

Sound Matters

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Northern Cochlear Implant Programme

Introducing Rachel Cooper, Audiologist, The Hearing House



Rachel Cooper

Rachel joined The Hearing House full time in July 2010. Originally from the US, Rachel moved to New Zealand purely for the position with The Hearing House. Previously, Rachel worked for the University of Michigan Cochlear Implant Program and saw both the paediatric and adult population. She spends her free time exploring all of the wonderful things about New Zealand.

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Who's on the NCIP Audiological Team?

PAEDIATRIC

Rachel Cooper – *Audiologist*
Leigh Martelli – *Audiologist*
Renee Orams – *Audiologist*
Jeremy Rosser – *Audiologist*

ADULT

Ellen Giles – *CI Rehabilitationist*
Leslie Searchfield – *Audiologist*
Gayle Watson – *Hearing Therapist*

STAFF CHANGES FOR ADULT CI PROGRAMME

We were sorry to say goodbye to Bill Raymond, who has returned to Australia. Bill did a great job at the CI clinic and was a terrific role model for the young adults referred to the programme as well as the young people graduating from the paediatric programme. A good initiative from Bill was the establishment of the severe hearing loss clinic; this specialised service will continue to be offered as an additional service at the University of Auckland Clinic for those with severe to profound hearing impairment. We are very fortunate to be joined by

Leslie Searchfield, who is an experienced CI Audiologist. Leslie started with the CI team in March 2011.

▶ Leslie's contacts are:
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Paediatric & Adult Programme Update

We are pleased to report that the Adult CI team has already completed the funded volumes for the 2010-2011 year.

Update on Adult Numbers:

| ADULT NUMBERS 2010-2011 YEAR (AS OF 5/5/2011) | |
|--|----|
| Number of adults in assessment | 77 |
| Number of adults on eligibility list | 66 |
| Number of adults implanted under full funding | 11 |
| Number of adults implanted under the subsidised scheme | 5 |

The referral rate has increased this year with an average of nine referrals per month, compared with five per month last year and four per month at the end of 2009. A bottle-neck in the waiting time for assessments has developed considerably over the last year with adults waiting for ENT and radiology appointments in the local area. To avoid the delay we are now scheduling assessments without the CT scan and requesting this information after the medical assessment. The clients will be placed on the waiting list when we get the CT scan but the referral, triage and assessment process will run more smoothly and in a timely manner.

Last year we reviewed adults on the waiting list. We wrote to thirty five adults who we had not been in contact with us for more than six months. Of this group, seventeen requested to be seen again because of increasing hearing difficulties they were experiencing. Many of these adults did have a change in their priority as a result of the review and were able to proceed with a cochlear implant. We do appreciate the updates we receive from Audiologists and Hearing Therapists supporting clients on the eligibility list and we are open to reviewing adults at any stage if their hearing situation has worsened.

Update on Paediatric Numbers:

| CHILDREN | |
|-----------|-------------------|
| AGE (yrs) | IMPLANTS RECEIVED |
| 0 – 2 | 4 |
| 3 – 5 | 2 |
| 5 – 12 | 0 |
| 13 – 19 | 2 |

Since July 2010 (July being the month of the previous Sound Matters), eight children have received a cochlear implant. Of these children, three had previously received a publicly funded cochlear implant and underwent surgery for implantation in the contralateral ear. The costs of their surgery and devices are privately funded.

Two children are currently awaiting surgery for cochlear implantation. Of note, at the time of writing, there have been no cochlear implant surgeries as a result of Newborn Hearing Screening.

CHANGE IN AGE CRITERIA

Please note the age cut off for the paediatric programme has now increased to 19 years of age.

FM Update

What You Should Know About FM Use With Cochlear Implants

FM systems can be a wonderful tool for the listener to improve their understanding in the presence of background noise. However, there are limitations and you may observe variation in performance between recipients. Below are some of the potential issues when using an FM system with a sound processor.

1. The interaction of the transmitter frequency of the sound processor and the frequency of the FM system.
2. The relative position, orientation and distance of the transmitter coil to the receiver (the closer the receiver, the more likely there is interference).
3. The variation in space of the transmitted signal, caused by reflections off objects and bodies.
4. The RF signal emitted by the sound processor can affect the function of the receiver. This signal can be affected by the mapping parameters required for more complicated cases. This signal can interfere with the Microlink Freedom reception and in some cases the squelch and sleep modes. This can be when the accessory option is activated.

5. The range can be severely limited, 1-2 metres, usual range is 8-10 metres with a large antenna. Generally, by changing the frequency priority, 5 metres can be achieved

Suggestions for dealing with noise from CI/FM interaction are:

1. Change the FM channel to specialised CI frequency Priority 1 and Priority
2. Check environmental interference sources.
3. Increase distance between FM receiver and CI transmitting coil.
4. Use of MyLink + t-coil as the receiver. Note: user must be able to change programs for this option.
5. Swap out equipment and explore potential sources for interference.
6. Use of desktop FM system, Dynamic Soundfield /FM combined.
7. For certain devices there are specific FM channels that are recommended for use. Please check with manufacturers of these devices for more information.
8. Although it is an unlikely source of interference, consider moving the CI + FM user away from sources of EMI (electromagnetic interference): fluorescent lights, computer monitors, televisions, some digital cell phones, etc.

Optimum transmitting frequency for the FM system (in MHz):

1. For Med-El or Advanced Bionics speech processors, any frequency is suitable.
2. For Nucleus 22 users, best frequencies are between 173.750 and 174.400MHz.
3. For Nucleus 24 users, (except Freedom) best frequencies are between 173.350 and 175.750MHz. However, other frequencies do not appear to cause a problem and may be used. Above 175 is not legal in NZ.
4. For Nucleus Freedom users, do not use frequencies 173.350 or 174.000MHz. These two frequencies can cause interference due to proximity to the Freedom coil. H01 or H33/H15 should be used.

Note: Legal bands in NZ are 173 to 174, above 174 the frequency can be used but cannot cause harmful interference.

*Information obtained from Phonak Ltd and Cochlear Ltd.

Photos courtesy of www.phonak.com and www.cochlearamericas.com

1. Cochlear Nucleus 5 with EuroAdaptor and MLxS Receiver
2. Cochlear Nucleus 5 with ML14i Dynamic Receiver
3. Inspiro FM Transmitter
4. MyLink Receiver
5. Freedom Microlink Receiver



1.



2.



3.



4.



5.

Cochlear Implant Recipients



Khushru Mehta

KHUSHRU MEHTA

Khushru is a six year old boy with bilateral cochlear implants. Khushru has DOOR syndrome and has also been diagnosed with Autism Spectrum Disorder and Global Developmental Delay. Khushru was diagnosed with a profound bilateral hearing loss when he was 1 year 4 months. Initially, a cochlear implant had not been recommended for Khushru as he had not shown responsiveness to sensory stimuli. With time and enormous dedication on the part of his parents, Khushru developed greater responsiveness, and underwent surgery for bilateral implantation in June 2007. Khushru does not respond to stimulation consistently and therefore his map is predominately based upon his Neural Response Telemetry. Cortical Evoked Potentials have also been employed to help give an objective measure of Khushru's hearing with his cochlear implant (thank you to Ruth Lin for her help with this).

"After four years of intensive therapy he is now able to understand simple words, phrases & signs that we use in our everyday routines and lives. He makes a large variety of sounds & is also starting to imitate on demand 3 to 4 sounds with purposeful intent, consistently. Now that he enjoys having them on, simply watching him pick up the coil & stick it onto his head, fills my heart with joy & pride" Kushru's mother Friar Wadia says. "How far my baby's come! And what a world of difference the cochlear implants have made to the quality of his life!"



Lyn Polwart

LYN POLWART

2009 was not the best year that I'd ever had. Phone conversations became a thing of the past. I could hear nothing at meetings. I avoided all social occasions if possible and could no longer hear in a small group. My own children, well trained in how to speak to someone with a hearing disability, were finding it harder to communicate with me. Testing for my eligibility for an implant began in September, 2009.

Surgery took place on January 22nd 2010 and switch on February 11th. I wasn't apprehensive about the surgery, but I did worry that my hearing may not improve sufficiently. Switch on was magical. I could hear clearly. Sure it was all very electronic, but I understood what people were saying. On that hot sultry summer's day, I stood on the University steps and listened to the cicadas singing in the distance. What bliss! On day 2, I visited a city mall. The explosion of sound when I opened the car door panicked me and I almost got back in and drove off. Those early days involved getting used to so many sounds: sorting out which was the kettle, the microwave, the dishwasher.

These days I enjoy conversations with small groups of people, going out to dinner, listening to children, telephone calls, listening to TV as well as watching it. I'm not the only one to benefit either; my family and friends don't always have to face me, they can talk normally and don't need to repeat themselves. Not a day goes by without something happening that makes me so thankful for this wonderful invention.

REFERRALS & FEEDBACK

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