Journal of
HEARING MATTERS AUSTRALIA
Formerly Self Help for the Hard of Hearing

February 2019

Hearing Matters

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Print Post Number: PP 2467 641 00005 ISSN: 1444-5417 ABN: 13 078 141 787 February 2019

Why only voices? contd ...

October 16, 2018

The hearing loss community is huge, worldwide and rapidly growing; incessant raucous sound assaults our ears fiercely the world over: it thunders into our ears, often directly through headsets. Traffic screeches and screams at us, construction sites big, huge and small blast their tumultuous sounds at us, ambulance, police and fire sirens wail, cacophonous noise in restaurants is almost hurtful to me, as it is also in bars, clubs, casinos et al. All of this and much more noise will insure that hearing loss numbers grow exponentially as time goes by. A preview I had: Over 35 years ago I drove up to a customer's home and commented that the band music/noise I heard from a neighbor's garage was very loud. She said, "That's not from next door, it is coming from 3 blocks away"!

At this time, 10-16-18, I think I agree that the brain part of hearing should be mostly ignored! There is so much to do to help clean the ears side of the window and since the brain side is inaccessible that to muddy the waters now may well be counterproductive. On the other hand, I think there should be some understanding of the part the brain plays in hearing on the part of professionals and workers in all niches of the industry so they may be able identify someone like me and suggest to me that: Per (Dr Bauman) "Use your other senses to help fill in what you are missing. For example, use speechreading, writing things down and other visible ways of communicating to help make up for the "dirty window". "You'll be surprised how well you can do when you do this."

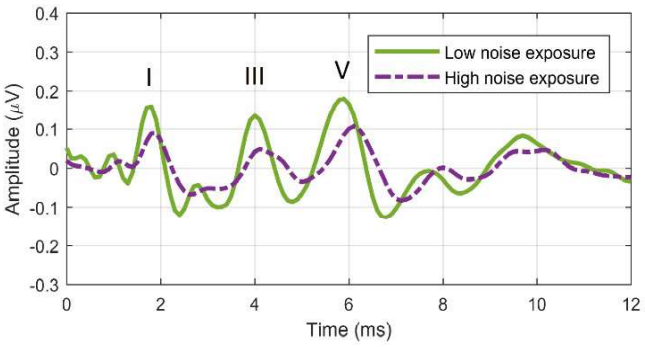
Above all, it is good to know that I am not wrong in my assessment of my problem and that Hearing Aids are doing the best they can do for me.

Difficulties understanding speech in noise with a normal or near-normal audiogram

By Dr Kiri Mealings and Dr Joaquin Valderrama, National Acoustic Laboratories, Sydney, Australia

Approximately 5 to 15% of people who visit a hearing clinic report *difficulty understanding speech in noise, but have a "normal" audiogram*, that is, have no difficulty hearing soft tones in a quiet environment. Traditional audiology does not have a clear answer to what treatment options may assist to this group. As a result, many audiologists feel they do not have the resources or tools to effectively assist the client in this situation, which can be frustrating for both the clinician and the client. In the past, clients with a "normal" audiogram have generally been given little specific advice, and were often told to come back when the problem is worse.

Current research shows that specific difficulties with understanding speech in noise could be the result of excessive noise exposure, from occupational and/or leisure activities. There is evidence that the part of the auditory system most sensitive to noise exposure are the connections between the sensory hair cells in the cochlea and the auditory nerve (called synapses). These are critical in conveying the sounds we hear from the ear mechanisms to the brain. The condition in which synapses are damaged is called *cochlear synaptopathy*. Other symptoms may include tinnitus (ringing in the ears) and hyperacusis (increased sensitivity to louder sounds). It is believed that the size of electrical signals, which can actually be recorded from the brain, is associated with the amount of healthy auditory nerve fibres[1]. It is important to learn more about this, as hearing loss from noise exposure is the one type of hearing loss that can be prevented.



Research at the National Acoustic Laboratories (NAL) has revealed that people with greater noise exposure had smaller electrical peaks[2] than people who reported little or no exposure to loud sounds. However, some results reported in other laboratories worldwide have found contradictory evidence, so more investigation is needed.

Problems hearing in background noise can significantly affect a person's quality of life. At present, there is no efficient and comprehensive test for audiologists to investigate a client's difficulties when the audiogram is classed as normal.

NAL researchers are now collecting more information about the experiences of people with a normal audiogram or mild hearing loss, and greater-than-normal difficulty understanding speech in noise. The aim of this research is to better understand the difficulties experienced by this population and the challenges in finding effective treatment options.

NAL needs people with all types of hearing to participate in research. To find out more, email us at volunteer@nal.gov.au or call on P. (02) 9412 6844. More information is available on the NAL website: www.nal.gov.au/volunteer. **Please spread the word to your family, friends and neighbours too**. NAL is located in the, Australian Hearing Hub, Macquarie University, Sydney and is the research division of Australian Hearing, an Australian Government statutory authority.

1 Valderrama et al. (2018) Effects of lifetime noise exposure on the middle-age human auditory brainstem response, tinnitus and speech-in-noise intelligibility. Hearing Research 365, 36-48.

2 Auditory brainstem response Wave I, which is shown in the diagram.