



Dr Kate Gibson

Clinical Geneticist
Genetic Health Service
NZ, Children's Specialist
Centre, Christchurch
Hospital, Christchurch



Dr Antony Bedggood

Ophthalmologist
Children's Specialist
Centre, Christchurch



Dr Fiona Leighton

Paediatric Dietitian
Christchurch



Dr Melanie Souter

Otolaryngologist/Otologist
Christchurch Public
Hospital, Specialists @nine,
Christchurch



Professor Spencer Beasley

General and Paediatric
Surgeon
Clinical Director,
Department of Paediatric
Surgery, Christchurch
Hospital, Christchurch



Professor Andrew Day

Paediatric
Gastroenterologist
Christchurch



Dr Paul Shillito

Child and Adolescent
Neurologist
Christchurch
Hospital,
Christchurch



Dr Colin Watt

Child & Adolescent
Psychiatrist
Christchurch



Friday, August 12, 2016

(Room 6)

16:30 - 18:30 WS #52: Paediatric Forum (120mins - not repeated)



Current Trends in Paediatric Hearing Loss and Cochlear Implantation: 2 is always better than 1

Dr Melanie Souter

Consultant Otolaryngologist/Otologist

Canterbury District Health Board

Southern Cochlear Implant Program



Privilege to be part of our Cochlear Implant team

I believe is an amazing medical development

Dramatically change the lives of Adults and provides children with the opportunity to have a “normal” life

Now know treating any degree of hearing impairment makes a difference

Learning more about auditory system and what is becoming possible to achieve with technology

Overview of current trend and rehabilitation of hearing loss

Stimulation of Auditory Pathways

In last 30 year since first CI was performed in NZ

Learnt that stimulation of auditory pathway is extremely important

Earlier the better

Use it or lose it

2 is better than 1

Hearing rehabilitation tailored to individuals hearing loss

Advances in technology

Not just standard air conduction aids

CROSS aids

Bone conduction – for Conductive hearing loss or Single sided deafness

Middle ear implants – implantable devices for conductive, sensorineural and mixed hearing losses

Cochlear Implants

Auditory Brainstem Implants



Society is Changing

“hot desking” in corporate offices

Meetings in public spaces

“Modern learning environments” for school children

Use of Electronic devices/phones

Demand more from our Auditory system

Two better than one

Binaural hearing: advantage for sound direction and hearing in background noise

Proven with bilateral CI and is evident with all degrees and types of hearing loss

Development of sound direction – probably occurs early in development of auditory pathway

Directionality also helps with Hearing in noise

Earlier the Better

Earlier child is implanted with CI the better

Newborn Hearing Screening provides early detection of hearing loss

Aid early and if needed Implant children early

Aiming for testing, diagnosis, and intervention (or implantation) by 6 months if possible (1,3,6 goal for NBHS)

Use it or Lose it

If Auditory nerve is not stimulated then auditory pathways fail to form

Early stimulation of auditory pathway essential for development

Keeps options available for future technology

Cochlear Implant Indications being extended

More residual hearing where standard hearing aids not sufficient for speech

Asymmetrical hearing loss - CI poorer ear

Brain can integrate both acoustic and electrical signal to get best from both

Single sided deafness

Cochlear Implant for single sided deafness

Adults sudden unilateral hearing loss, normal other ear

Children congenital single sided deafness - ? what age is too old

Sooner and younger the better

Exciting and promising new field for CI

Unlikely to be public funded for some time

Looking at Multicentre study with Australian CI teams – need funding

Congenital Abnormal Inner Ears

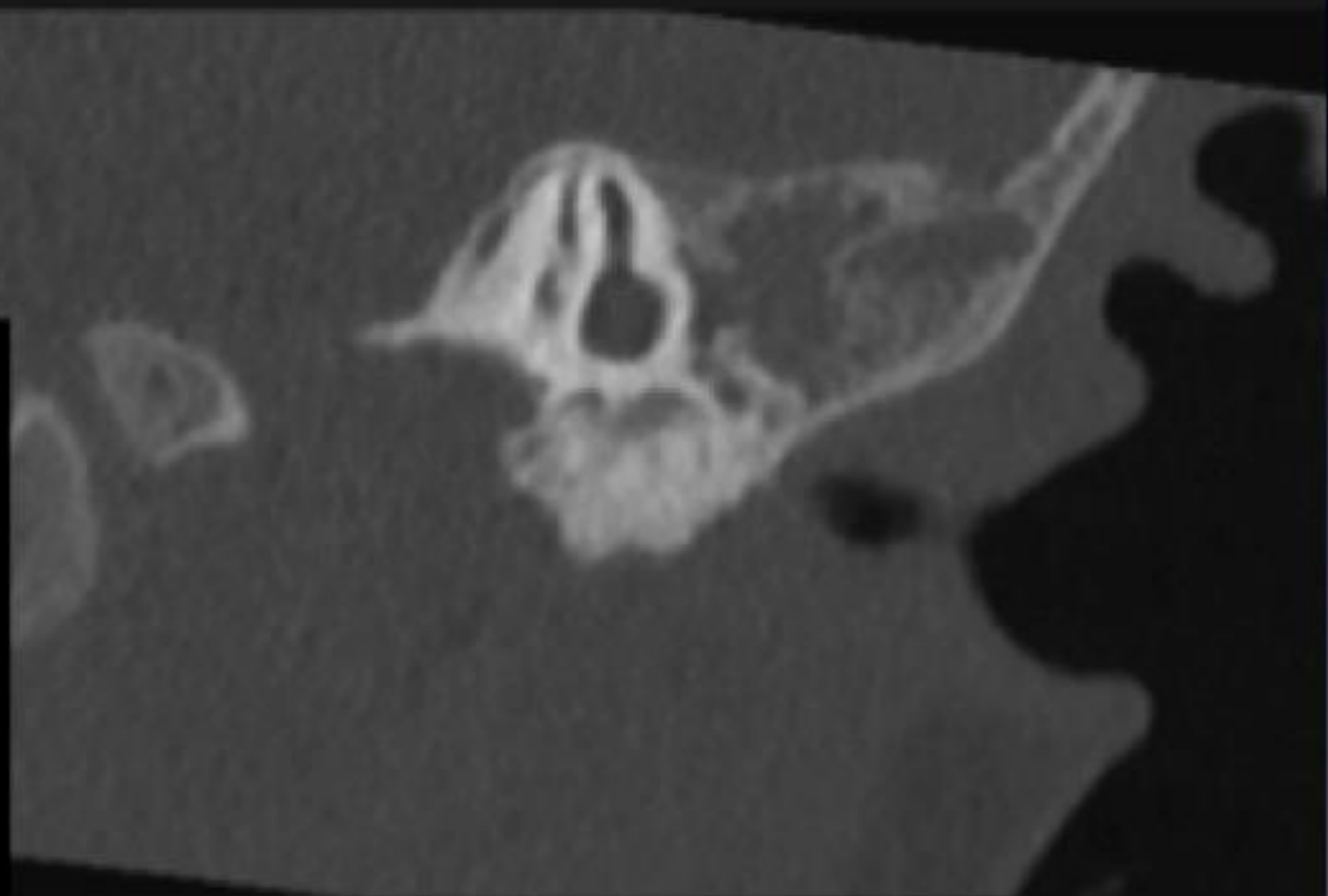
Previously considered not able to be implanted

Custom made implants to fit abnormal cochlea's

normal



Common cavity

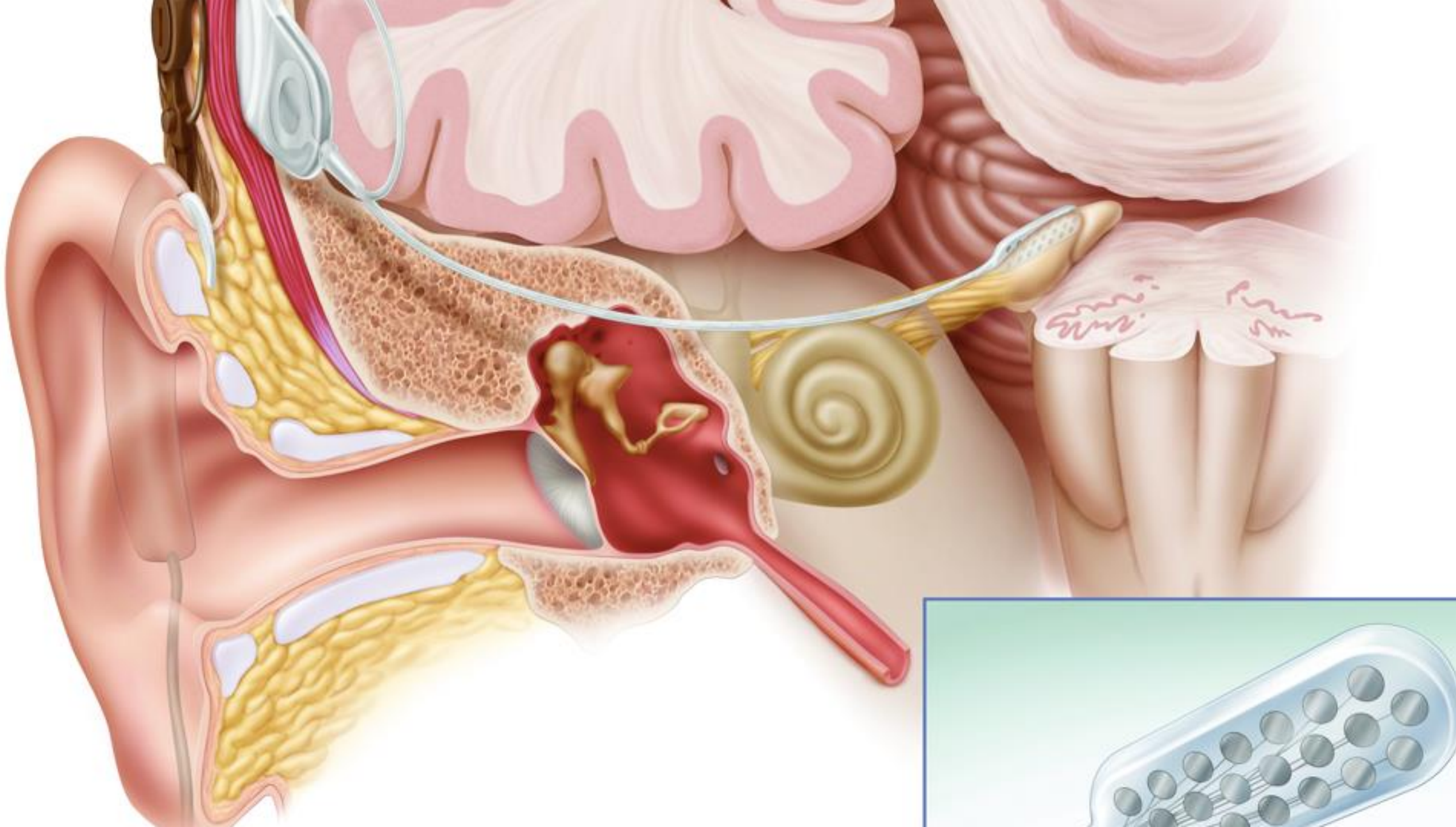


Auditory Brainstem Implants (ABI)

Developed from Cochlear Implant technology

When CI's not possible eg Cochlear not implantable/absent or Cochlear nerves absent/not functioning

Stimulates Cochlear Nucleus in Brainstem Directly



ABI

Not Currently performed in NZ

Patients go overseas – Germany

One of the first children Implanted in Australasia, from Christchurch.
Recently returned, there will be more to follow

Take Home Message

Unilateral hearing loss does matter

We should be more aggressive at treating unilateral hearing loss

The earlier the better for stimulation of Auditory pathways

Use it or Lose it

2 is always better than 1

Indications for CI and other implantable hearing devices changing/overlapping

Encourage referrals or just enquiries to Paediatric hearing aid service, CDHB Audiology, Any Private Audiology Services (Dilworth), or ORL Specialists

**What It Looks Like
When People Truly
Hear For The First Time**

Thank you

Questions?