

Audiology Newsletter

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Issue 11

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American Academy of Audiology 2007 Conference

Great news—Australian audiology conferences are of international standards! Having now been to both Australian and American conferences, I am confident that audiologists in Australia receive the most up-to-date research and generate world class innovative products of proven efficacy. Indeed, a significant number of research papers presented at the Denver AAA Conference were of Australian authorship and demonstrated our expertise is not limited to one area within audiology but rather ranges anywhere from paediatric to diagnostic to rehabilitative audiology.

To condense the myriad of topics and tradeshow displays seen, I would say the key trend driving most new developments in hearing aid technology is wireless technology. People who wear hearing aids often experience feedback, electrical interference and physical discomfort when using a mobile or landline phone. A new hearing aid accessory will soon be launched that allows the wearer to clip on an earpiece to the base of their hearing aid. This earpiece uses Bluetooth wireless technology to deliver clear, uninterrupted sound quality. Moreover, its Bluetooth wireless technology is specially optimized to further compensate for impaired hearing. Furthermore, the device's wireless connectivity means it can be synchronised with many Bluetooth devices. As well as sounds from mobile phones, televisions and computers can also be streamed wirelessly into the earpiece.

The possibilities of wireless connectivity appear endless. From PDAs to MP3 players, personal computers to GPS, video games to car stereos. If the device is Bluetooth or is Bluetooth adaptable, the earpiece will be able to connect, wirelessly.

Mobile Phone Custom Earmoulds

Many people find the standard-issued ear plugs for mobile phones do not allow them to hear the caller very well or offer a poor physical fit. The best ear plugs for comfort and reduced ambient noise are those which are custom made for the wearer's ear. Custom ear plugs can be used for mobile phones, and MP3 players and Bluetooth earpieces. An impression of the ear is taken and the manufacturer makes a mould and builds the speaker into the earpiece as well as the attached microphone / wired chord.

The Ear & Earbuds

As skin on the centre of the eardrum grows and thins, it does so in a migratory fashion, normally moving outwards and towards the external opening of the ear canal. When we chew, the movements of the jaw joint produce a peristaltic wave that promotes movement of this skin. As this process occurs, wax and dead skin are pushed out. Wax (*cerumen*) materialises in a number of forms. It can be white to brown in colour, dry to wet in consistency, and it varies from person to person. The wax contains an 'anti-bug' property, thereby defending the skin from infections caused by insects.

Many of us assume that ear buds are the best designed implements to rid the ear of itching, wax and discharge. However, meddling with ear buds can do more harm than good. Often they push the wax deeper into the canal, leading to blockage, and they can cause injury to the ear canal and prolonged use can lead to chronic thickening of the skin and chronic itchiness, which is difficult to treat. It is best to use wax candles, wax drops or drops designed specifically for itchy ears, which are available at pharmacies. Some may need more specialised treatment by their general practitioner.

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Tinnitus Treatment—Outcome Update

The *Neuromonics* tinnitus treatment is designed specifically to target the audiological, psychological and neurological basis of tinnitus. The Neuromonics processor is customized to each client's unique hearing and tinnitus profile. This treatment continues to be extensively tested worldwide and the latest clinical trial results (*Ear & Hearing* Vol. 28 No. 2, April 2007) further enhance its efficacy. The results continue to show that for people with moderate-severe tinnitus disturbance, using the Neuromonics treatment provides rapid and profound improvements to the severity of tinnitus symptoms and their effects on quality

Driving & Hearing

The following is from Queensland Transport's Medical Standards for Licensing—Hearing.

“Mild to moderate hearing loss does not appear to affect a person's ability to drive safely. While driving ability per se may not be affected by hearing deficiency, responsiveness to critical events is an important safety consideration for drivers of commercial vehicles. Drivers of commercial vehicles are required to meet a hearing standard. Hearing sufficient to converse with passengers is not a matter that affects safe driving. While hearing loss is not considered to preclude driving a private car, persons with severe hearing losses should be advised regarding their loss and their limited ability to hear warning signals. Persons with hearing aids should be encouraged to wear them when driving. There is no hearing standard for private vehicle drivers.

Dogs Eat Hearing Aids!

Ever wondered why so many people report their hearing aids to have been “eaten by the dog”? Many people remove their hearing aid to e.g., answer the telephone, and in doing so put them on a table with the battery still intact. Whenever a hearing aid is left on / battery intact, and put on a hard surface or in such a position that something gets too near the microphone, the hearing aid will ‘whistle’. Because of the excellent high frequency hearing and sensitivity of dogs, this whistle irritates them and puts them in ‘attack’ mode. That is, the dog will locate the source of the irritating high frequency buzz and try to destroy it. The moral of this story is always disengage the battery whenever you remove your hearing aid!

Sides Matter

It's a fact that our bodies and features aren't symmetrical in either shape or size. Our right foot may be bigger than our left, or our left eye slightly smaller than the right. Our right and left ears also differ.

A recent study by the University of Los Angeles found that our left ear is much better at receiving sounds from speech, whereas our right is more sensitive to music and song. It was always assumed that our left and right ears worked exactly the same way and therefore it didn't matter which ear was impaired. However, this research reveals that it may actually have a profound impact on the individual's speech and language development and music appreciation.

Quotes

“One of the best hearing aids a man can have is an attentive wife.” Groucho Marx, American comedian, actor and singer 1890-1977

“What matters deafness of the ears when the mind hears? The one true deafness, the incurable deafness, is that of the mind.” Victor Hugo, French romantic poet, novelist and dramatist, 1802-1885

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BONE ANCHORED HEARING AID (BAHA)

Bone Anchored Hearing Aids (BAHA) use *bone conduction* to provide improved hearing to people who have ear canal problems or Single Sided Deafness (SSD) and cannot be helped by ordinary (*air conduction*) hearing aids.

Most people with hearing impairment use air conduction hearing aids. These hearing aids are basically miniature sound systems. Sound is picked up by a microphone, amplified, and then delivered into the ear canal by means of a tiny loudspeaker known as a receiver. The amplified sound travels from the ear canal through the middle ear and into the inner ear via air conduction. For people with ear canal problems sound from the outside world cannot travel through to the inner ear via air conduction. They may have a congenital condition, such as *atresia*, which means that there is no functioning ear canal in which to fit the hearing aid. They may have a chronic ear infection in the middle or outer ear that is made worse when a hearing aid mould is worn. Another condition is SSD which may be due to surgery, trauma or disease and which leaves the individual with no hearing on one side only. For these people, sound needs to be delivered to their healthy inner ear via bone conduction.

How does a BAHA work?

The BAHA system works *percutaneously*—it penetrates the skin. A small titanium implant is implanted by a surgeon in the skull behind the ear. This implant eventually *osseointegrates* (ie integrates with living tissue and bone). Once the implant is in place, an abutment is then attached to the implant and a sound processor is clipped on. The implant is internal (underneath the skull and invisible) whereas the sound processor is external (outside the skull and visible). The abutment provides the direct connection between the sound processor and the implant. The bone acts as a pathway for sound to travel to the inner ear without involving the ear canal.

The surgical procedure is normally carried out in one stage and can be done under either local or general anaesthetic. The procedure is minor and takes less than an hour to perform.

BAHA for Single Sided Deafness (SSD)

SSD is the term given to unilateral (*one-sided*) sensorineural (*permanent hearing loss due to nerve damage in the inner ear*) deafness. The BAHA sound processor is placed on the deaf side. The device picks up sound and transfers it by direct bone conduction to the working cochlear in the hearing ear. This results in the sensation of hearing from the deaf side. Patients report that they are able to distinguish between sounds they receive from the deaf side via the BAHA sound processor, from the sound they receive directly from the hearing ear.

For many years, SSD has been an underestimated handicap, the main reason being the lack of any convincing treatment option. Recent clinical trials have shown that the BAHA system provides a unique benefit for people suffering from SSD by enabling them to hear and understand sounds from both sides, where previously they could only hear from their good ear. For people with SSD the BAHA gives them confidence with e.g., crossing the road, at business meetings, meals at restaurants, family gatherings and driving a car.

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If anyone would like any particular issue addressed in this newsletter, or would like to contribute ideas themselves, please contact Bronwen. Thank you for your support.

Warmest Regards,

Bronwen

PLEASE NOTE THE FOLLOWING :

NEW ADDRESS from July 1st, 2007

Suite 70, Level 3 Sandford Jackson Building, Wesley Hospital

Same building different floor!

Phone number remains the same: (07) 3720 9555

CLINIC CLOSED EVERY TUESDAY

The clinic will be open week days EXCEPT Tuesday.

SEPTEMBER CLOSURE

Due to my attendance at the Australian College of Audiology (ACAud)

Conference in Adelaide, the clinic will be closed **Tuesday 4th September—**

Friday 7th September, 2007.

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