



Canadian Hard of Hearing Association

North Shore Branch

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Editor: Hugh Hetherington

Issue 42 September 2003

Mountain Ear

Canadian Hard of Hearing Association
North Shore Branch
Annual General Meeting
Monday, September 22, 2003
7:00 PM At The Summerhill
135 West 15th Street
North Vancouver

Special Guest Speaker

Jeff A. Small, Ph.D., Assistant Professor
U.B.C. School of Audiology & Speech Sciences



Faculty of Medicine
Topic: Processing Speech



Members of the Public Welcome
Wheelchair & Hearing Accessible
Refreshments will be served

Donations

The North Shore Branch of CHHA gratefully acknowledges donations from:

Capers Community Markets, West Vancouver
The Telus Volunteer Involvement Fund

These donations will be put to good use on the many projects the North Shore Branch is currently undertaking on the North Shore

President's Message Excessive Sound Levels

My family and I love dogs. So naturally, when we attended the P.N.E., we went to see the famous dog show. Although the dogs were wonderful, my husband and son plugged their ears with their fingers for the entire show. I kept my hearing aids off. As far as we were concerned, the show was more about extreme noise and showiness than the dogs' performance. Needless to say, we were disappointed.

As I looked around me at the people in the audience, I was struck by their obvious enjoyment of the show. I did not see anyone else plugging their ears! All around me people were joining in the rhythmic clapping which increased the noise level!

As I watched the show, questions kept flooding my mind. How could people possibly allow such abuse to their ears? Don't they know that, little by little, hearing loss is taking place, never to be recovered? Is this like the nonuse of seatbelts some thirty years ago, when people did not know or disregarded the damaging effects of driving without seatbelts until a law was put in place? Will only a law stop this horrific abuse to our hearing?

It seems to me that the entertainment business has been given free rein on its production of sound. Concerts, movie theatres, restaurants with live music and sports events do not have guidelines or mandatory ceiling levels on their output. This means

there is no protection for the consumer other than plugging one's ears with fingers or earplugs.

Unfortunately, it seems that many people wait until laws are in place before they change their behaviour. Now we have mandatory seatbelts in cars, helmets for cyclists, building codes for builders, no drinking for drivers, oversized trucks off our steep inclines. The purpose? To protect people.

Perhaps it is time to look into instituting a law intended to protect our hearing. Because the entertainment business is generally unwilling to recognize the effects of deafening levels on their patrons' hearing, I believe there is a critical need for a law to ensure they do comply. It is usually when our wallets are affected that we tend to listen and obey.

And, I believe mandatory maximum sound levels will be instituted. When? I don't know for sure. But I do know that if some action isn't taken soon, eventually litigation for hearing damage may force the issue.

Flo Spratt, President.



What a Bargain

By Erica Barrett, former President, North Shore Branch.

Everyone likes a bargain?

Belonging to the wonderful organization of the Canadian Hard of Hearing Association, to me, that is a bargain.

Why is it a bargain?

It costs around the price of a cup coffee per month. Our National organization advocates for the Hard of Hearing on the National level. Oh, you say what do they advocate for? Well if you use TV CLOSED CAPTIONING like I do, that is one thing they advocated for. Since 2002, the CBC has committed to 100% captioning on English Language TV and Newsworld. Closed captioning changed my life. I am now able to watch not only the news but many of the documentaries, as well. Your audiologist can now sign your disability tax credit form. Formerly,

this had to be done by a physician. This change was recently brought about by advocating with the finance minister for you.

What about making the awareness that NOISE is a major cause of hearing loss? It is important to wear hearing protection in all noisy environments.

CHHA National also advocates for us in many other areas: theatres, transportation, listening devices in many educational places, in airports, etc. Cochlear implants is another area, the *To Hear Again* program to help the hard of hearing in hospitals which I participated in and volunteered for three years at a hospital in North Vancouver.

There is just so much that National does to help us, like making the hearing population aware of the needs of the hard of hearing. There are brochures, a magazine, videos, and an office that you can call toll free, fax, or by TTY, to get help. Yes, I believe it is the best bargain there is for a Hard of Hearing person.

Then, if there is a Chapter in your Province they work for you at the Provincial level. Our B.C. Chapter has a newsletter, holds conferences, teaches how to put on *Managing Your Hearing Loss* classes to Branches among many other things.

If you are a North Shore Branch member we have an excellent newsletter with numerous articles on listening devices, information about hearing aids and reports on our five members' meetings and our morning *Sound Advice* sessions which are on the first Friday of every month.

We give presentations in the community to bring about awareness to the needs of the Hard of Hearing. We advocate for you in many areas at the local level. We have given presentations to hearing professionals about the value of the TELECOIL. Many people do not realize the telecoil or telephone switch should be available in all hearing aids in order to be able to use MANY assistive listening systems. Other presentations are given to service organizations and the Keep Well Society. Our technical advisor, Hugh Hetherington has helped us with listening devices and keeps us updated on new innovations and technical developments. We are serving on the Advisory Committee on Disability Issues on the North Shore

and also are serving on the City of North Vancouver's Adaptable Housing committee. It all takes numerous volunteer hours by many people at all levels.

Yes, for the North Shore Branch members, the membership fee of \$35.00 to belong to a group such as the Canadian Hard of Hearing Association is really a BARGAIN. Where else would you get the information that you need, except from people who are HARD OF HEARING. Many volunteers for many years have helped to get our message out about hearing loss. Remember we would not be at the place we are without the many volunteers who put in many hours at all levels on your behalf. Also, we would not be at the place we are without YOUR MEMBERSHIP.

It is a BARGAIN? I hope you will remember to pay your dues promptly in September 2003 so the work can go forward even more, not only for you but for making the community aware of the problems of hearing loss and helping us promote accessibility.

Sound Advice August 1, 2003

By Andrea Gauthier

Well, looks like I struck gold again!

I attended the monthly *Sound Advice* get-together at the West Vancouver Seniors' Activity Centre on August 1st. The facilitator was Joan Bennett.

Joan has been working in the field of the deaf and hard of hearing for many years and brings with her a wealth of knowledge and understanding. She told of how she became committed to working in this field. When she was a student in education at the University of Washington, she had a professor who was profoundly hard of hearing. She was so impressed that he had reached such a high level of achievement despite his disability that she wanted to help others do the same.

Joan worked with the Elks Program where she helped families and young children cope, sometimes with little babies who wore tiny hearing aids and toddlers who constantly pulled their hearing aids out. She said that was her most inspiring work. These days, Joan is a Hearing Resource
T e a c h e r o n t h e

Sunshine Coast, where she travels from school to school, three days a week, helping advocate for deaf and hard of hearing children in the school system. She says she has to remind the teachers regularly of the needs of these children as they can so easily be forgotten as they sit quietly and make an effort to understand what is being said.

We at the North Shore Branch of CHHA know Joan especially because she teaches the two *Managing Your Hearing Loss* Courses that we sponsor here on the North Shore. She also voluntarily attends each Board meeting to further the cause. Joan explained to us that the *Sound Advice* experience we had on August 1st was very much like the *Managing Your Hearing Loss* sessions that she teaches. Fortunately for us, we were a very small group, six or seven, and we were able to have all our questions discussed and answered.

Our knowledgeable and erudite Board member, Hugh Hetherington, brings his expertise and understanding to each of the *Sound Advice* sessions and he was on hand to add to the problem-solving aspect of our get-together. Our President, Flo Spratt, was missed as she was away on a well-deserved holiday.

The people attending, some of whom have been living with hearing loss for a very long time, were also able to bring their wisdom to the discussion.

All in all, I think, aside from the practical help, all went away somewhat comforted to know that they are not alone in their struggle.

Joan said that the people who come to her course are people who are wanting to stay in touch with life and haven't withdrawn, as it is so tempting to do when dealing with a hearing loss. She told a poignant story

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- Corporation of the District of North Vancouver \$1100
- Corporation of the City of North Vancouver \$1050
- Corporation of the District of West Vancouver \$200
- The North Shore Community Foundation \$350

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about her father who had been the mayor of the small town they lived in and was a very outgoing man who attended meetings most evenings of the week. As he developed a hearing loss, she saw him withdraw gradually from these activities, to the point where he only went to a meeting once in a while. When asked why, he replied, "These young people mumble all the time."

Joan talked about how fundamental it is for human beings to want to be connected and how being hard of hearing can make us feel so alone. She pointed out how even before birth, the unborn child hears the heartbeat of the mother and how isolation is used to punish criminals. As hard of hearing people, we find ourselves moving into an isolated situation.

The subject of music came up in our discussion. One member mentioned finding it relaxing to listen to fairly loud music on a walkman, despite the fact that we are continually warned not to put these devices on too loud. We concluded it was because one didn't have to be so alert to understand what was being said or strain to get enough volume.

Someone else mentioned it seemed to be easier to enjoy music back in the days of Sinatra. Hugh pointed out that in today's music, the music and the vocal compete and are therefore difficult to distinguish.

There were sighs of relief and understanding when someone mentioned coming home and being able to take his hearing aids out for a while. Joan encouraged us to take breaks from listening situations and rest.

We talked about our upcoming Members Meeting to be held on September 22nd. This promises to be an excellent presentation as Professor Jeff Small explains to us how sound is processed by the brain. Sometimes, the brain loses its ability to process certain sounds and has to be retaught. "Use it or lose it." This research is moving the understanding of hearing to a new level as, for too long, Joan said, we've been stuck at the 'ear' level.

In terms of hearing aids and listening devices, Joan recommends that you get the best you possibly can. Hugh reminded us that technology in hearing

aids changes so fast that the life of a hearing aid may only be about five years. This is a big expense. The British Columbia Medical plan, unlike some other Provinces, doesn't cover hearing aids. Extended medical plans may cover very small portions. We agreed that effort needs to go into advocating for changes in this regard.

Joan emphasized the importance of the following steps:

- Accept your disability.
- Get the support you need.

She talked about the feeling that "it's not fair." She encouraged us to turn the energy generated by feelings of frustration and anger into positive things. Schedule appointments for morning and lunch rather than dinner when you're more likely to be tired. Choose your environment.

The idea was put forward that a list be compiled of quieter restaurants. One member has a restaurant that he finds user-friendly and that is where he always gets together to eat out with family and friends. It's acoustically helpful and the staff know his disability so that makes it easier for him.

Another member felt she was imposing on friends when she asked that they get together at her home, asking them to drive a distance to accommodate her. She was reminded that the purpose of getting together with friends is to maintain and enhance the relationship through communication and connection so why not think of it as helping to make the relationship work and blossom.

Another member gave an example of being in an evening dinner gathering with eight or so others. He said that while they ate dinner and were all sitting around one table, everybody was able to hear and participate in conversation, including our hard of hearing member. After dinner, people dispersed and came together again in the living room, a more difficult hearing environment. Our member spoke up and suggested that all come together again around the table so that conversation could continue. He didn't insist. He simply put out the suggestion.

Perhaps some of you are hesitant to speak up for yourself and ask others to accommodate to your needs. Joan reminded us that it is about self-esteem.

(Continued from page 4)

Each participant has a part to play and no one should be left behind because that is a loss for all.

Thank you , Wonder Woman, Joan Bennett!

Middle Ear and Cochlear Implants Members' Meeting June 23, 2003

Our June members' meeting was held at the Summerhill in North Vancouver on Monday evening June 23rd. Thirty five members and guests came out to hear Dr. Eytan David, MD, FRCS(C) speak on the topic of Middle Ear and Cochlear Implants. Dr. David has had a practice in North Vancouver since August 2002. A native of Vancouver, he was trained at the University of B.C. and in Ontario at London and Toronto. He has sub-specialty training in hearing and balance disorders.

Dr. David began his talk by giving us some statistics on hearing loss. Hearing loss affects about 28 million Americans, about 10 percent of the population. This equates to over 2.5 million Canadians with hearing loss. Of these, approximately 60 percent have what is termed a sensorineural hearing loss, that caused by cochlea or auditory nerve damage. The remainder have what is termed a conductive hearing loss or a combination of the two types, termed a mixed hearing loss. Conductive losses occur when the outer or middle ear does not work correctly. Hearing loss is a serious issue and causes emotional, social and communicative dysfunction. The problem is more severe among seniors where one in five suffer from hearing loss. In B.C. alone, 300 thousand people are affected with hearing loss.

Major causes of hearing loss are: congenital, or present a birth; presbycusis, or age related; disease; ototoxic medications; ear infections; and noise exposure. Hearing loss is graded in degrees from mild, through moderate, to severe and profound losses. Those with a mild hearing loss will have difficulty hearing and understanding someone who is speaking from a distance or who has a soft voice. One-on-one

conversations will not generally be a problem, but understanding conversations with noise in the background may be difficult. With a moderate hearing loss, one will generally have difficulty understanding conversation levels of speech, even in a quiet background, but will find trying to hear with noise in the background extremely difficult.

With severe or profound hearing losses, there will be difficulty hearing in all situations and speech may only be heard if the speaker is talking loudly or at close range.

In testing for hearing loss, generally two types of tone testing takes place. Air conduction tests employ earphones and tones of specific pitches and loudness are presented. The sound travels through the ear canal, ear drum, middle ear and finally to the cochlea, the organ of hearing. This is a measurement of how your auditory system functions as a whole. The second test, bone conduction is the portion of the test where a small vibrating unit is placed on the bone behind your ear. This test bypasses the ear canal, ear drum and the middle ear by more directly stimulating the cochlea. By comparing the results of the two test components, it is possible to determine whether the hearing loss is sensorineural, conductive, or mixed. These tests may also be followed with word discrimination tests which tests the ability to understand words in a non-contextual situation without being able to view the lip movements of the speaker.

In leading up to the main subject of his talk, Dr. David briefly covered a number of other related topics. He gave a brief history of hearing instruments from early bone conducting devices, through speaking and hearing trumpets and the first patent for an electric hearing aid in 1892. Other milestones were the first patent for an eyeglass hearing aid in 1931, the first wearable vacuum tube hearing aid in the U.S. in 1937, and the first all transistor hearing aid in 1953.

He touched on recruitment, which is a large increase in the perceived loudness of a sound produced by relatively small increases in intensity above a threshold. This is the level at which the intensity of sound becomes painful for a person with hearing impairment. He also mentioned distortion, which reflects on the quality of sounds when they are heard suffi-

ciently loud, but the quality is poorer than for a normal hearing listener. This is one of the aspects that makes hearing in background noise difficult.

In talking about conventional hearing aids, he pointed out that only 10 – 20 percent of the hearing impaired use hearing aids. 12 percent of those who have them don't wear them, and only 58 percent rate themselves as "very satisfied" with their hearing aids. There are a large number of different types of hearing aids. They fall into the following categories:

Body Aids, Behind-the-ear (BTE) aids, In-the-ear (ITE), In-the-canal (ITC), Completely-in-canal (CIC), CROS and biCROS (Contralateral Routing of Signals for those with a unilateral hearing loss, that is, hearing in one ear only or much more severe in one ear over the other). In addition to these types, there are also middle ear implants and inner ear (Cochlear) implants.

In talking about the various types of hearing aids, Dr. David explained each type, their advantages and disadvantages and what types of hearing losses each would be suitable to accommodate. He talked a little bit about the different types of circuitry used in hearing aids, and explained the differences between analogue aids and digital aids. He explained linear amplification, that used in older analogue hearing aids and also compression, which controls the output of hearing aids to keep it within a certain dynamic range. This causes weak intensity signals to be amplified more than high intensity signals and cuts down on distortion and uncomfortable output levels. He explained directional microphones and how they can be of advantage in noisy environments. Some newer hearing aids are capable of switching between directional and omni-directional modes in order to accommodate different listening situations.

In arriving at his main topics, implantable devices, he explained that there are three basic types to consider: Bone anchored hearing aids, Middle Ear Implants, and Cochlear Implants.

Bone anchored hearing aids, which are not suitable

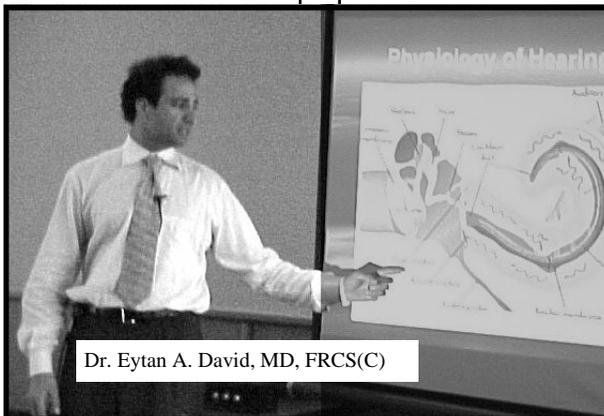
for sensorineural losses, are employed when certain conditions of the ear preclude the use of air conduction hearing aids. The device consists of a titanium fixture which is implanted in the mastoid bone behind the ear with an abutment to which a detachable speech processor is affixed. The sound is picked up by the speech processor and sends vibrations through the bone to reach the cochlea and stimulate the auditory nerve.

Middle Ear Implants are devices being researched that attach to the tympanic membrane (ear drum), ossicular chain, and even the round window membrane. One device recently approved for use is the Vibrant

Soundbridge System. The Vibrant Soundbridge consists of two components, an internally implanted Floating Mass Transducer (FMT) and an externally worn Audio Processor (AP). The AP picks up sound and transmits it across the skin to the implanted receiver. The implanted receiver converts the signal and transmits it to the FMT, which is a transducer that directly vibrates the ossicular chain, sending an enhanced signal to the cochlea.

The cochlear implant, while now on the cutting edge of hearing technologies, actually has its roots back in the 18th century. In 1790, Alessandro Volta experimented by inserting metal rods in each ear and subjected himself to about 50 volts of electricity. He was the first to publish the effects of electrical current on the auditory system. While a number of scientists experimented with electricity and hearing over the next 167 years, it was Djourno and Eyries who reported the first stimulation of the acoustic nerve by direct application of an electrode in a deaf person in 1957 during an operation which exposed the auditory nerve. This early implant allowed the patient to distinguish simple words and was able to improve his speech reading ability.

This initial implant was followed by more implantations by House, Doyle, Simmons and others. House was, however, the one to produce the first single-channel device in 1972 that stimulated the auditory nerve with an implant. In 1984, the FDA approved the use of the cochlear implant in adults. These first multi-channel implants improved speech perception



and understanding. The 1990's saw improvements in speech processor designs and in the late 1990's and 2000's technological improvements made possible such things as behind-the-ear processors and allowed implantation of children as young as 12 months. The latest implants are showing results beyond the wildest dreams of the earlier years. It will be interesting to see what the future holds in this area.

The cochlear implant consists of three main parts: The microphone, the speech processor, and the implanted electrode array. The microphone picks up the sounds and they are amplified. The speech processor provides the compression, filtering and shaping of the sounds that are delivered to an outer coil termed the transmitter. The implanted components consist of a receiver that receives the signals via radio frequency, and an electrode array lying within the cochlea that delivers the electric signals to electrodes along its length.

For an adult to be a candidate for a cochlear implant, he/she must be 18 years or older, but with no limitation on age. The candidate must have a bilateral severe to profound sensorineural hearing loss, 70 dB or greater with little or no benefit from hearing aids for 6 months. The person must be psychologically suitable with no anatomic or medical contraindications.

For children, the candidate must be 12 months or older with bilateral severe to profound hearing loss with pure tone averages of 90 dB or greater in the better ear. The child must have had no appreciable benefit with hearing aids, but must be able to tolerate wearing hearing aids and show some aided communication ability. The child must be enrolled in educational programs that support aural/oral learning and have no medical contraindications. The parents must be highly motivated and have reasonable expectations.

Cochlear implantation is really the only effective way of treating patients with profound sensorineural hearing loss who do not benefit from hearing aids. There have been a wide range of outcomes for patients who have been implanted. Some patients find little benefit and can find the stimulation annoying, while others are able to function normally, even without visual clues. Some are even able to listen to and enjoy music.

The benefits to the patient are significant. They are able to hear conversation and environmental sounds at a comfortable level. They can hear warning signals. There is improved lip reading skill in most and improved communication in quiet and noise without lip

reading. 35 to 51 percent can, with limited ability use the telephone. Sentence recognition scores improve in the majority of patients.

As to the results of implantation, these vary quite widely. The best results occur when the time between the time of deafness and implantation is short. Those who have been deaf for a period of years lose some of the plasticity of the auditory system. In children, the best results are achieved if the child has experienced language before the onset of deafness. Studies have shown that the earlier the child is implanted, the better the chance of integration into mainstream education. One study showed that 90% of children implanted before age 2 were integrated into mainstream education, while only 20-30% of those implanted after age 4 were ever integrated. It is obvious that the earlier implantation can be done, the greater the benefits in moving this segment of society into the mainstream.

Here are the addresses for the letters to be sent regarding the funding for cochlear implants as mentioned by Dr Eytan A. David at the meeting of June 23rd, 2003.

(In B.C., funding is available each year for 10 adults and 6 children to receive cochlear implants. With the current waiting list this means that the wait time can be 3 to 4 of the critical years before the implantation will be done. If you would like to express your concern, the following information has been provided by Mrs. Edna Krahn who herself has received a cochlear implant.)

Dear Mr. Hetherington

I hope this will encourage all your members to write a letter and send a copy to each person listed below. It is vital that the Government becomes more aware of the hardships suffered by the deaf and hard of hearing. The technology is now available to restore hearing, the doctors just need the funding.

I can attest to the miracle the cochlear implant can give and I wish this miracle for every hard of hearing and deaf person.

Sincerely,

Edna Krahn.

It is important for members to emphasize in their letters that deafness IS a disability, and the benefits of a cochlear implant; some of which are listed below:

How a cochlear implant will benefit your hearing and speech understanding.

- Will enable the deaf to hear environmental sounds.
- Will enable you to return to mainstream society.
- Will enable you to lead a full and complete life.
- Will increase your independence.
- Will increase your safety.
- Will increase your mental well being.
- Will increase your quality of life.
- Will increase your self-esteem.
- How long waits for a cochlear implant surgery impacts you and your family.

Where to send your letters.:

Honourable Colin Hansen,
Minister of Health Services,
Room 337 Parliament Buildings,
Victoria, BC V8V 1X4

Premier Gordon Campbell,
Room 156, Parliament Buildings,
Victoria, BC V8V 1X4

Provincial Health Services Authority,
Ste. 700 - 1380 Burrard Street,
Vancouver, BC V6Z 2H3

Mr. Carl Roy, President / CEO,
Providence Health Care,
St. Paul's Hospital,
1081 Burrard Street,
Vancouver, BC V6Z 1Y6

Honourable Anne McLellan,
Federal Minister of Health
House of Commons,
Parliament Buildings,
Ottawa, Ontario K1A 0A6

BC Medical Association,
115 - 1665 West Broadway
Vancouver, BC V6J 5A4

Tinnitus Public Forum

www.harbour.sfu.ca/psa/tinnitus
The Neuroscience of Tinnitus

Tinnitus (ringing in the ears) is experienced by up to 15 percent of Canadians. This is an opportunity to discuss the condition with leading international researchers.

Sponsored by the Canadian Institutes of Health Research and the Humboldt Foundation, Germany.

Place: SFU Harbour Centre Campus
515 West Hastings Street, just up from the Sea Bus Terminal

Date & Time: November 15th, 2003, 7:00 PM

Seating is limited. To reserve your seat call:
604-291-5100 or email: cs_hc@sfu.ca

CHHA – BC Conference 2003

Friday, October 3rd and Saturday, October 4th, 2003

For Information call: 1-866-888-2442

Ramada Inn & Conference Centre
36035 North Parallel road
Abbotsford, B.C. V3G 2C6

Conference Fees:

Adults: Members Only – Early Registration – Before September 15th:

\$90 Both days, \$50 one day

Non-members and Members' Late Registration

\$125 Both days, \$60 one day

Students (with ID): \$60 Both days, \$35 one day

Children & Teens: \$25 Both days, \$15 one day

Children under 6: \$10 per day

Registration Fee includes Friday evening reception and Saturday luncheon.