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By
Dayse Tavora
AuD, M.Aud.SA., M.Clin.Aud., B.Sp.Path., B.Sc. Ng.

Vesna Maric
AuD, B.Sc. (Hons), M.Clin.Aud., M.Aud.S.A.

Andre Wedekind
M.Clin.Aud., B.H.Sc (Physio)

1. Why hearing with two ears is better than with one

Hearing with two ears provides the three-dimensional world of sound. With binaural hearing the brain can understand speech in quiet and noisy environments, recognize the

direction of sounds, and enjoy the full potential of sound. In contrast, hearing with one ear only (or if one ear is much poorer than the other) makes it difficult to understand speech particularly in noise and to localise sounds.



Courtesy of Med-El



Services provided by Medical Audiology:

Adult and paediatric hearing assessments;
Cochlear implant assessment and rehabilitation;
Balance assessment;
Vestibular rehabilitation;
Hearing aids;
Tinnitus management;
Protective earplugs;
Pre/post employment assistive listening devices.

2. Dementia and Hearing loss in Older Adults

A recent large-scale longitudinal study reports a significant correlation between dementia and hearing loss. On average, older adults with hearing loss developed cognitive impairment 3.2 years sooner and had 24% increased risk of incident cognitive impairment than those with normal hearing. A wider US-based Health, Aging and Body Composition study revealed that greater hearing impairment was significantly correlated with greater rate of cognitive decline and risk of incident cognitive impairment. While the mechanisms are unclear, strong emphasis has been placed on the relationship between hearing loss and social isolation in older adults, which in turn is known to increase the risk of dementia.

Further research is underway to determine if hearing loss may be causally related to dementia and if the use of hearing aids can slow or delay cognitive decline in older adults.

1. Lin, Thorpe, Gordon-Salant & Ferrucci (2011). Hearing loss prevalence and risk factors among older adults in the United States. *J Gerontol A Biol Med Sci*, 66A(5). 582-590.
2. Lin, Metter, O'Brien, Resnick, Zonderman, Ferrucci (2011). Hearing loss and incident dementia. *Arch Neurol*, 68(2). 214-220.
3. Lin et al. (2013). Hearing loss and cognitive decline in older adults. *JAMA Internal Medicine*, 173(4). 293-299.
4. Lin (2012). Hearing loss in older adults: Who's listening. *JAMA*, 307(11). 1147-1148.

3. What's new in the world of cochlear implants?

Cochlear Ltd, an Australian cochlear implant manufacturer, has recently launched the Nucleus 6 system. The new speech processor incorporates an advanced sound processing strategy that aims to deliver superior hearing performance. The speech processor identifies the user's environment and automatically selects the most suitable strategy. It has wireless capability and will be connectable to external bluetooth devices. In addition, it is the first behind-the-ear cochlear implant that is water resistant.

Nucleus 6 speech processor



Remote control



Courtesy of Cochlear

MAS welcome Andre Wedekind – M.Clin.Aud., B.H.Sc (Physiotherapy).

Andre joined our team in 2014 following the completion of a Masters in Clinical Audiology at the University of Western Australia. Andre is also a registered Physiotherapist specialising in the diagnosis and rehabilitation of balance disorders. As such, his skill-set is unique and an invaluable addition to our practice and to care of people with neuro-otological disorders in WA.

Andre's aim is to combine his knowledge of hearing and balance disorders with Physiotherapy to provide high-level evidence-based care in auditory and vestibular management. Andre's main research interest is the validation of muscular sites in vestibular evoked myogenic potentials (VEMPs), a test that is becoming increasingly important in the identification of Superior Semicircular Canal Dehiscence.

4. Our Balance System

Our balance system helps us stand upright and know where we are in relation to gravity. One of the most important functions of our balance system is to allow us to see clearly while moving, as well as automatically make postural adjustments to maintain posture and stability. Balance is controlled through signals to the brain from your:

- 1) Inner ear – the balance organ of your inner ear lets the brain know where your head is in relation to gravity
- 2) Eyes – information from your eyes allows your brain to know where you are in relation to surrounding objects
- 3) Skin, Muscles & Joints – information from your skin, muscles and joints tells your brain where your limbs are. For example if you have more pressure on the front of your feet when standing, your brain knows you are leaning forward.

If you are worried about your balance it is important to talk to your doctor who may refer you to a physiotherapist. Physiotherapists can instruct you with exercises that can improve how your brain uses all your balance systems.

5. Dizziness

Dizziness affects up to 20% of Australians and impacts people of all ages. The term dizziness is often used to describe two different feelings:

1. Light headedness, the feeling that you are about to faint or 'pass out'. Although you feel dizzy it doesn't feel like the room is spinning around you. Light headedness is usually brief and goes away when lying or sitting down. A common cause of light headedness is a momentary drop of blood pressure caused by standing up too quickly (postural hypotension).
2. Vertigo is the feeling that the room is spinning around you. This is often caused by an illness to the inner ear and can last minutes to weeks.

If you are suffering from dizziness it is important you speak to your Doctor.

MAS aims to distribute an informative newsletter tri-annually. If you would like to receive information on a specific topic, email or call us.

If you know anyone who might enjoy our newsletter or if you would like to be removed from our mailing list, please let us know. **Phone 9321 7746 or email reception@medicalaudiology.com.au**