

# hearalways

Issue Three

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# Call for applications: Graeme Clark Scholarship

We are pleased to continue support for Cochlear™ recipients by inviting applications for the 2006 Graeme Clark Cochlear Scholarship. Now in its fifth year, the scholarship is designed to encourage Cochlear's recipients to undertake tertiary studies.

The scholarship is named in honour of Professor Graeme Clark and his pioneering work that led to the development of the multi-channel cochlear implant. It is awarded on the basis of academic achievement, participation in extracurricular activities and community service, and demonstrated commitment to the Cochlear ideals of leadership and humanity.

Australian and New Zealand students with Cochlear's implant system are encouraged to apply for the 2006 Scholarship. Eligible applicants include Cochlear's recipients who are:

- Current university students or
- Students currently completing their final year of high school or
- Mature aged students who have been accepted into a university course

The scholarship consists of financial assistance toward three successive years of study at an accredited university. It is paid in instalments on the successful completion of each year of study. The amount awarded is at the discretion of the regional Cochlear office.

An independent committee will review each application to determine the 2006 winners. All clinics in Australia and New Zealand will be notified of the winners by June 2006.

## Read about the previous Scholarship winners in this issue of Hear Always:

Aaron Payne (2005), a medical science student at the University of Sydney;  
Thomas Pell (2004), student at Queensland University of Technology;  
Bill Raymond (2003), aspiring audiologist;  
Holly McDonell (2002), Australasia's first scholarship winner

To apply for the 2006 Scholarship or for further details, please visit <http://www.cochlear.com/796.asp>\*

Please keep in mind your applications will be considered on the factors listed previously as well as the quality and presentation of the application itself. In addition, all previous applicants are invited to reapply. Applications must be received by the close of business 14 April 2006.

\* The scholarship is currently only available for recipients who reside and undertake study in an accredited university in Australia or New Zealand.

# Does your sound performance measure up?

As a cochlear implant recipient, the process of obtaining maximum benefit from your implant is an on-going process. Following surgery, the speech processor needs to be programmed to meet your specific hearing needs. The programming process, however, does not stop there. Regular audiology reviews are required to ensure that you have optimal access to sounds in the environment, and that you are receiving maximum benefit from your cochlear implant.

The cochlear implant provides electrical stimulation to the hearing nerve in order to provide the brain with the perception of sound. For every recipient the amount and type of electrical stimulation best suited to stimulate their individual auditory system will be different and may change over time.

The process of optimising the way the cochlear implant delivers electrical stimulation to the individual recipient is known as 'mapping'. Some recipients consider this a 'tune up'.

## What is a map?

Maps are the listening programs stored in the memory of the speech processor. They are created based on the recipient responses to electrical stimulation of the electrodes within the cochlea. For very young children or recipients who are unable to provide feedback about their hearing experience there are features within the Cochlear programming software that allow this information to be obtained without the recipient's assistance.

The maps in the speech processor will direct how sounds from the speech processor's microphone are coded as electrical signals to be delivered from the electrodes within the cochlea. In other words, how the sounds from the environment are converted into electrical signals that are then presented to the hearing system. For this reason it is very important that recipients follow their clinician's advice in terms of regular reviews.

The programming software used by the audiologist to map is called Custom Sound.™ It allows the audiologist to customise the map to the needs of the individual's hearing system and listening environment. The audiologist programs the minimum and maximum amount of electrical current that is required on each electrode to produce the perception of soft increasing to loud sound. The software also provides the audiologist access to a vast number of parameters to assist them to work with the recipient to achieve a sound quality that is optimal.

As well as guiding the conversion of sound to an electrical signal, the map also applies other features that can help recipients in different listening environments.

For example, ADRO can be applied to assist soft sounds to be easily audible while also ensuring that loud sounds are not uncomfortable. There is a range of such features available. Attending routine mapping review sessions provides the opportunity for discussion with your audiologist to ensure that the benefits of these features are explored – particularly if your listening environment may have changed.

At a map review session a recipient may hear their audiologist talk about many terms associated with the process. Some of these are discussed below.

A **T (threshold)** level is the minimum amount of electrical stimulation needed at each electrode for the recipient to hear a sound (this is measured in micro amps of voltage). This is in no way related to hearing levels before implant or dB hearing level post implant.

A **C (comfort)** level is the highest electrical current level that provides the recipient with a perception of a loud sound but does not produce uncomfortable loudness sensation.

These levels may change over time, particularly when recipients have just received their cochlear implant. Experience as a listener and the ability to tolerate louder sounds can change quickly during these early stages.

The processing or coding strategy refers to how the speech processor translates the qualities of sound (pitch, loudness and timing) into an electrical signal. Some of the different strategies are SPEAK, ACE, CIS, ACE(RE) and CIS(RE). These can differ between recipients based on preference of the individual recipient (which one they find most beneficial, hearing history, type of implant or speech processor).

During the initial period of 'switch-on' most recipients will have regular visits to their clinics until the map/listening program is stable. Once the map is stable the recipient will be receiving a relatively consistent listening signal. At this time the clinic will advise recipients how long they suggest until the next review, this may be 6 or 12 months.

If parents or the recipient notice any of the following, it is recommended to contact your clinic in advance of the routine review and see if an earlier appointment is required.

## Adults

- Noted change in quality of sound
- A sense that you are not 'hearing as well' as you are used to
- You are increasing/decreasing your volume or sensitivity setting
- Family/friends comment on change in responsiveness to sounds

## Children

- Reduced responsiveness to environmental sound
- Change in voice quality or amount of vocalising
- Reduction in listening distance
- Child continually altering volume/sensitivity
- Increased requests for repetition
- Altered production of speech sounds they previously could produce

If you have any questions regarding programming/mapping we suggest you contact your cochlear implant clinic.

# Warm weather specials

The warm weather is here and with the more humid conditions care for your speech processor should become a higher priority. In order to help you deal with the challenges of the climate, we are happy to offer you special pricing on our range of our warm weather care products for a limited time.\*

Product	Code	Discount
Dry & Store® Global Conditioning System	Australia & New Zealand – Z60761 Singapore – Z60759 Malaysia – Z60759 India – Z60761	20%
Dry & Store® – Dry-Brik® Desiccant	Z60764	20%
ESPrin™ 3G jackets	Z60764	20%
Freedom™ microphone protectors (Gore-Tex®)	Brown – Z60697 Beige – Z60696 Black – Z60698 Silver – Z60699	15%

For your local currency price, and to order any of these warm weather accessories, please call Cochlear Customer Service on 1800 620 929 (Australia) or 0800 800 989 (New Zealand). In all other countries please contact your Cochlear distributor.

\* This offer expires on 31 March 2006 in Australia, New Zealand and India, and on 12 May 2006 in Singapore and Malaysia. Some items may not be available immediately.

Offer not applicable on components when sold as part of an entire cochlear implant system.

Offer commences from issue date of newsletter.

# CICADA: Newcastle branch

CICADA Australia, formerly known as the Cochlear Implant Club and Advisory Association, is a support organisation established in 1984 to provide assistance through fellowship for implant recipients their families and friends.

The Newcastle-Hunter Branch was formed in 2004 to meet the needs of recipients from not only the Newcastle-Hunter region, but also for those from the NSW Central Coast, right up to the NSW North Coast. If you live in these areas, they'd love to hear from you.

During the year, the group holds meetings bi-monthly, and has a mixed bag of functions, guest speakers and social events, and includes a Christmas party in early December. The first function for the year was held in February and featured a clinical specialist from Cochlear Limited as guest speaker.

For more information about the CICADA Newcastle-Hunter Branch, and upcoming events, please contact the secretary Mischelle Edmunds at [mischelle17@hotmail.com](mailto:mischelle17@hotmail.com)

I suffered from a progressive and gradual sensorineural loss of hearing. At school and during university it was always necessary for me to sit near the front of the classroom or lecture hall in order to hear well.

At 40 years of age I had a severe ear infection and after the infection cleared I was tested for hearing loss. I was diagnosed with moderate hearing loss and as a result of this my ENT surgeon recommended bilateral hearing aids. However, my hearing loss continued and I would have to replace my hearing aids every two to five years with new and increasingly powerful ones.

In 2003 my hearing loss was found to be in the profound range in both ears, making my hearing aids basically ineffective. My surgeon recommended bilateral cochlear implants as I had little effective hearing in either ear.

I received my cochlear implants sequentially which allowed for a period of adjustment to the new cochlear implant sensation while using the hearing aid in the other ear. My first implant was done on 10 July 2003, followed by switch-on on 30 July 2003.

Prior to receiving the second implant I was tested again to determine if a second cochlear implant could deliver hearing benefits. Speech discrimination tests demonstrated that my hearing aid was not assisting in my understanding of speech. A second cochlear implant was suggested, as it was believed that it would significantly improve my hearing.

I still had a few reservations about receiving a second implant. Would the second cochlear implant perform as well as the first cochlear implant? Would the sound sensation be the same as the first cochlear implant? Had the best ear been implanted first? I had a little residual hearing at the lower frequencies, which I could just still use with a hearing aid, although it was declining gradually. My expectation was that this residual hearing would be lost on implantation. Most implantees only receive one cochlear implant and manage well. Why was I being considered for a second implant?

With a second cochlear implant, I would be totally dependent on the implants. I had to put all my faith in these devices for all time, as there was essentially no return. The slim midterm prospect of being able to take advantage of a medical breakthrough in the regeneration of cochlear hair cells would probably be denied. Given that there were no research reports of successful regeneration results in any animals close to humans or humans themselves, I believed that a routine approved regeneration treatment was sometime away. I wanted to stabilise my hearing now and was not prepared to wait an indeterminate time for a 'maybe' prospect.

Most hearing aid users are bilateral. Clinicians report that it is better to aid both ears as the overwhelming evidence suggests that the patient receives a superior hearing outcome when bilateral. Early research evidence and patient experience indicates a similar outcome for bilateral cochlear implants. Given these findings and my previous experience with bilateral hearing aids, bilateral cochlear implants appeared to be a reasonable option.

The cost of the procedure was not a factor as my health insurance fund would cover the second cochlear implant, and I considered the cost of batteries to be a small charge for continuing good hearing.

After much consideration I decided to have the second cochlear implant. While I received sound, confident and positive advice from both my surgeon and audiologist, the final decision to proceed was mine alone. My decision was made based on the experience of the highly successful outcomes from the first cochlear implant.

The surgery for the second cochlear implant was performed on 1 April 2004, with switch-on on 22 April 2004.

After each switch-on I was able to understand speech within 24 hours on the implanted side, which was truly amazing. Following the first switch-on, I gave a lecture the next day. I could understand questions with some difficulty, but managed without too many problems. After the second switch-on, I could converse easily with the taxi driver while travelling from St Vincents Hospital to the airport.

Since receiving bilateral cochlear implants my hearing appears to have stabilised. I am now able to use a mobile phone (on 't' switch) with ease, which was not possible with hearing aids. I can manage TV without teletext, but I still find the text very helpful for certain programs where the accents are strong or the sound track is of poor quality.

My perception of music, particularly classical, is slowly improving. Some instruments sound well and truly off, while others are very near to how I understand they should sound.

I find the bilateral cochlear implants to be clearly superior to a single cochlear implant. Hearing in noisy situations can still be difficult, but there is a significant improvement in quality over just one cochlear implant or bilateral hearing aids. In addition, the second cochlear implant provides a backup when a speech processor requires repair, or the batteries run out. This means that I am never 'off the air', and I am always keen to replace spent batteries to remain bilateral.

In summary, my life is back to normal, both socially and professionally. In my case, bilateral cochlear implants have proved essential to manage in the hearing world when one is almost totally deaf. They have allowed me to continue an active participatory life without any real difficulty. For this I am most grateful to the people involved in the initial and continuing development of the cochlear implant technology, in large part, an amazing Australian development.

If you are considering bilateral cochlear implants and would like to ask me questions about my experience I would be happy to answer your questions via email. Email: ramdhare@hotmail.com

Alternatively, you can leave your telephone details with Cochlear Customer Services and I will call you back.

# My Story: A bilateral cochlear implant recipient

Name:	Dr Ray Hare
Profession:	Principal Research Scientist, Durum Wheat Improvement, NSW Department of Primary Industries
Cochlear Implant Status:	Bilateral cochlear implants
Implants:	2 x Nucleus® 24
Speech processors:	2 x ESPrit™ 3G
First implant:	10 July 2003
Second implant:	1 April 2004



## My bilateral advantages Dr Ray Hare

- Sounds are generally clearer, fuller and less distorted.
- Sounds are centred in my head rather than to one side.
- Adjustment to the second implant was very rapid, i.e. several days, and the sound from each implant is identical.
- Sounds are in stereo, i.e. directional.
- People do not need to repeat speech as much, as speech intelligibility is much improved.
- Music can be better appreciated.
- Concentrating on hearing during a full active day (e.g. meetings/conferences) is far less stressful. Stress induced headaches are less frequent.

# An update: Bilateral Cochlear Implantation

As the cochlear implant industry matures, there is an increasing amount of research and interest in the area of bilateral cochlear implantation – cochlear implantation in both ears. Normal hearing listeners rely on hearing in both ears, binaural hearing, to better understand speech in noisy situations and to localise sounds. Binaural hearing also offers a more natural and balanced sound.

As of October 2005, there are more than 2,800 bilaterally implanted individuals worldwide. In light of this sizable experience, an international consensus report has been written looking at the benefits of bilateral cochlear implantation for appropriate candidates.

The importance of providing people who have hearing loss with binaural hearing has been recognised for many years with regard to hearing aid fitting practices. The benefit of using a hearing aid in conjunction with a cochlear implant has also been widely studied, and is common clinical practice.

## The research findings

Many recent studies have been conducted examining the outcomes of bilateral cochlear implant use. Increasing numbers of new candidates and existing cochlear implant recipients are now receiving bilateral implants, and an even greater number are questioning the benefits for themselves.

Research has demonstrated that the results for bilateral cochlear implantation in adults and children have shown significant improvement for hearing and communicating in the everyday world. This is evidenced by improved speech recognition abilities (particularly in the presence of background noise) and improved abilities to localise sounds.

The benefits for adults and children are significant. Some of the key outcomes from the bilateral studies follow.

## Outcomes from adult bilateral studies demonstrate the following:

- Bilateral implants provide significant speech perception benefits to adults with acquired hearing loss when speech and interfering noise originate from different locations
- Bilaterally implanted adults are better able to localise sound
- Bilateral implantation ensures that the optimal ear is always implanted
- Programming bilateral implantees is an uncomplicated procedure

## Outcomes from paediatric bilateral studies:

- Bilateral hearing will provide advantages in noisy environments
- Bilaterally implanted children are better able to localise speech
- The above bilateral advantages appear over time when implanted sequentially

## Potential benefits of bilateral cochlear implantation

For both adults and children there are a number of significant potential benefits of bilateral cochlear implantation.

- **Listening with two ears:** When sounds are heard by both ears the listener becomes aware of specific sounds at softer levels and may communicate with less effort in stressful listening situations.

• **Hearing in noise:** Binaural hearing provides the ability to 'tune in' or to focus on a single speaker when surrounded by background noise. With binaural hearing the auditory system combines and compares the two signals and the brain can better 'filter out' much of the unwanted noise.

• **At least one ear is receiving a 'good' signal:** A unilateral (single) cochlear implant recipient must position themselves so that speakers and other important sound sources are directly in front of them or on the side of the microphone. Bilateral cochlear implantation may allow recipients to listen with greater ease without having to try and position their 'good' ear to the source.

• **Localisation:** Hearing with two ears enables the brain to identify the location of speech and other important sounds

• **Preference, subjective advantages:** In studies for which experienced bilateral implant users were required to go without the use of one implant for a period of time, their frustration with hearing in only one ear was similar to that described by normal hearing individuals who suddenly lost hearing in one ear. Once they had experienced hearing through two cochlear implants they found the impairment of hearing on only one side to be unsatisfactory.

• **Access to surrounding conversation:** An important part of early language acquisition is 'overhearing' the language in the world that surrounds the child (incidental language learning). It is possible, if not likely, that bilaterally implanted children may be able to acquire speech and language more passively as an unconscious part of everyday life than unilaterally implanted children.

## Sequential implantation

By sequentially implanting cochlear recipients the audiological team are able to ascertain the results from the first implant.

Adults are often considered for sequential bilateral implantation based on successful use of the first cochlear implant. The second ear should have a favourable hearing history – useful hearing either with or without a hearing aid into the teenage years.

Children should be considered good to excellent unilateral cochlear implant users before bilateral implantation is considered. Unless consistent hearing aid use has continued in the second ear, the age of the child when being considered for bilateral implantation is an important consideration. Generally children under the age of 8 are considered to be the best candidates, however children of any age can be considered good candidates with continued hearing aid use in the second ear.

## References

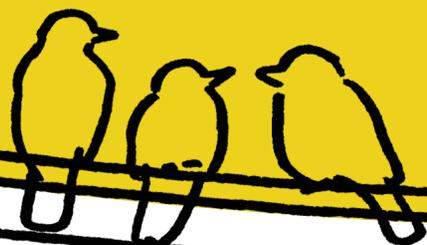
- Laszig R, et al. Benefits of bilateral electrical stimulation with the Nucleus® cochlear implant in adults: six months post-operative results. *Otology & Neurotology*, 2004; 25: 958-968
- Ramsden R, et al. Evaluation of bilaterally implanted adult subjects with the Nucleus® 24 cochlear implant system. *Otology & Neurotology*, 2005; 26: 988-998
- Peters R, et al. Sequential bilateral cochlear implantation in children. *Int'l Congress Series*, 2004; 1273: 462-465
- Kuhn-Inacker H, et al. Bilateral cochlear implants: a way to optimize auditory perception abilities in deaf children. *Int'l Journal of Pediatric Otorhinolaryngol.* 2004; 68: 1257-1266
- Balfour P.B, et al. A comparison of sound quality judgements for monaural and binaural hearing aid processed stimuli. *Ear and Hearing*, 1992, Vol. 13(5), pp 331-339
- Acta Oto-Laryngologica, 2005; 125: 918-919
- Tyler R.S, et al. Three Month Results with Bilateral Cochlear Implants. *Ear Hear*; 2002; 23: 80s-89s
- Bess F.H, et al. Auditory Performance of Children With Unilateral Sensorineural Hearing Impairment. *Ear and Hearing*, February 1986, Vol 7, pp 20-26

## Concerns

A concern sometimes expressed by recipients and parents of recipients is that if they choose bilateral implantation now they may lose the ability to benefit from future technology.

While it is true that many scientific advances have been made over the past 20 years, and that further discoveries and improvements are likely to happen over the next 20 years, the benefits of early bilateral implantation may outweigh any benefits or features associated with future technology. It is quite likely that due to the plasticity of the developing auditory nervous system and the young child's predisposition to acquire speech and language, younger children could benefit the most from bilateral implants.

If you are interested in learning more about bilateral cochlear implants, please contact your cochlear implant team.



# Hearing reaches more people than ever before

Last year Cochlear finalised the acquisition of Entific Medical Systems, a Swedish based manufacturer of the market-leading bone anchored hearing solutions.

The acquisition of Entific was made to broaden the role Cochlear plays in the implantable hearing solutions market worldwide.

By adding the Baha® range of hearing solutions to the Cochlear set of offerings, Cochlear is now able to provide hearing to more people than ever before.

The Baha range of hearing devices provides hearing to people who do not benefit from traditional hearing aid technology and are not candidates for a cochlear implant. In conditions where the ear canal is not functioning normally or in single sided deafness, Baha is designed to help improve hearing.

Sound is received in two ways, by air conduction via the ear canal, eardrum and ossicles and by bone conduction where the sound is transmitted directly through the jaw and skull bone bypassing the outer ear and the middle ear. Baha utilises direct bone conduction, where the bone acts as a pathway for sound to travel to the inner ear without involving the ear canal.

Baha works by implanting a small titanium fixture behind the ear where it osseointegrates with the living bone. A percutaneous abutment is attached to the fixture and a sound processor is clipped on externally. The sound processor can be worn or taken off at any time. The surgical procedure is minor and can in most cases be performed under local anaesthesia.

Candidacy for a Baha hearing device includes those people with:

- Chronic ear infection
- Congenital hearing loss
- Single sided deafness

You will be hearing more about the Baha range of products, and learning more about Baha recipients in upcoming editions of the Hear Always newsletter.

## Baha Case Study

Nancy was born with a conductive hearing loss due to congenital problems with her middle ear. In one ear, she had only two of three conductive bones and both of her eardrums were improperly formed. Throughout her life, she struggled with chronic ear infections as her hearing continued to deteriorate.

In search of a solution, Nancy explored several options including a mastoidectomy, replacement of the middle ear bones and eardrum, and the use of both in-the-ear and behind-the-ear hearing aids. After using hearing aids for over 25 years, her audiologist could not find a digital or analog hearing aid that worked. Nancy needed new hearing aids and tried three different kinds, but still experienced a lack of clarity. She also continued to suffer from ongoing infections due to the ear molds from the hearing aids. In her career as a lawyer, Nancy found it increasingly difficult to function normally.

As a trial lawyer, she had to not only interview clients one-on-one, but also appear in court – the court appearances and the work in her many public service organisations were becoming increasingly difficult.

"In many cases, it was difficult to discriminate different words from one another," she says. "I really had to work hard to listen to everybody, especially in a room full of people. I had to learn to read lips and position myself closest to the most soft-spoken person in the room and concentrate on their every word. By the end of the day, I was exhausted from having to work so hard to listen to people at work and while socialising. I began to withdraw from social activities because it was too much hard work to listen to everyone all day long."

As soon as her doctor attached the Baha sound processors, "I could instantly hear better and more clearly," she says. "I was just amazed. For the first time since I can remember, I could hear all the little noises, like rubbing a cup across a table or a pen scribbling on a piece of paper, all the background noises that most people have probably learned to tune out. I'm enjoying it all. It has put me back in touch with the richness of the sounds of life. I'm active again in all the community service organisations and I can socialise without having to work at hearing people – I'm able to relax and enjoy being with other people again."

"The Baha system has made a tremendous difference in my personal and professional life. If someone's doctor says they are a good candidate for the Baha system, I recommend they seriously consider it."



Nancy

# Our Commitment For Life

One of Cochlear's guiding principles is to support each and every one of Cochlear's recipients for life. This undertaking means bringing new technology to existing recipients as developments are made. This is a commitment that Cochlear makes on a global scale to over 70,000 cochlear implant recipients and more than 25,000 Baha recipients located in over 80 countries.

To provide cochlear and bone conduction implant recipients with lifetime access to the latest hearing technology, Cochlear's design practice is to incorporate the hearing processing technology in the external speech processor.

For Cochlear's earliest cochlear implant recipients, many upgrades have already been delivered resulting in an increase in performance and delivering on our lifetime commitment. This has been achieved without the need for additional surgery or replacement of the implant. For example, Cochlear's recipients implanted in 1983 have had access to five upgrades in speech processor technology.

First hand upgrade experiences...

Karen Dempsey

Implant: Nucleus® 24  
 Speech processor: SPrint, upgraded to ESPrIt™ BTE in May 2000, upgraded to ESPrIt™ 3G in November 2002  
 Received CI: October 1998  
 Lives: Newcastle, NSW, Australia



Seven years ago technology changed my life when I received a Nucleus 24 Cochlear Implant. It allowed me to hear sounds and voices I had not heard for 30 years and introduced me to many new ones that had always been there but I did not know existed. Some sounds are just wonderful and amazing but there are also ones I could really do without and I'm sure other implant recipients can relate to that! Technology changes rapidly and I'm amazed at just how quickly advances are made. Thankfully we are able to upgrade our speech processors to take advantage of the changes.

My first processor was a SPrint body worn processor with SPEAK strategy with 250Hz Electrical Frequency Pulse Rate with a stimulation rate of 2,000 pulses per second. I was happy with the SPrint processor and heard reasonably well but still had difficulties with the telephone and by the time I connected up all the equipment to use the phone the person on the other end had usually given up on me. Additionally I still had to rely on my lip-reading skills in many situations.

I upgraded to an ESPrIt behind the ear processor in May 2000. It was absolute bliss to get rid of those cords and to finally be able to wear a dress again. Due to the power limitation of the ESPrIt I was still using the SPEAK strategy. Telephone conversations were still difficult and noisy or crowded areas were often avoided.

Then the ESPrIt 3G was launched and I began hearing about all these wonderful new advances such as the in-built telecoil and the Whisper Setting™ and wow – coloured battery covers – a fashion statement! I received my 3G in November 2002 and started with the ACE speech strategy but at the slow rate of 250Hz to allow me to get used to ACE. Over a period of time my electrical frequency pulse rate was upgraded from 250 to 720 and my current rate is 900Hz with a stimulation rate of 10,800 pulses per second.

The difference has just been incredible for me, the benefits were huge, a big improvement in clarity, conversations are so much better and with a quick flick of a switch to the in-built telecoil I can use the telephone with ease, something that means a lot to me as my mother and brother live in Broken Hill and before my 3G I had not spoken to them on the phone for over 30 years.

I no longer have to be the first person in the room at meetings to get a front row seat as the Whisper Setting allows me to hear the speaker from any part of the room, I can manage better in noisy areas, I can hear music much better and I can even understand our family parrot's words. And of course being female I just love being able to colour co-ordinate my battery cover with my outfits.

I have heard people say they delay having an implant as they are waiting for improvements, but why wait and miss out on all those years of hearing. Cochlear has a lifetime commitment to their recipients. As their technology advances, upgrades to speech processors are made available, and for me each upgrade has just become better.

Robyn Carter

Implant: Nucleus® 22  
 Speech processor: Spectra, upgraded to ESPrIt™ 3G in August 2003  
 Received CI: April 1993  
 Lives: Auckland, New Zealand



In August 2003, I upgraded from the Spectra bodyworn speech processor to the ESPrIt 3G BTE speech processor and I can honestly say that the upgrade was one of the most positive experiences for me that in the last 11 years. It doesn't rate up there with the very first day of implant switch-on. Almost though.

In the lead up to the speech processor upgrade I spent time reflecting on the changes in my life since I received my cochlear implant in April 1993. There were so many sounds in the world that I just hadn't realised existed – once a suspected late night prowler outside the house in fact turned out to be the kitchen tap on a slow drip.

There are times when some sounds are so loud they drive me mad, the birds chirping together and drowning out all other sounds, or the cicadas on a summer day. When a friend asked me why I don't 'just turn it off during those times', I realised that to be totally without sound when I'm awake is absolutely unthinkable. I'd feel totally cut off and worry I would miss something.

I was very ready for my speech processor upgrade. While my Spectra had given me sound, there were a number of things that annoyed me about the bodyworn style. I hated it when the processor would fall off my jeans or whatever it was clipped to – this would always happen at the most inconvenient times, when my hands were wet, or covered in dirt from the garden. Not to mention changing the batteries – there was no elegant feminine way to do this.

The day I upgraded to my ESPrIt 3G was certainly memorable, however as a woman I must admit that one of the things I loved most was all the coloured battery covers, a perfect excuse to buy lots of matching shoes.

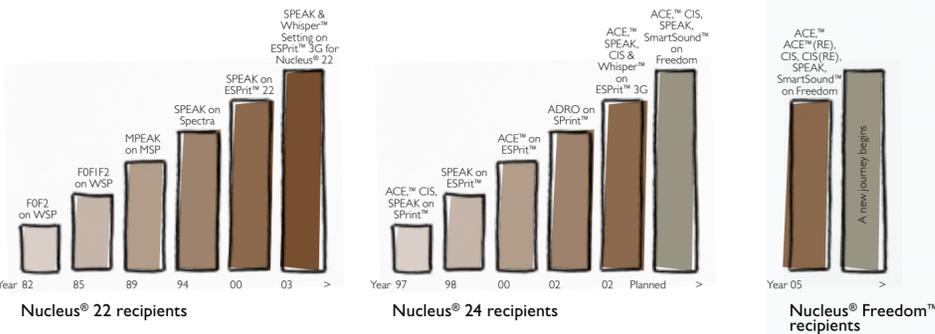
My map was adjusted slightly, and at first it sounded almost the same, but voices in general were deeper. The first things I noticed with the ESPrIt 3G speech processor were:

- The computer hum which I hadn't previously heard
- The ease of getting dressed and undressed without having to remove the speech processor
- I could keep it on longer at night and would even wear it in bed for a while
- I didn't need to clip it to anything

When I went to work and asked people if they could notice anything different, those who knew me well noticed 'no wires' straight away. Others thought I had my hair cut!

The background noise program (Autosensitivity) works really well. I am able to hear clearly in the café at lunchtime and have no problems hearing conversations at the basketball when I watch my daughter's games.

I think the new ESPrIt 3G simply rocks. I feel so free! People don't stare at the wires, as there aren't any. I hear better and I feel better.



## Product Promotion: Listen, Learn & Talk

A resource to help you work with your child as they learn to listen.

Cochlear's highest selling habilitation tool for parents and professionals, Listen, Learn & Talk, has been revised and released in a new DVD format making it easier to use than ever before.

The Listen, Learn & Talk habilitation package is a practical 'how to' auditory learning package designed for use with babies and children under five. The package contains a book, which outlines the theory and strategies used in hearing development and addresses age-specific habilitation strategies. The book is supported by three DVD's, Babies Babble, Toddlers Talk and Children Chatter.

These DVDs look at specific age segments from birth to school age and contain footage from habilitation sessions and video clips that illustrate how the strategies can be integrated within the normal home routine.

For a limited time we are offering a 50% discount on Listen, Learn & Talk. For your local currency price, and to order a copy of Listen, Learn & Talk please call Cochlear Customer Service on 1800 620 929 (Australia) or 0800 800 989 (New Zealand).

In all other countries please contact your Cochlear distributor. You may be asked to quote the following part number Z60407 (DVD version) or Z60401 (PAL video version)\*.

This offer expires on 31 March 2006 in Australia, New Zealand and India, and on 12 May 2006 in Singapore and Malaysia.

\*Please note that very limited quantities of the PAL video version are available.

# What are they up to now?

The Graeme Clark Cochlear Scholarship has been in existence in Australia and New Zealand for five years. Read on to find out what our recipients have been up to since they received their scholarship.



Holly

## Holly McDonnell

Age 23, lives Sydney, New South Wales. First recipient of the Graeme Clark Cochlear Scholarship in 2002.

### History

Became deaf at age four after contracting bacterial meningitis. She received no benefit from hearing aids and her speech quickly started to deteriorate. Holly was implanted in June 1987. At the time, she was the world's youngest Cochlear recipient.

### Education

Holly attended a mainstream school with no special support and completed her Higher School Certificate in 2000 in the top 1.65% in New South Wales. She then went on to study Economics/Law at the University of Sydney.

### Today

Holly is currently working at one of the country's largest commercial law firms, Clayton Utz, as a summer clerk and will complete her Economics Law degree in 2006. On graduation she hopes to work as a corporate lawyer.

### The Graeme Clark Scholarship

"The Scholarship has allowed me to achieve my long-held dream of becoming a lawyer. The scholarship helped provide me with the means to study law and I am very grateful to Cochlear for their ongoing support and assistance. The scholarship has also given me the opportunity to meet with other high achieving implantees and to really appreciate the difference that the Cochlear implant has made to our lives. I would encourage other implantees to apply for the Graeme Clark Scholarship as it will help them to realise their dreams, as it has mine."

## Bill Raymond

Age 22, lives Brisbane, Queensland. Second recipient of the Graeme Clark Cochlear Scholarship in 2003.

### History

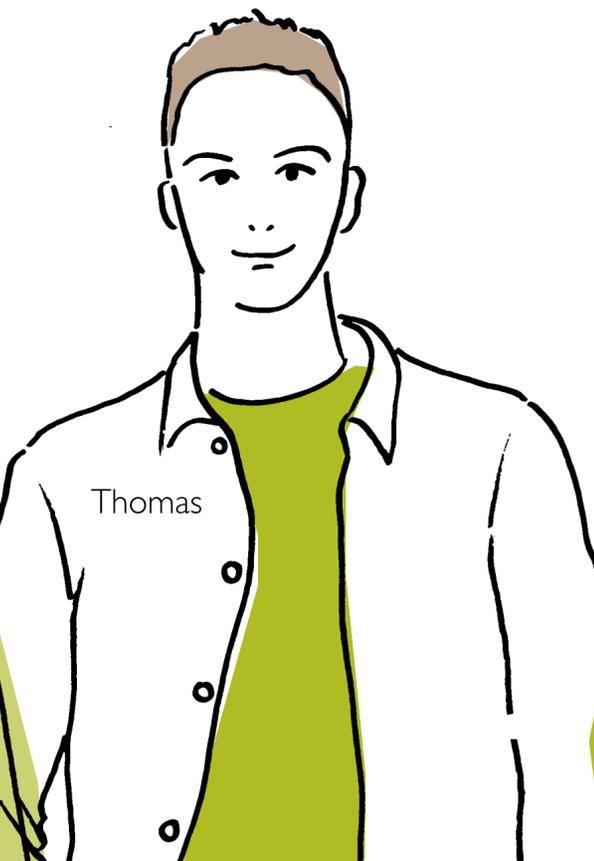
Bill was born with a severe to profound hearing loss and had two hearing aids until 1996, at the age of 13, when his hearing loss deteriorated to the point where the hearing aids were not enough. He was implanted with a Cochlear implant.

### Education

Bill is currently studying for a Masters in Audiology at the University of Queensland (UQ) after receiving his psychology undergraduate degree at UQ. Bill graduated from Pittsworth High School with an Overall Performance (OP) of 3, and ranked in the top 5% for the state. He received several academic awards, including the English subject prize every year, as well as being the boys school captain in his senior year. He also received several other awards including Contribution to the School award and Young Australian of the Year for Pittsworth, 2002.

### Today

"I am currently completing my studies in Masters in Audiology, and I also have two part time jobs, one as a carer for an elderly gentleman, and the second as the database operator for the Hear and Say Centre for deaf children. I greatly enjoy the responsibilities entailed in both jobs. I have also recently taken up playing the guitar and the mandolin! I'm not that good yet, but I enjoy it!"



Thomas

## Thomas Pell

Age 19, lives Brisbane, Queensland. Third recipient of the Graeme Clark Cochlear Scholarship in 2004.

### History

Born with a hearing impairment, Thomas received his Cochlear implant in 1993 at age six.

### Education

Thomas attended high school at Mt Maria Senior College and graduated with an OP of 6 (given to those who finish in the top 15% of students in Queensland). He was also dux of his school. Thomas is currently studying for a Bachelor of Mathematics/Bachelor of Information Technology at Queensland University of Technology.

### Today

Thomas has just completed his second year exams and hopes to complete his degree over the next two years. At the conclusion of his degree he is hoping to work in the computer graphics or digital technology industries.

### The Graeme Clark Scholarship

"This scholarship has meant a lot to me as it has been an immense help for my university fees and financial needs. I can't imagine how I would have gone without the scholarship in university. I would recommend others to apply because it would change their lives for the better. They deserve it for all their hard work and dedication."



Aaron

## Aaron Payne

Age 19, lives Sydney, New South Wales. Fourth recipient of the Graeme Clark Cochlear Scholarship in 2005.

### History

Born profoundly deaf Aaron was diagnosed as deaf at six months and relied on hearing aids until he was 17. At this age Aaron realised that his hearing had deteriorated to the extent where hearing aids no longer enabled him to hear. In 2003 Aaron received his Cochlear implant.

### Education

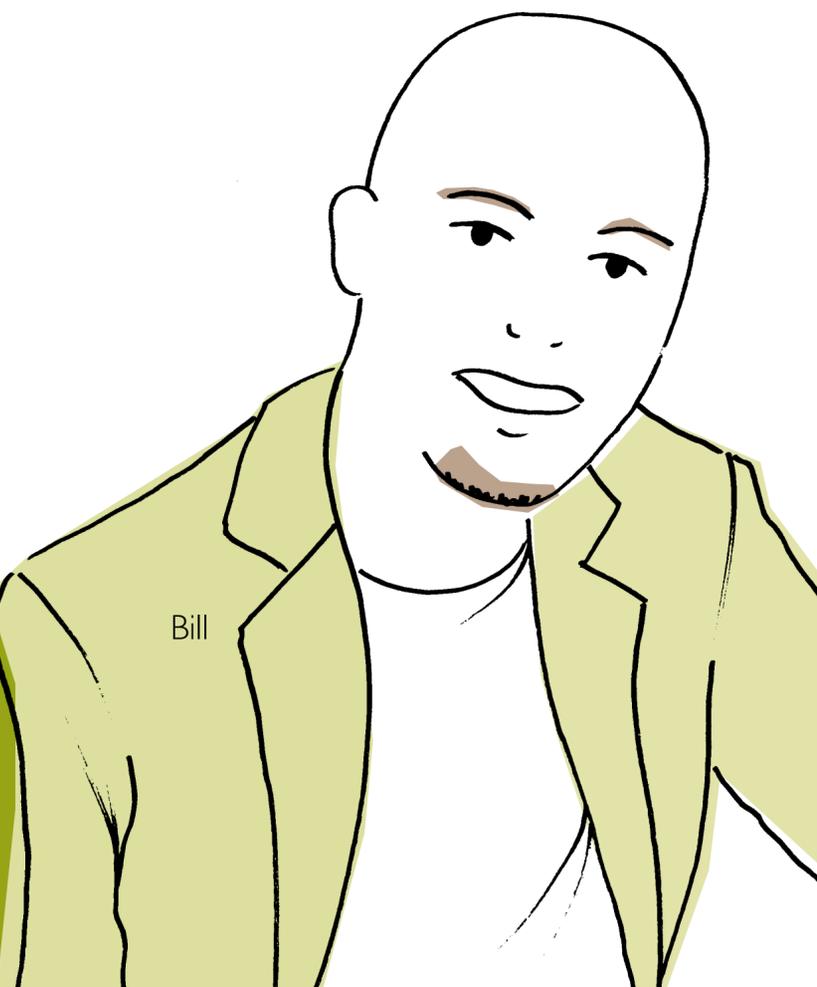
Aaron attended Sylvania High School where he was dux several times. He completed the Higher School Certificate in 2004 and is currently studying a Bachelor of Medical Science at the University of Sydney.

### Today

Aaron has recently completed his first year of university and was pleased to pass all his subjects, which now leaves him free to continue with his studies this year. Aaron hopes to finish his degree and then progress on to a Bachelor of Medicine and ultimately enter the specialty field of Ear, Nose and Throat surgery. Aaron feels that he has a lot of offer in this field as it interests him greatly.

### The Graeme Clark Scholarship

"Being awarded the Graeme Clark Scholarship would have to be one of the proudest moments of my life, to be recognised as being worthy of this grant. It has taken pressure off me with regards to working full time and I highly recommend candidates to apply because it opens up so many more avenues both academically and socially."



Bill

## Hear Always: electronic version



In the interest of saving our trees we have created an electronic version of the Hear Always newsletter.

If you would prefer to receive the newsletter in an electronic format please go to [www.cochlear.com/newsletter](http://www.cochlear.com/newsletter) where you can provide us with your email address. The newsletter will continue to be distributed on a quarterly basis.

## We'd love to hear from you

If you have a question regarding other products available for use with your cochlear implant system, or would like to provide input to the Hear Always Newsletter, please contact [hearalways@cochlear.com](mailto:hearalways@cochlear.com)

## Cochlear at APSCI

In November 2005 Cochlear attended the fifth Asia Pacific Symposium for Cochlear Implants (APSCI) in Hong Kong. APSCI is held every two years and is the largest conference dedicated to the cochlear implant industry in the Asia Pacific region.

The symposium is a popular and important international forum for top clinicians, audiologists and allied health workers worldwide to share their wealth of experience in cochlear implantation.

The meeting focused on recent advances in technology and surgical procedures as well as basic sciences, audiology, rehabilitation and education. It included plenary and panel discussion sessions, workshops, and research seminars.

As the major sponsor of the event, Cochlear exhibited Nucleus® Freedom™ and Baha® Divino™ – the latest in cochlear implant and bone anchored hearing technology. In addition, Cochlear hosted a symposium bringing together opinions from some of the world's foremost authorities on cochlear implant technology, procedures and outcomes.

The next APSCI will be held in Sydney in 2007.



For further information on Cochlear and its products and services visit [www.cochlear.com](http://www.cochlear.com) or contact your local Cochlear office or distributor:

Cochlear Ltd  
(ABN 96 002 618 073)  
14 Mars Road  
Lane Cove NSW 2066  
Australia  
Tel: 61 2 9428 6555  
Fax: 61 2 9428 6352

Nihon Cochlear Co Ltd  
Ochanomizu-Motomachi Bldg  
2-3-7 Hongo, Bunkyo-Ku  
Tokyo 113-0033  
Japan  
Tel: 81 3 3817 0241  
Fax: 81 3 3817 0245

Cochlear (HK) Ltd  
21F Shun Ho Tower  
24-30 Ice House Street  
Central  
Hong Kong  
Tel: 852 2530 5773  
Fax: 852 2530 5183

[www.cochlear.com](http://www.cochlear.com)

## Good offers don't come Every Day

We are pleased to offer you very special pricing on an extensive range of everyday items for your speech processors. This pricing is only available for a limited time, so this could be the perfect opportunity to stock up on the items you use most frequently.

15% discount available on the following products:

Speech processor	Headset cables	Transmitting cables	Transmit coils	Microphone covers
Spectra	15%	15%	15%	–
SPrint	15%	15%	15%	–
ESPrIt 22	15%	–	15%	–
ESPrIt	15%	–	15%	–
ESPrIt 3G for 22	–	–	15%	–
ESPrIt 3G	–	–	15%	–
Freedom	–	–	15%	15%

This offer expires on 31 March 2006 in Australia, New Zealand and India, and on 12 May 2006 in Singapore and Malaysia. Some items may not be available immediately.

Offer not applicable on components when sold as part of an entire cochlear implant system.

Offer commences from issue date of newsletter.

Please speak to your clinician to determine the products you may need.

For your local currency price, and to order any of these everyday accessories, please call Cochlear Customer Service on 1800 620 929 (Australia) 0800 800 989 (New Zealand). In all other countries please contact your Cochlear distributor.

## Where are you?

### Cochlear Competition:

Would you like the chance to win a year's worth of IMPLANT batteries?

For your chance to win, simply email us at [hearalways@cochlear.com](mailto:hearalways@cochlear.com) with your current address and contact details and you will go into the draw to win a year's worth of batteries!\* Winner will be announced in the August issue of the Hear Always newsletter.

We need your up-to-date information to:\*\*

- Better support your use of Cochlear's products and services, including your warranty rights.
- Manage the maintenance and development of Cochlear's products and services.
- Enable product tracking if required.

Without this information Cochlear may not be able to effectively support and manage its products and services. It is very important that you contact Cochlear and your clinic to advise them of changes in personal details.

So, if you or your clinic contacts Cochlear with changed details, you will be entered in a draw for 300 cells of the Varta power one IMPLANT plus batteries, which should provide you with a year of consistent battery performance and long battery life.\*

\* Conditions of draw

The draw will include all recipients who forward advice of change in contact details or address prior to 1 June 2006. The offer is for 300 cells of the Varta power one IMPLANT plus batteries. Estimates on Varta power one battery life range from 20-205 hours across low and high rate users of the ESPrIt 3G. Batteries will have at least 18mths prior to expiry, at the time of the draw and will not be accepted for refund or exchange by Cochlear Ltd. The value of the batteries is not redeemable for cash and the offer is not transferable.

\*\*For more information on how Cochlear manages privacy, please read Cochlear's Privacy Policy at [www.cochlear.com/324.asp](http://www.cochlear.com/324.asp) or email us at [hearalways@cochlear.com](mailto:hearalways@cochlear.com) for a copy.

