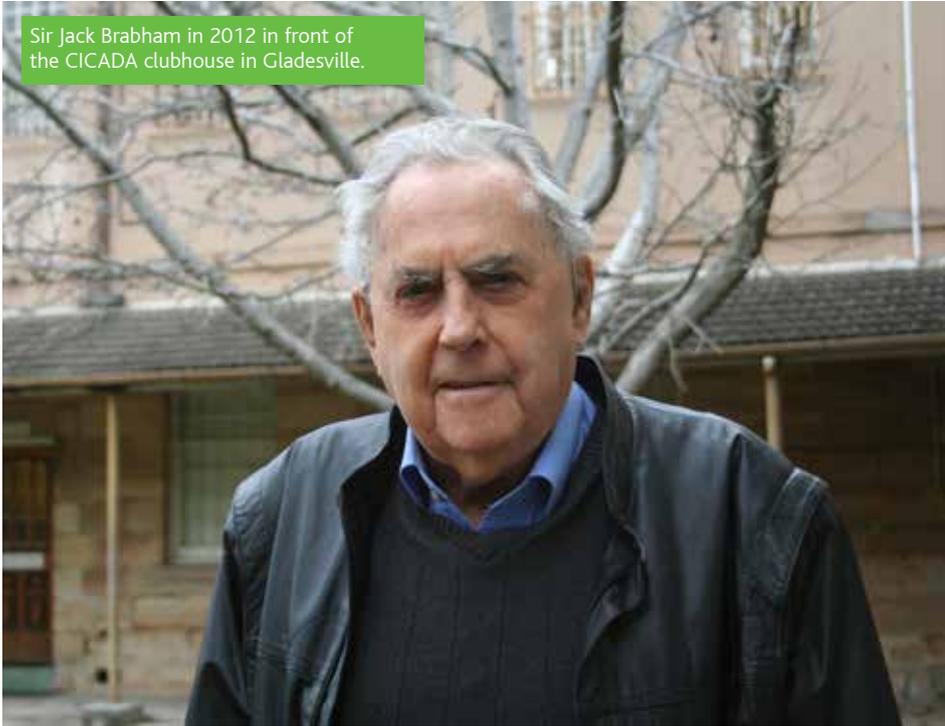


# CICADA BUZZ

Sir Jack Brabham in 2012 in front of the CICADA clubhouse in Gladesville.



## Vale Sir Jack Brabham

From Tina Allen – Medical Writer

The CICADA committee were saddened to hear of the death of one of our members, the Formula One racing legend, Sir Jack Brabham AO OBE, on 19 May 2014. Sir Jack was 88 when he died peacefully at the home he shared with Lady Margaret on the Gold Coast.

Sir Jack spent his formative years in the southern Sydney suburb of Hurstville and started speed car racing in his early twenties, initially as a hobby while working as a mechanic. He then gained an international reputation during the golden age of post-war motor sports and remains the only man in history to have designed, built and driven a championship-winning car. However by the time he retired in 1970 at 43 years of age, Sir Jack was suffering from race car deafness.

A chance meeting with former CICADA president, Alan Jones, in 2006 at the Phillip

Island Classic Festival of Motorsports led to Sir Jack having a cochlear implant operation the same year. Since then he has travelled to the SCIC in Gladesville for check-ups with his audiologists and his surgeon, Professor Bill Gibson. The improved hearing from his implant over the last eight years has assisted Sir Jack in his role as an ambassador for the racing industry and for communicating with his family and friends. We extend our sympathy to Lady Margaret as well as his three sons, Geoffrey, Gary and David, and their respective families.

*NB: This tribute was prepared by the medical writer, Tina Allen who interviewed Sir Jack at his home on the Gold Coast in March 2011 as part of the research for her book about Professor Bill Gibson and his patients.*

## Targeting Deaf/ Hard of Hearing teenagers

### Workshops run by Hear for You

Hear For You runs workshops for deaf and hard of hearing teenagers in Years 7-12. Our workshops are full of fun, interesting activities and you'll get to meet other teenagers in the same situation! All our mentors are either deaf or hard of hearing themselves and know exactly what it was like at high school as the only deaf or hard of hearing student.

We are currently on Workshop 3 to be held Sunday 15th June at the Hearing Hub, Macquarie University. There is also a Rural & Regional Workshop taking place from the 10th-13th July in Canberra and this is a condensed version of the program for those who live far away in country NSW. If you would like to know more, please contact John Lui, the NSW Program Coordinator on [john.lui@hearforyou.com.au](mailto:john.lui@hearforyou.com.au).

We look forward to meeting you sometime!"



# State CICADA Associations

## New South Wales

CICADA AUSTRALIA INC.

Secretary: Judy Cassell  
PO Box 5028  
South Turrumurra NSW 2074  
Email: judycassell@cicada.org.au

## Queensland

CICADA QUEENSLAND

Secretary: Shirley Edwards  
85 Crotona Rd  
Capalaba QLD 4157  
Ph/Fax: (07) 3824 5003  
Email: lee14@tpg.com.au

## South Australia

CICADA SOUTH AUSTRALIA

PO Box 415  
Angaston SA 5353  
Email: mailadmin@cicadasa.org.au

## Western Australia

CICADA CLUB W.A. INC.

Coordinator: Lynette Fleming  
33 Framfield Way  
Balga WA 6061  
Phone: (08) 9349 7712  
Fax: (08) 9349 9763

## Northern Territory

CICADA Darwin

Coordinator Chris Blackham-Davison  
Email: Deafncrazy@gmail.com  
SMS: 0427 897 170

## ACT

CICADA ACT INC

Secretary: Renuka Raghuraman  
Email: stargirl788@hotmail.com

## Hook Up Online And Share Your News

Please visit us at [www.cicada.org.au](http://www.cicada.org.au)

Or our Facebook page Cicada Australia Inc.  
Darwin friends now have their own Facebook page Cicada Northern Territory

If you would prefer to receive this newsletter by email, please send your details to [suewalters@cicada.org.au](mailto:suewalters@cicada.org.au)

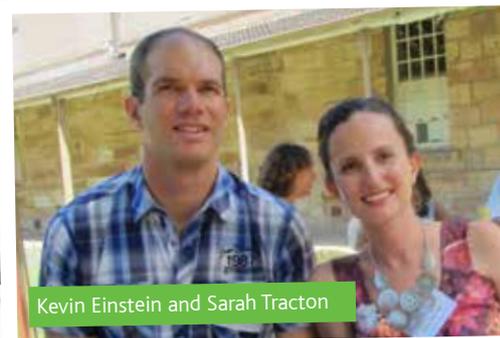
Donations over \$2 to CICADA are tax-deductible.

CICADA Australia Inc. thanks Cochlear Ltd. for supporting the design, printing and distribution of this newsletter.



## From the President

President's Report from the AGM  
November 2013



Kevin Einstein and Sarah Tracton

### Making an effort.

I was reminded recently that no effort is ever wasted. No matter how small. I like these little reminders that come to you at seemingly just the right time.

I am grateful for the efforts of all the CICADA Committees and friends who help to get our gatherings together so we can enjoy each others' company and welcome new guests, share with them our stories and information which may help them to understand life with a cochlear implant. I've really learned a lot from being deaf - though I didn't like it at first, this is the way it is and it has challenged me in so many ways. Learning through experience is a great lesson.

I'm grateful to all the people who make an

effort to attend our gatherings. Even just a simple morning tea with a handful of people can make your day. I was delighted to meet up recently with some lovely people in the Lismore region who are making an enthusiastic effort to start up support groups in the area.

I'm grateful also for the efforts of the Deafness Forum, whose representatives continue to work with government to try and get appropriate help where it is most needed in the hearing impaired community.

So, thanks to you all for supporting CICADA. I hope you enjoy this issue of BUZZ. Please do write, email, send photos - your opinions and comments are welcomed.

Sue Walters

## Affordable repairs?

### What are the options

The Australian Hearing Services provided by the Federal government, cover expenses on your sound processor such as batteries, parts, repairs.

Children (under 26 years) are also provided with replacement and upgrade processors through this program. Pensioners who hold Australian Hearing Services card do not currently receive replacement processors if their own is lost or becomes NOT REPAIRABLE.

If you do not have cover for replacement or upgrade processors through a health fund, or do not have your processor privately insured, it will cost you approx. \$8000 to replace the processor. HCF is the only health fund which will cover repairs to sound processors and this depends on your level of cover, Cochlear Ltd have provided a new On the Air Plan to try and make your device more

affordable over the long term. If you pay \$220 joining fee for the Plan, plus \$165 per year this will cover repairs to your processor. If your processor is not repairable, which could be likely if it is over 3 years old, they will provide a replacement for \$220, which is very reasonable. They also have an Extended Warranty Plan for new clients. See the Cochlear website

[www.cochlear.com/wps/wcm/connect/au/home/support/service-plans/on-the-air/on-the-air](http://www.cochlear.com/wps/wcm/connect/au/home/support/service-plans/on-the-air/on-the-air)

Cochlear Ltd have also made a submission to the Federal Budget to inform the government about the gap in public health services which may leave vulnerable implant recipients without a sound processor and are seeking some support for these clients. CICADA has endorsed Cochlear's submission in a letter to the Hon. Peter Dutton MP, Minister for Health.

# 9th March BBQ at Gladesville

Guest Speakers Kate Obermayer and Sarah Tracton with Melville da Cruz on the Violin



A good crowd of about 100 people attended our first 2014 BBQ day at Gladesville.

**Kate Obermayer** and **Sarah Tracton** gave very open and honest accounts of their experiences with hearing loss and slowly coming to the decision to proceed with a cochlear implant. They spoke about their career pathways and their work in advocating for the deaf and hearing impaired.

Kate, feeling isolated at University doing a Bachelor of Communications and really struggling with her hearing loss came to the lowest point in her life. After a good talk with her Mum and a lip-reading course with Better Hearing Australia, she challenged herself with a job in journalism for a year, before deciding that online media might offer better job prospects. In 2002 the world wide web was really taking off in Australia and it was ideal timing for Kate who has gone from strength to strength, challenging herself and creating opportunities with on the job training and external courses with each successive job. Along the way, Kate became concerned with the lack of captioning in the media and set about trying to improve the situation, so Kate is one other person we can thank for getting involved in advocacy and setting in motion the big increase in captioning that we enjoy today.

Sarah had a mild-moderate hearing loss detected at 3 years old which dropped to profound by her twenties. Describing herself as being introverted due to her hearing loss, she preferred to be solitary, pursuing the

creative arts. Sarah completed a Bachelor of Arts in Communications at the University of Technology in Sydney, and while her hearing was at its worst, gravitated towards film as her favourite medium. Sarah was awarded a prestigious Churchill Scholarship travelling the world exploring media access for audiences with a disability. Her award winning short film "White Sound" was screened on the day, which is now being utilized as part of an online hearing loss awareness training course for teachers across Australia.

Empathising with Kate, Sarah describes how isolated you can feel in the company of hearing people, constantly trying to keep up and really feeling that cognitive overload. She describes deafness as "feeling like there is a sheet of glass between you and the world". However, Kate and Sarah also share that "I can do it" attitude which drives their achievements. She admits to being terrified before her implant surgery, even though she felt she was fully informed. The first week after switch on was a shock, as she didn't think the sound would be so distorted. However, Sarah set to and worked on all the rehabilitation exercises and 6 months down the track speaks about telephone conversations and hearing a trumpet in the distance. She is amazed at how well she is hearing and the continual discovery of new sounds.

**Professor Melville daCruz**, surgeon with SCIC, violinist and foundation member of "Musicus Medicus", the NSW Doctor's orchestra and Kagan Dokumcu, biomedical engineer at SCIC shared their musical talents with us as a finale to this fantastic day. Kagan accompanied on keyboard, though I am informed he is also an accomplished cello player. They played a selection of 5 pieces, carefully chosen to present a spectrum of sounds. A special delight, "The Swan" from Carnival of the Animals with lovely soaring, uplifting sounds. Our sincerest thanks to all our presenters for making this a memorable day.

**"Kate who has gone from strength to strength, challenging herself and creating opportunities with on the job training and external courses with each successive job."**

# Is This Tinnitus ???

## What exactly do you hear?

Tinnitus keeps popping up in the reading material lately, but sometimes I wonder just what people do experience. Generally it is described as "ringing in the ears", though there are many other descriptions for this condition that can really drive people crazy at times. Some people hear music, all different types!

Some describe it as loud bells or high-pitched whining. When I listen carefully, I hear a low-pitched drone accompanied by several other higher pitched sounds that seem to "shimmer" in my head. The low-pitched drone seems to vibrate throughout my whole body as well and sometimes if I'm tired or stressed it dominates and can be quite overwhelming if you let it get to you. Other sounds "ping" in and out all the time and sometimes I am woken at night with a sudden strong vibration someplace in my body like the back of my skull, or my foot.

I just put it all down as "head noise", collectively. It's such a weird thing.

I don't know if I have just learned to ignore it or learned to love it just for some peace of mind. Does that make sense??

Either way, having a cochlear implant, (i.e. something else to listen to which actually makes sense!!) surely helps me to accept it... just the way it is.

## Magnets

### Or "What's stuck on your head"

Your magnet, as you know, is a very important part of your implant system. There are varying strengths and your magnet should stick firmly but not too tightly to your implant. You should ask someone close to you, or your doctor, to check the area under the magnet regularly to make sure there is no redness or break in the skin. Sometimes the area under the magnet can lose some sensitivity and you may not feel if there is inflammation there.

If you do feel any different sensation, soreness or burning, PLEASE DO make sure that you have this attended to as soon as possible. Skin can become thinner as we age, or lose weight or if the magnet is pressing too tight. If it develops into a break in the skin, it is possible for the implant to become infected if nothing is done. It's worth keeping a check on this.

Ruby Loosemore and Sue Walters



## First recipient gathering at lismore

By Sue Walters

Liaising with SCIC staff from the Lismore clinic, the first recipient gathering was held at the Lismore Farmers market on Sat 26th April. There was also a spot on PRIME TV earlier that week to highlight the Lismore regional SCIC clinic and to promote the fact that there are permanent services in the region. The local Rotary Club stepped in to provide the sausage sizzle, tables and chairs and set it all up for us. Many thanks to the local crew.

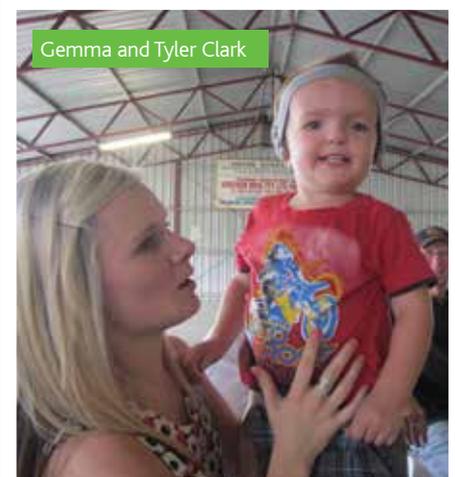
I love a country gathering and it was so encouraging to meet people who had come from quite far- Ballina, Casino, Coffs Harbour, Maclean. The fabulous Ruby Loosemore, SCIC's 1000th implant recipient, now a teenager, attended with her Mum and was so beautiful in a dress she made herself at school.

About 70 people attended in all and there are several who have taken up the baton to initiate local gatherings and help to spread the word about CI's. Because of the large catchment area, there may be a few small support groups rather than one large one to cover the Lismore region. Many thanks to Warwick, Kay, Sheliya, Jean, Merriel and Beryl for being enthusiastic. Thanks also to Jacqui and Leonie from Lismore SCIC and their families for organising this successful event.

I do hope that other locals will step up to help our new found groups, as it is most enjoyable being involved and sharing your own experience with the community.



Sheliya Van Buggenum, Jacqui Wilson, Joe Wilson, Warwick Sherring and Penny Pender at Lismore



Gemma and Tyler Clark

# Can you help?

Are you interested in joining this research?



## Study of Auditory Brain Function in People with Unilateral Cochlear Implants.

Macquarie University has developed the world's first MEG (magnetoencephalography) brain imaging system for research that investigates auditory brain function in people with cochlear implants. MEG measures how the human brain responds to speech and other sounds. It operates like a very sensitive microphone that measures tiny signals from the brain but it does not produce any signals of its own. For this reason the MEG technique cannot possibly cause any harm. It is completely safe and is routinely used to measure brain function in adults and children. You will be comfortably positioned in our MEG device and will listen to a series of sounds presented via the cochlear implant device. This research will increase our understanding of how the brain responds to and interprets the signals from the cochlear implant.

**You are invited to participate in this study (one session up to 2 hours in total). You will receive \$20 per hour for your participation. If you would like more information please contact: david.meng@mq.edu.au**

## Music Appreciation of Cochlear Implant and Hearing Aid Users

This music study aims to compare music appreciation of cochlear implant (CI) and hearing aid (HA) users. A specially designed Music Quality Rating Test has been developed by SCIC to evaluate music appreciation levels in Australian CI and HA users. All of the music pieces in the test were selected based on Australian song charts and Australian adults' familiarity, and the test is administered by a special software program.

SCIC are looking for postlingually deafened adult CI and/or HA users who are native English speakers and have been using their hearing device (CI and/or HA) for at least 6 hours per day for over 6 months or more.

All you need to do is to listen to 8 short pieces of music and rate how they sound to you, using our computer software. This will take about 20 minutes. You will also need to complete a questionnaire on your music background and listening experiences, which you can do at home or on the day of testing (about 15-20 minutes).

We would love to have you involved, as the information will be very helpful for us not only to improve our clinical practice, but to provide information to enable researchers and manufacturers to try and improve music appreciation for CI and HA users. The testing should be enjoyable and can be conducted at a time convenient to you at either at your regular CI/HA clinic, or at the Australian Hearing Hub, Macquarie University. We can try and organize for the testing to coincide with any upcoming clinical appointment you may have at your CI/HA clinic. If you are interested in participating in our study or want to know more details, please contact:

**wei.wang39@students.mq.edu.au  
(mobile: 0414421127)**

Or  
**valerie.looi@scic.org.au**

## Annual Raffle

### Just a Friendly Reminder

Cicada will be holding its Annual Raffle later in the year. **If you do not wish to receive RAFFLE TICKETS, (a book of 5 @ \$2.00 each) and have not already done so, please contact Judy Cassell**, our Secretary and have your name removed from the Raffle mailing list. Cicada accepts donations in lieu of Raffle Ticket purchase and a receipt will be sent in the following mail out (thus saving postage).

Cicada Australia Inc. does not charge a yearly membership fee; it is therefore necessary to raise funds by other means to support our services and newsletters.

# Deafness Forum of Australia

## Advocate on our behalf

Deafness Forum held their 8th National Deafness Sector Summit in Brisbane from 3-4th May with the theme, "Ready, Willing and Capable". The presentations were primarily about education, access to employment and the workplace for those with a hearing loss. The full transcript of the event is available on the DF website [www.deafnessforum.org.au/index.php/events/national-deafness-sector-summit](http://www.deafnessforum.org.au/index.php/events/national-deafness-sector-summit)

Deafness Forum advocate on our behalf. We need to let them know what we need!! If you have any feedback, comments, issues that have arisen in regard to your hearing loss and you think the DF should be advised, PLEASE LET US KNOW. They are also seeking any feedback on clients' experience with the National Disability Insurance Scheme.

See below, a couple of the points that the Deafness Forum have brought to our attention in the new Federal Budget (From their "1 in 6" newsletter)

### Australian Hearing

The Government will investigate future ownership options for Australian Hearing. Parents, clients and carers are deeply concerned with the prospect of its privatisation and especially the future of the Community Service Obligation aspect of its services. Members of Deafness Forum have told us today that CSO must stay under government auspices.

### Office of Hearing Services

The Office of Hearing Services manages the issuing of vouchers to eligible clients to access a range of hearing services. The Office also administers the provision of hearing services under the Community Service Obligations component of the program. Budget increases over next four years to reflect increased future demand for services.

## Chicken link to hearing loss cure

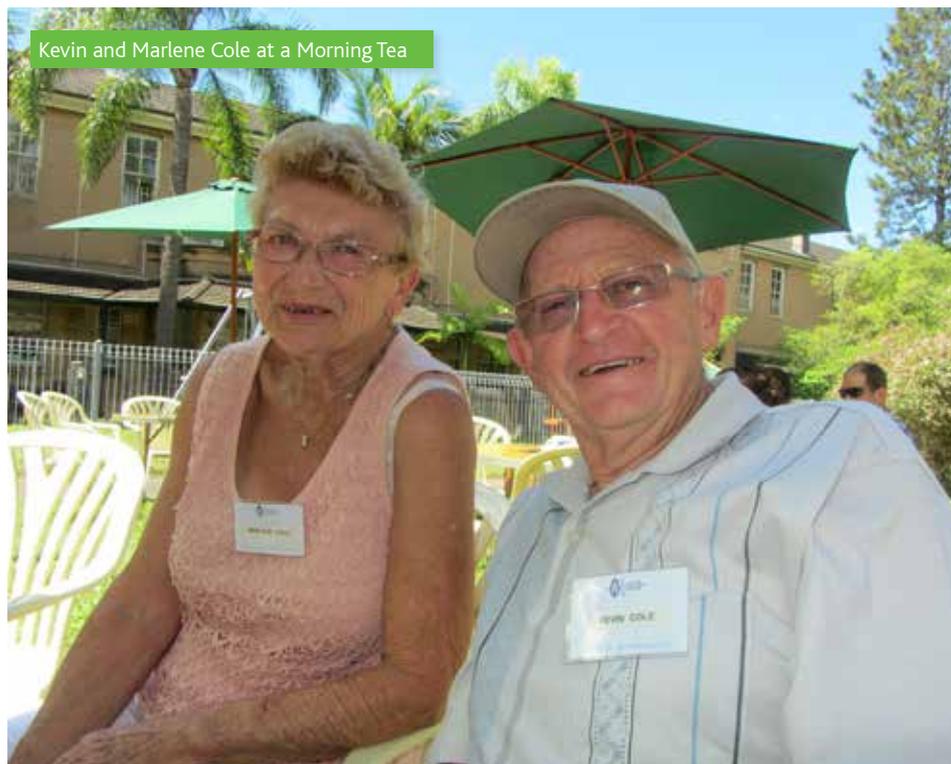
KETK News March 12, 2014

Chickens have the amazing ability to restore their own hearing. Supporting cells in its inner ear can replace hair cells that have been damaged by loud noises or other causes.

Preliminary lab research has achieved the same process with mice and now researchers supported by the Hearing Health Foundation hope to find a way to transform the inner ear supporting cells in people into functional hair cells.

# NSW Support Groups

Upcoming events in 2014 – Put these dates in your diary



Kevin and Marlene Cole at a Morning Tea

## BBQs

You will have read of the very successful function held at Gladesville in March of this year. It is gratifying to see the large number of people who turn up on these occasions as a great deal of thought is put into choosing guest speakers who will be of interest to Cicada members as well as the effort of organizing the day itself. If you have not attended one of our gatherings before and you live within travelling distance, then you are sure to find it is well worth the effort. There are still two Sunday functions to be held in 2014.

24th August

2nd November – AGM

## Morning teas and birthdays

Our morning teas at Gladesville are attracting a good crowd. We have our core group of regulars who enjoy the social gathering (and step up to the cleaning up when we need a hand!) and always a few new faces to add to the variety. This month at June morning tea we celebrated a 90th birthday for Ken Rice. About 25 recipients came along and sang!! Maybe he won't thank us for that, but it's the spirit that counts. Norm Heldon will be 97 this year in August and Bob Catlin is hoping to make it to 93 in October. There are quite a few recipients of

SCIC who are well over 90 now. I think they are treasures. Imagine how much they have seen in their lifetime and how they are now using the latest technology in hearing!! It must be a blast for them to have witnessed this. Hey, we're not ALL over 90 at Morning Tea; everyone is welcome, first Thursday of the month 10.30-midday from February to October.

**Please come along!**

5th June

3rd July

7th August

4th September

2nd October

Information can also be checked on the Cicada Website [www.cicada.org.au](http://www.cicada.org.au) or by contacting the secretary, Judy Cassell [judycassell@cicada.org.au](mailto:judycassell@cicada.org.au)

## Cicada website

Check the CALENDAR on the Cicada website regularly for upcoming social events across Australia and updates

# Toddler flourishes with cochlear implant for SSD

Gladstone Observer March 2014

It's been a long journey for Pleystowe parents Sam and Sally Tudor. Their son Fletcher was born with "severe to profoundly" lost hearing to his left ear. The 20-month-old is one of the first who suffers from unilateral hearing loss (loss of hearing to one side) to receive a cochlear implant. Children with unilateral hearing loss have difficulties hearing background noise, localising sounds, knowing where sounds come from, hearing things over distance and things like that. Fletcher underwent the surgery in early January; more than two-months on, Mr and Mrs Tudor can't believe the improvement in Fletcher's vocabulary and learning capabilities.

"His speech has taken off. At his last assessment before the switch on he had 15 words," Mrs Tudor said. "Just four weeks after that he had 96 words, it has made a huge difference." The Tudor family has received support from Hear and Say. It is a charity that provides outreach programs for rural and remote deaf or hearing impaired children and their families. The Tudors were visited by auditory-verbal therapist Elise Alexander as part of their twice yearly visit to country towns across Queensland. Ms Alexander said the growth in Fletcher's vocabulary in such a short time frame was amazing; Fletcher is really lucky that he is one of the first kids in Queensland to be implanted with a cochlear implant with unilateral hearing loss.



Reading together (from left) are Elise Alexander, Auditory-verbal therapist, Fletcher Tudor, and parents, Sam and Sally Tudor. Peter Holt

# NSW Support Groups

Upcoming events in 2014 – Put these dates in your diary



April BBQ at Illawarra Live Steamers



Geoff Letford and Judy Tutty at the April Picnic



CICADA Escapees (L to R): Lucy, Anne, Sarah, Tia, Cherani, Phillip, James & Kevin

## Cicada Illawarra

The Illawarra Cicada Support Group enjoyed a delightful day at the Illawarra Live Steamers on 27th April 2014. It was a fun day for the young and the not so young to enjoy a train ride on the miniature railway steam trains. This venue is amazing and has a wonderful picnic and bbq area, which adds to a very pleasant day out for everyone. 19 people attended today's BBQ and a special thanks must go to Bob Ross and to the ladies who provided all of the scrumptious cakes. It is always a pleasure to visit the Illawarra Cicada Group and meet up with friends once more. Faye and Robert Yarroll

### Functions for 2014

<b>Sunday 22nd June</b>	Towradgi Beach
<b>Sunday 31st August</b>	Shellharbour Pool
<b>Sunday 26th October</b>	North Wollongong
<b>Sunday 7th December</b>	Towradgi Beach Xmas Party

All events subject to weather permitting

Please contact **Bob Ross** for further information

Mobile: 0418 630 466

Email: rossybikein@gmail.com

**Join our facebook page**

[www.facebook.com/groups/519831404697696/](http://www.facebook.com/groups/519831404697696/)

## Central Western Hearing Support Group

Unfortunately, the Central Western Support Group is closing (temporarily we hope) as the coordinator Xanthe McLean's work is taking her to Brisbane. Karin Jamieson initially established this group in 2009. Xanthe has been running the group for the last couple of years and has done a great job organizing gatherings and guest speakers.

Our thanks to Xanthe for the tremendous job that she has done over this period. These meetings have provided a great support to those who have been able to attend and where distance makes attendance at other groups difficult.

If there is anyone in the Orange region who has the time and would like to continue the wonderful job that Xanthe has done, please contact Sue Walters or Judy Cassell.

### Newcastle

For information about this group contact

**MaryAnn**  
ama03220@bigpond.net.au  
OR Mobile 0438 461 659

**Karen**  
kaz\_dempsey@hotmail.com  
OR Mobile 0402 072 074

### Western Sydney

Our President Sue attended the May Picnic held at Nurragingy Reserve, which continues

to attract good numbers to its functions. Their next Picnic and sausage sizzle will be held on 10th August at 10.30 am in the Rosella picnic area, Nurragingy Reserve.

Morning Teas continue to be held on the 1st Tuesday of the month at SCIC Penrith

**Co-coordinator: Judy Tutty**  
**Mobile: 0437049452**

**Email: westernsydneycicada@hotmail.com**  
**Facebook: facebook.com/westsydneycicada**

## Young Adults with Cochlear Implants Escape to Taronga Zoo, Sydney

Though there were some ferry cancellations due to heavy rain and cold winds, and some trains weren't running due to trackwork, on the morning of Sunday 27 April 2014 a small group of people called CICADA Escape (young adults with cochlear implants) gathered at Circular Quay. Luckily for the group, a ferry was able to take CICADA Escape's escapees to explore – ironically enough – a place of captivity: Taronga Zoo.

We huddled in the Sky Safari cable car, which took us to the main entrance and leisurely wandered around the exhibits until mid afternoon. Some animals were big, like giraffes, and the giant turkey that was tall enough to grab whatever we were having for lunch at the café (until it was eventually ushered away by zoo staff), and some were tiny – like the frogs smaller than a cochlear implant. And there was a leopard up a tree that seemed to be rather interested in us!

## New magnetic hearing implant shows promise

Herald Sun April 02, 2014

Victorian patients have received a new magnetic hearing implant as part of an international trial. The bone conduction implant has a lower risk of infection, is easier for patients to care for and is far more discreet. The Royal Eye and Ear Hospital's Associate Professor Robert Briggs said eight Victorian patients had received the new implant as part of a trial involving four countries.

The device, called the Cochlear Baha Attract, has an external sound processor that is magnetically attached to the implant, instead of a rod that protrudes through the patient's skin. "The old device is like having an extra tooth to look after, Prof Briggs said, it requires a lot of care and sometimes there can be problems with infection, whereas this new device has a lower risk of infection, it's easier for patients to care for and it is cosmetically better". All the patients involved in the trial had good outcomes. The implant is suitable for people with single-sided deafness and conduction and mixed hearing loss. The Baha 4 Attract was approved by the US FDA in Nov 2013 and has been implanted in US patients since then.

## Benefits of CI's go beyond hearing

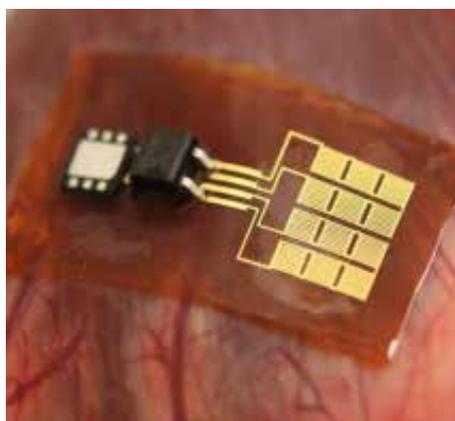
Milwaukee Wisconsin Journal Sentinel Feb 2014

As a private pilot and frequent commercial passenger John Walkup's hearing worsened over a number of years. But during one memorable airline flight, he suddenly lost most of his hearing, leading to enormous life changes. His career ended abruptly. Walkup went on permanent disability and started looking for a new occupation that did not rely on hearing. Typically outgoing, he withdrew due to difficulty in communicating with others. He began avoiding social situations. Last year, at age 71, Walkup received a cochlear implant. "When they turned it on, it was such a surprise. I wept. I heard so much more at the beginning than I thought I would and within a short amount of time I regained the ability to hear and understand so many sounds that I hadn't heard in years." Dr Barbara Weinstein has conducted extensive

research in this psychosocial impact of hearing loss in older adults. It is associated with negative emotional outcomes, including social isolation, reduced functional independence and depression. National Institute of Health-funded research also linked hearing loss to dementia in older adults. These findings have major public health implications for the world's growing aging population in terms of mitigation of dementia, one of the costliest and most-feared illnesses of aging. Researchers are investigating whether treating an underlying hearing loss will slow the advancement of dementia. Because shared pathways in the brain might be the reason behind the dementia-hearing loss connection, it is possible that taking measures to improve hearing will also improve other emotional factors which are strongly associated with dementia.

## Bendy implant harnesses the power of your beating heart

news scientist.com 20 Jan 2014



Harnessing the power within

Fancy becoming a real human dynamo? Every breath you take could one day be used to generate electricity. Energy from the natural motion of the heart, lungs and diaphragm in cows, pigs and sheep has been harnessed to power medical implants. The hope is that people with pacemakers, cochlear implants and heart monitors will one day be spared risky surgery when the batteries need replacing. Instead, our organs would power our electronics. Researchers have exploited the piezoelectric effect, in which crystal lattices in some compounds generate an electric current when flexed or compressed. The team manufactured nanoribbons of a piezoelectric material called lead zirconate

titanate and deposited them on a flexible silicone base that could conform to the shape of a moving organ. These were connected to a rechargeable battery and implanted on the heart, lungs and diaphragms of animals.

This group is not the first to explore devices that can harvest energy, but claim several important advances. They generated 0.2 microwatts per square centimetre of the piezoelectric material, enough to power an off-the-shelf pacemaker. For more power, the nanoribbons can be stacked. It was also the first time the system was tested in animals of comparable size to humans. The next step is what happens when the device stays in the body for years at a stretch. That's crucial before moving on to what the group really wants to do: put the devices on human organs.

## Gene therapy may boost cochlear implants

J Science Translational Medicine, Uni NSW April 2014

Cochlear implants, while highly successful, they don't restore hearing to normal, missing out on musical tone, for instance. Perhaps a closer connection between the implant and the auditory nerves might improve hearing? Those nerves' bush-like endings can regrow if exposed to nerve-nourishing proteins called neurotrophins. Usually, the hair cells would provide those. Researchers at the University of New South Wales found a new way to deliver one of those growth factors. They injected an appropriate gene into the ears of deafened guinea pigs, animals commonly used as a model for human hearing.

Then they adapted an electrode from a cochlear implant to beam in a few stronger-than-normal electrical pulses. That made the membranes of nearby cells temporarily permeable, so the gene could slip inside. Those cells began producing the growth factor, which in turn stimulated regrowth of the nerve fibers — closing some of the space between the nerves and the cochlear implant. The animals still needed a cochlear implant to detect sound — but those given the gene therapy had twice the improvement. The approach isn't ready for human testing, but it's part of growing research into ways to let users of cochlear implants experience richer, more normal sound. The work was funded by Cochlear and the Australian Research Council.