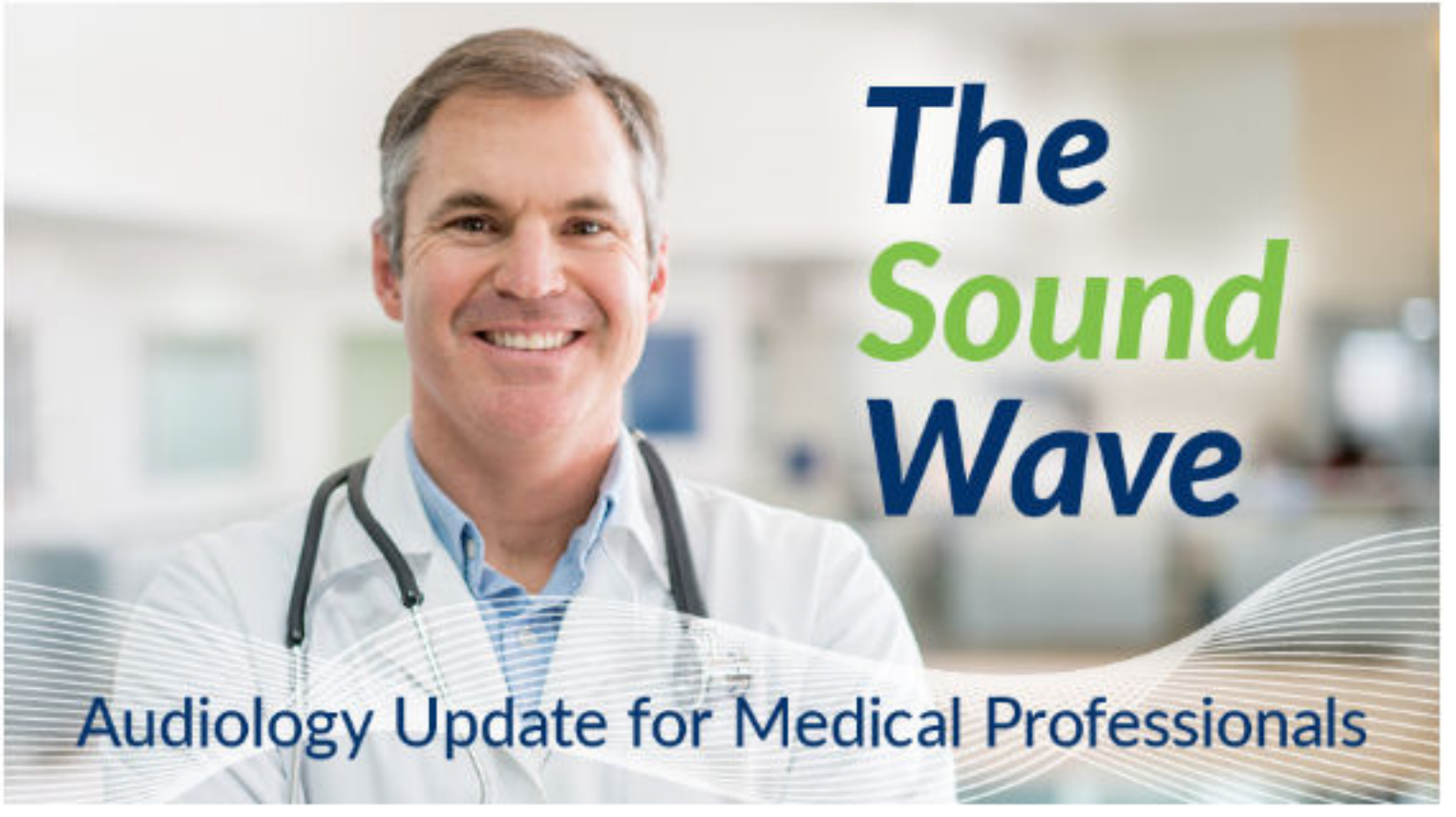
Victorian Hearing



Winter Edition: June-August 2019

In this issue:

- Fall detection and 'healthable' hearing aids
- Sudden Sensorineural hearing loss (SSNHL)
- Dorevitch Men's Health Conference

Welcome!

Welcome to our winter issue of The Sound Wave. A newsletter designed specifically for General Practitioners, ENT's and Allied Health Specialists. To keep you up to date with what's new in hearing research and innovation, as well as a little insight into community engagement and educational initiatives that our team of Audiologists at Victorian Hearing are involved in.

Should you have any feedback or would like to contribute to our newsletter, please do not hesitate to email me or phone 03 9558 8842.

Nicole Bowden, Senior Audiologist & Manager

New Fall Detection Alerts & Heart Rate Measurement in Hearing Aids

The uptake of hearing aids in Australian adult populations with hearing loss is only 40%. Meaning 60% of patients with poor hearing continue to struggle in day to day life, as do their close communication partners, despite the significant technological advancements of hearing aids.

So even when cost is removed for pensioner populations, the uptake of hearing aids continues to be very low. WHY?

Starkey research suggests the major barriers to accessing hearing aids are:

- The end user does not see the significance in the value of improved hearing
- Stigmatization
- Financial limitations
- Inconvenience, uneasiness with managing devices
- Competing chronic health problems
- Unrealistic expectations

With this information in mind, the team at Starkey were motivated to design an all in one device to address all these concerns. The world's first healthable hearing aid known as the Livio Artificial Intelligence (AI) device by hearing aid manufacturer Starkey.

The Victorian hearing team was invited to the recent launch of these devices and we are excited to share what we discovered with you.
As the first-ever hearing aid to feature embedded sensors and artificial intelligence, Livio AI is a multi-purpose device. In addition to providing excellent hearing clarity, cosmetic appeal and ease of use it also provides:

- Accurate Fall Detection Alerts
- Heart Rate Measurements
- Voice to Text Transcription
- Translation of spoken messages to language of hearing aid user
- Self-check to check for any hearing aid faults
- Remote hearing aid follow-ups with audiologist through a phone app
- Bluetooth connectivity to iPhone for streaming of phone calls and other media
- Rechargeable hearing aid battery
- Geotagging to find lost hearing aids
- Tracking of brain and body health

Most health tracking devices use the wrist, but the ear provides far more accurate data and first ever device of its kind to take advantage of this ideal spot for ideal tracking.

Why would we want all of this in a hearing aid?

Falls are a major public health problem worldwide. Every 11 seconds an older adult is seen in an emergency department for a fall-related injury. People with mild hearing loss are 3 times more likely to have a history of falling and this percentage increases exponentially with worsening degrees of hearing loss. The fall alert control in the new Livio Artificial Intelligence hearing aids, which has undergone thorough testing, accurately alerts family members/doctor a patient has had a fall and where they are. This gives patients control and caregivers peace of mind.

We know that lack of physical activity increases the risk of falling in older adult populations. Therefore by settings body movement tracking within the hearing aids will encourage these populations to get active and help maintain their independence.

These hearing aids are now available to patients at Victorian Hearing.

Sudden Sensorineural hearing loss (SSNHL): Symptoms, Treatment and Prognosis

What is SSNHL?

Sudden sensorineural hearing loss, as the name implies, is the rapid loss of hearing occurring over a period of 72 hours. SSNHL is usually, but not limited to, unilateral hearing loss of at least 30 dB HL in three consecutive frequencies. SSNHL can present at varying levels of severity from a mild to profound hearing loss. Refer to Figures 1 and 2.

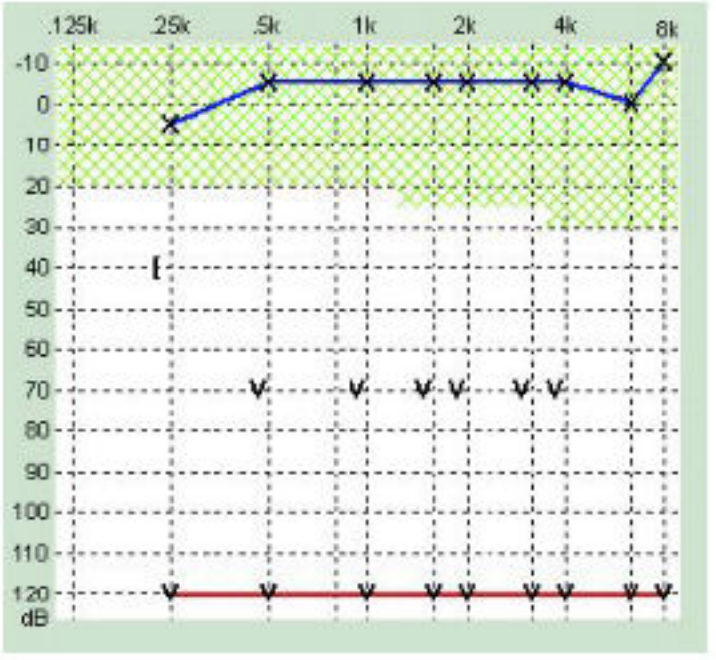


Figure 1: 24-year-old female. Presented with nausea, and no hearing in the right ear. Testing revealed normal hearing in the left ear and a severe to profound, SSNHL in the right ear.

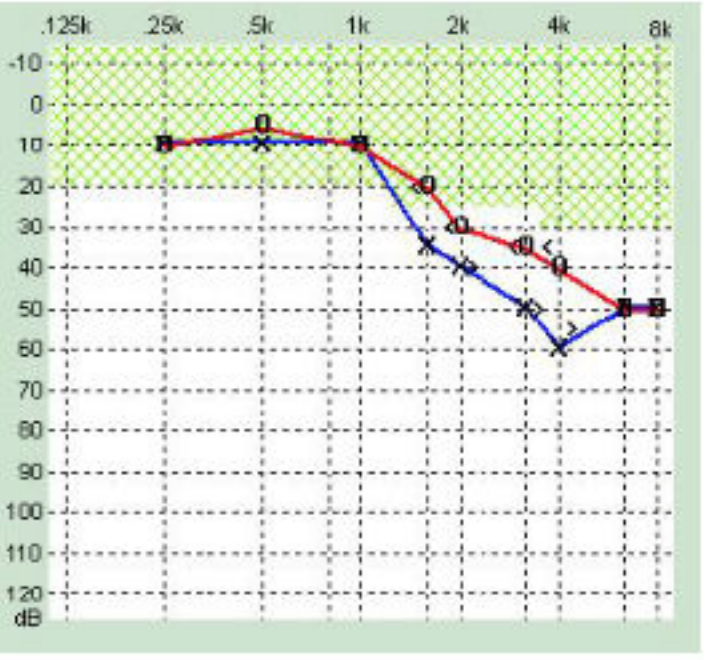


Figure 2: 68-year-old male. Presented with blocked sensation in the left ear. Testing revealed an age related mild to moderate, SNHL bilaterally significantly poorer to the left.

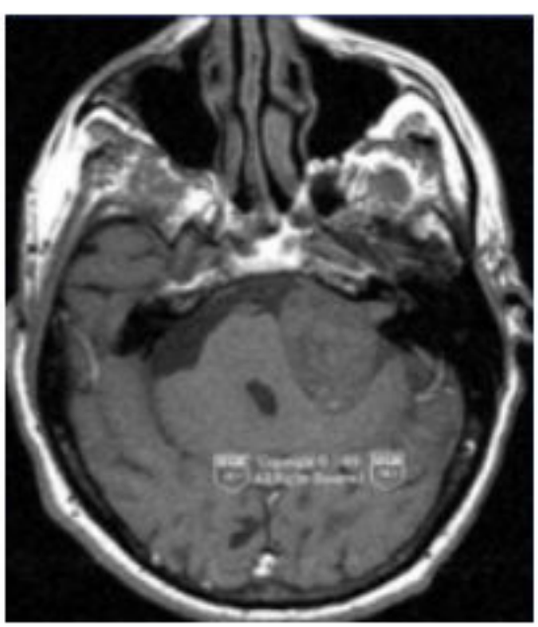
There is a low incidence of sudden sensorineural hearing loss, with 5-20 cases per 100,000 people. It occurs most often in people aged 30-60 years old. Both males and females are equally affected.

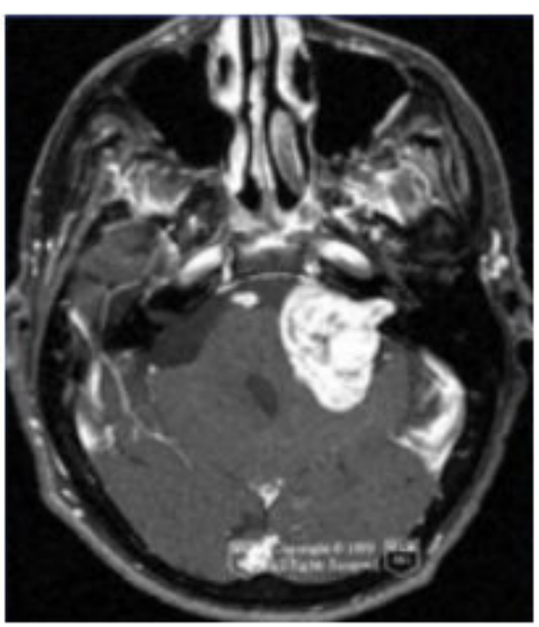
What causes SSNHL?

- Idiopathic
- Viral infections of the cochlea
- Blood flow abnormalities of the cochlea
- Immune disorders
- Metabolic causes
- Ototoxic medications
- Trauma or head injury
- Acoustic neuroma
- Reissner's membrane rupture

What are the symptoms and signs of a SSNHL?

- Hearing impairment, normally monaurally however can be binaural
- Patient reports own voice echo
- Tinnitus
- Sensation of aural fullness 'cotton wool effect'
- Dizziness and/or nausea





Acoustic schwannoma

Management of SSNHL

There is general agreement SSNHL is a medical emergency. SSNHL management should start with diagnostic hearing assessment within 24hours of onset and MRI scanning of the cerebellopontine angle.
Treatment of SSNHL.
In many instances, medical specialists are able to find the cause and treat the hearing impairment. However, in a large proportion of patients, SSNHL is idiopathic. In this case, steroids are commonly used to treat patients.

Effectiveness of Steroid use

Steroids have been shown to significantly improve the recovery of hearing. They work by reducing inflammation and oedema in the hearing organs. Steroids are either prescribed orally and in severe to profound hearing losses, can be administered intravenously.

A review of the effectiveness of steroid use as treatment of SSNHL is varied and conflicting. The limitations are related to the wide heterogeneity in SSNHL patients. This includes the initial degree of hearing deficit , the amount of spontaneous recovery, steroid dosage and administration, treatment start and end periods. From the papers reviewed, there is a general pattern showing patients with low and mid-frequency SSNHL, in the absence of vertigo, prescribed oral steroids for 5 days, within 2 days of SSNHL onset tended to show the most improvements in hearing thresholds.

Long term Outcomes

In some cases of sudden sensorineural hearing loss, hearing may not recover. If this occurs, the preservation of remaining hearing in both ears is important. Ways to prevent hearing deterioration include limiting the amount of noise exposure, and using hearing protection when in noisy environments. If hearing does not recover either spontaneously or with medical treatment, a hearing aid may be an option for the rehabilitation of the hearing loss.

Tinnitus can also continue to be present, regardless of whether hearing recovers or not. Tinnitus management, including relaxation and distraction techniques, can be of benefit to help reduce the perception of tinnitus.

Victorian Hearing Sponsors the Dorevitch Men's Health Conference 2019

Victorian Hearing Audiologists Nicole Bowden and Maryam Zargarbashi attended the successful day meeting and greeting local GPs and medical professionals. Attracting a lot of attention, our 100% invisible hearing aids were quite the talking point along with other new hearing technology recently released in Australia. Not just bright lights and friendly smiles! But good conversations and information shared.

References:

- Burton, M., & Harvery, Y. (2007). Idiopathic sudden sensorineural hearing loss. Scott-Brown's Otolaryngology, (131)
- Battaglia, A., Burchette, R., & Cueva, R. (2008) Combination therapy (intratympanic dexamethasone + high-dose prednisone taper) for the treatment of idiopathic sudden sensorineural hearing loss. Otology Neurotology, 29(4), 453-460. 2008; 29:453–60. 6.
- Ceylan, A., Celenk, F., Kemaloglu, Y., Bayazit, Y., Goksu, N., & Ozbilen, S. (2007). Impact of prognostic factors on recovery from sudden hearing loss. The Journal of Laryngology & Otology, 121(11), 1035–1040.
- Mamak, A., Yilmaz, S., Cansiz, H., Inci, E., Guclu, E., & Derekoylu, L. (2005). A study of prognostic factors in sudden hearing loss. Ear, Nose and Throat Journal, (10). 641.
- M. Marxa,b,, E. Younes a,b, S.S. Chandrasekhar c, J. Ito d, S. Plontkee, S. O'Learyf
- O. Sterkers g,h- European Annals of Otorhinolaryngology, Head and Neck Diseases 135 (2018) S23-S28 Wei BPC, Stathopoulos D, O'Leary S. Steroids for idiopathic sudden sensorineural hearing loss.
- Cochrane Database of Systematic Reviews 2013, Issue 7. Art.
- Wilson, W.R., Byl, F.M., Laird, N. (1980). The efficacy of steroids in the treatment of idiopathic sudden hearing loss. A double-blind clinical study. Archives of Otolarngology, 106 (12), 772-776.
- Xenellis, J., Karapatsas, I., Papadimitriou, N., Nikolopoulos, T., Maragoudakis, P., Tzagkaroulakis, M., Ferekidis, E. (2006). Idiopathic sudden sensorineural hearing loss: prognostic factors. The Journal of Laryngology & Otology, 120(9), 718–724.

Victorian Hearing

audiology australia
Accredited Audiologist

- Independent, unbiased advice
- Australian owned and operated
- Specialists in 100% invisible hearing
- University qualified Audiologists
- Personalised service and care

Copyright © 2019 Victorian Hearing. All rights reserved.

Our mailing address is:
Suite 11, Monash Specialist Centre, 212 Clayton Rd, Clayton

Want to change how you receive these emails?
You can update your preferences or unsubscribe from this list.