. If you use any loop equipped facilities or churches you will be glad you did. What this means is that you don't have to own or borrow any special receivers to take advantage of the system. You merely switch your hearing aid to the "T" position and the sound from the microphone will come directly to your ear(s) clearly and without distortion or background noise.

Be sure to look for the hearing access symbol displayed at the locations equipped with loop systems. It is your indication that your hearing needs are being provided for. If you need assistance to use the system ask a staff member at the location to help you.

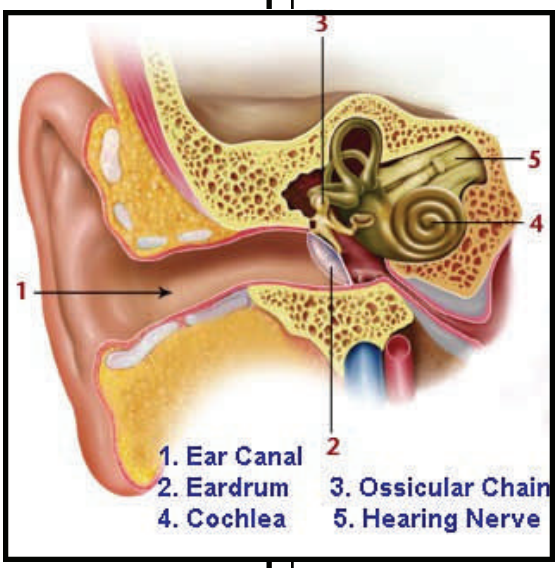
Although Induction Loop Systems are now gaining popularity in North America, they have been in existence in Europe for many years where Hard of Hearing people are very much aware of the hearing access symbol and take advantage of the superior listening environment provided by the loop system.

If you would like further information on induction loop systems and the equipment required, you can contact CHHA – North Shore Branch at 604-926-5222 or email: chha_nsb@telus.net.

The Miracle of Hearing

By Hugh Hetherington

While all of the five human senses are phenomenal, they are something that most of us take for granted without giving them much thought at all. Why not take some time to stop and think about them and how they keep us in touch with the world around us. Would it surprise you to learn that they are all about vibration or wavelengths of one degree or another? Sight is, of course, concerned with light waves. Smell and taste, while not so obvious, are concerned with chemical reactions and are thus related to the vibratory rates of atoms. Touch is about heat, cold and pressure. These are also concerned with vibratory rates. Much could be said about all of these, but I don't think that even the scientists understand everything there is to know about these wonderful senses.



In this article, however, I want to talk specifically about hearing. This is another sense that we very much take for granted. That is until we start to lose it.

To start at the beginning, we are again concerned with vibration – sound vibration. In particular, frequencies that range from about 20 cycles per second (20 Hz) up to about 20,000 cycles per second (20 kHz). That is the range over which the healthy human ear can perceive sound. That sound is conveyed to the ear by the vibration of molecules air.

When we think about hearing, the first thing that comes to mind is the ear. As we take a look at it we find that it is a very complex mechanism. But, it is just a mechanism. It is a mechanism that detects the vibrations of sound and in an astounding manner converts them to electrical signals that travel through a pathway to the brain where it is interpreted as sound that we humans have learned to understand. I like to think that the human brain is the most important part of the organ of hearing. Not that the ear and all its parts are not important, but you will see in a later article that we can have some hearing even when parts of the ear are no longer able to function.

Let's take a closer look at the parts of the ear.

Firstly, there is the outer part of the ear or the pinna. This is the fleshy portion of the ear composed of cartilage and skin. We have two of these and they act as sound receptors to capture the vibrating air molecules and channel them into the ear canal. The ear canal is a narrow pathway or cavity that leads to the eardrum. The resonant frequency of the ear canal, which is determined by its length, is approximately 3 kHz. This gives a boost of about 10 to 20 dB to vibrations at or around that frequency. These higher frequencies are the sounds that diminish most quickly with distance from the sound source and are thus given a boost by the ear canal to compensate for this. Isn't nature wonderful to have taken this into consideration in the design of the ear? What we have described so far is what is generally termed the outer ear.

The middle ear is the next to consider. This consists of the tympanic membrane (eardrum) and what are often referred to as the three smallest bones in the body, the malleous (hammer), the incus (anvil) and the stapes (stirrup) that make up the ossicular chain. These tiny bones act as a lever system to transmit the vibrations received by the eardrum to the stapes which rests against the oval window of the cochlea which we will discuss next. This mechanical lever system of the three bones, together with the ratio in area between the eardrum and the oval window of the cochlea, results in an effective amplification of about 14 dB peaking at a frequency of about 1 kHz. This in combination with the ear canal resonance gives the human ear a peak sensitivity to frequencies between 1 kHz and 3 kHz, the frequencies most important in speech communication.

While this is very wonderful, we have so far only looked at the mechanical aspects of the ear. The best is yet to come, the inner ear.

Because the brain cannot react to sound vibration directly, we require a mechanism to convert the mechanical vibrations of sound into electrical energy that the brain can understand. This is accomplished in the cochlea, a small snail shaped organ about 30 cm in

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length. The cochlea could be described as a microphone which converts physical vibrations into electrical signals. It is an amazing structure and is able to resolve sound energy from a very soft whisper up to some of the very loudest sounds a human can tolerate, such as a jet engine or thunder.

The cochlea is a tiny fluid filled organ that contains about 16,000 thousand of what are called cilia (hair cells). The vibration of the stapes on the oval window of the cochlea causes the fluid to set up wave motions thus stimulating various cilia according to the frequencies of the generated waves. Without getting too technical, what the cochlea does is to break down the complex waveforms of sound and extrapolate the sinusoidal components of the waveforms by stimulating the appropriate hair cells. These stimulated hair cells send out a rapid-fire code of electrical signals that correspond to the frequency, intensity and duration of the sound. The auditory nerve that runs from the base of the hair cells carries the signals to the auditory areas of the cerebral cortex which process these signals as the many different sounds in the world around us.

Over our lifetime, the auditory stimulation that we have received has been cleverly mapped within our brain enabling us to identify a myriad of sounds in the most precise manner and make sense of what we hear. The dripping of a tap, the sound of a waterfall, the distinct sound of a friend's voice, a favourite song, a violin playing, the sound of a drum, just to name a few, help describe the miracle of turning the vibration of molecules of air into perceived sound.

I mentioned at the beginning of this article that we generally take our hearing for granted, that is, until we start to lose it. In the second part of this article which will appear in our next newsletter I will describe what happens when we start to lose our sense of hearing and what is available to help us compensate for the loss.

Donations to the CHHA – North Shore Branch are always welcome.

All donations are Income Tax Deductible

Send your donation to:

CHHA – North Shore Branch
Attention: Treasurer
600 West Queens Road
North Vancouver, B.C. V7N 2L3

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February Meeting

Your Hearing is Important

by Andrea Gauthier

It was a full house once again, at our February 20th meeting where Mandy Fisch, M.Sc., Aud(C), a registered audiologist at Island Hearing Services in West Vancouver, talked to us about ***"How to Get the Most Out of Our Visits to Our Audiologists."***

It was a pleasure to listen to Mandy as she speaks so clearly. I asked her after her talk if she had always spoken this way or was it something she developed in order to do her job well. She said she had a background in drama as well as having been trained as a speech language pathologist. I came home with the intention of trying to speak the way I ask others to speak to me, i.e. slowly, enunciating well, projecting well and looking at the other person. Even normal hearing people appreciate this.

Mandy covered every aspect of her subject and generously stayed to answer all our questions. Every time I hear someone speak about hearing loss, I learn something new. It is a never-ending process. The following subjects were covered: Current statistics on hearing loss, the signs, the causes, the terminology, the types and degrees, measurement, how others react and solutions.

While there was a lot to learn for everyone, this talk was particularly helpful for people just contemplating acquiring an aid or going for a test for the first time. Mandy described in detail the screening test and the comprehensive assessment and the process involved with the results of the tests. The audiologist provides options for the client. Sometimes a report is forwarded to the family physician who can then refer, when necessary, to the specialist.

Several groups administer hearing tests. At the Ear, nose and throat specialist's (E.N.T.) office, a clerk may administer a basic test. Hearing Instrument Specialists also administer tests. Registered audiologists are required to have a master's degree in order to be eligible for professional certification.

The best way to choose an audiologist, according to Mandy, is by word of mouth. Next would come your family doctor's referral and thirdly, the reputation and standing in your community. You need to be able to TRUST your audiologist.

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Mandy Fisch, M.Sc., Aud(C) answering questions at our February Meeting.

Mandy commended CHHA for being "fabulous" to help in finding solutions. There is so much to learn as new advances are made. Audiologists have to attend workshops yearly to keep up with these. You should be given a trial period when you purchase hearing aids. Any delay in treating your hearing loss can result in loss of your brain's ability to hear the sounds you are now missing. It can take several months for this to return.

About sixty percent of seniors have never had their hearing tested. The type of hearing aid that is best suited to you will depend on many factors, such as extent and type of hearing loss, your hearing needs based on the complexity of your listening environments, finances and manual dexterity.

People always ask why hearing aids are so expensive. These costs cover the extensive research and development being done, the labour intensive nature of the task, since hearing aids are not mass-produced, and the professional service and time required. The relationship with the audiologist and the audiologist's team is a long-term relationship. Depending on the technology and the size, a hearing aid can cost between one and three thousand dollars. If you are not happy with your aid, you can always return it within the trial period. Always ask your hearing professional about the length of their trial period which can range between 30 and 90 days. If you break down the cost of a hearing aid over a period of five years, the approximate life span of an aid, it comes to a daily cost of eighty cents to a dollar fifty per ear and hearing aids are tax deductible.

In summary, Mandy emphasized how important it is to understand your test results and hearing needs and to take care in selecting a hearing professional, as this is a long-term relationship and to remember that research is on-going.

Some thoughts emerging from the question period:

- You need a sense of humour when you have a hearing loss.
- You should wear your hearing aids as long as you possibly can. Don't delay.
- People are sometimes told: You do have a hearing loss but you're not ready for hearing aids. Mandy says if you have a hearing loss, you're ready for hearing aids. You're not ready for hearing aids if you have normal hearing.
- One member mentioned it took eight years to recover being able to hear again.
- FM systems are most effective for dealing with the problem of reverberation.

Many thanks to Mandy Fisch for a very instructive evening.

TINNITUS

Submitted by: Rosalie Williams

My first experience with Tinnitus was several years ago while training for my position with a North Shore hearing clinic. I was in contact with a young man approximately 25 – 30 years old with a very severe case of Tinnitus which was obviously extremely debilitating for him. During my years at the hearing clinic I saw a few cases and they varied with severity. My most recent encounter came at this years' Wellness Show in downtown Vancouver. While manning the CHHA – BC Chapter's booth with two fellow volunteers we noticed that the Tinnitus brochure seemed to be very popular. This led us to believe Tinnitus was more wide spread than we imagined.

Tinnitus can be described as "ringing" ears and other head noises that are perceived in the absence of any external noise source. 1 out of every 6 people experience some degree of tinnitus.

In one study of approximately 1,600 tinnitus patients, no known cause was identified for 43% of the cases, and noise exposure was the cause for 24% of cases.

There are two forms of Tinnitus classified as: objective and subjective.

Subjective Tinnitus may occur anywhere in the auditory system and is much less understood, with the

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Sound Advice

A monthly series of informal workshops and discussions
around issues affecting the hard of hearing.

Presented by:
The Canadian Hard of Hearing Association
North Shore Branch

The group meets on the first Friday of each month from 10:00 AM to 12 Noon
(Holidays excepted) at the West Vancouver Seniors' Activity Centre's Learning Studio,
695 21st Street in West Vancouver.

Come and join us and other Hard of Hearing people who get together to share and discuss.
When we meet, we discuss topics and issues dealing with hearing loss.
We look forward to seeing you there. Bring a friend, a family member, they are welcome too.
Subjects to be addressed will include:
Technology; Speech Reading; Behavioural Issues;
Improving Relationships; Improving Hearing Environments

For Information call: 604-926-5222 or Fax: 604-925-2286

causes being many. Anything from the ear canal to the brain may be involved.

Objective Tinnitus (the rarer form) consists of head noises audible to other people in addition to the sufferer.

There are some specific causes for tinnitus: allergic reactions, diseases, growths/tumors, health care, injuries, medication and noise exposure and TMJ (temporo-mandibular joint syndrome) to name a few.

Tinnitus symptoms with reference to Health Care would include wax/dirt build up in the ear canal, severe ear infections, high blood cholesterol, vascular abnormalities i.e.: arteries pressing too closely against the inner ear nerves sometimes corrected by delicate surgery, stress relief, diet and other lifestyle choices.

Tinnitus varies from mild to severe and for many people is a very serious issue. There is help out there for Tinnitus sufferers and is easily made available to all concerned. Most audiologists' can help and you can get help and information from the Greater Vancouver Tinnitus Self-help group. They meet from 7:30 PM to 9:00 PM on the first Wednesday of every month, except January, July and August on the 3rd floor Community Centre of the Holy Trinity Anglican church at 12th Avenue and Heather Street in Vancouver. Parking is available on 12th Avenue after 7:00 PM. Their meetings provide a relaxed and informal atmosphere for discussing Tinnitus and learning about how other people are dealing with it. You are welcome to bring a family member, friend or other support person with you.

For professional help, SoundidEARS, Vancouver Tinnitus & Hyperacusis Hearing & Speech Clinic offer counseling and Tinnitus retraining therapy. Their offices are located at Oakridge Centre, Suite 304 South Tower Medical Dental Building, 650 West 41st Avenue in Vancouver. Telephone 604-708-9780.

There are also a number of websites that you can visit: The American Tinnitus Association, www.ata.org; Dr. Negler's Tinnitus Site, www.tinn.com and Hearusa, Inc., www.tinnitus.com

Next Meeting April 17th, 2006 7:00 PM
The Summerhill, 135 West 15th Street
North Vancouver.
Guest Speaker: Hugh Hetherington
Topic: The Miracle of Hearing – What Can We Do When It Goes Wrong?