

HOW TO LOCATE A QUALIFIED AUDIOLOGIST

All Members of the Audiological Society of Australia (ASA) are University Graduates bound by a Professional Code of Ethics and Standards of Practice and have access to postgraduate education programs. Look for the letters MAudSA (CCP) after the audiologist's name to ensure that you are consulting a qualified audiologist who has completed the ASA Certificate of Clinical Practice (CCP).

TO OBTAIN A FREE DIRECTORY OF CLINICS WHERE QUALIFIED AUDIOLOGISTS WORK VISIT:

www.audiology.asn.au

or contact us on
(03) 9416 4606



Audiological Society of Australia Inc. T/A
AUDIOLOGY AUSTRALIA

Suite 7, 476 Canterbury Road,
Forest Hill, VIC. 3131
Telephone: 03 9416 4606
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AUDIOLOGY

and Cochlear Implants



Your Hearing Health Professionals



WHAT IS A COCHLEAR IMPLANT?

A cochlear implant is a device which can provide useful hearing and improved communication ability for adults and children who have a moderate, profound or total hearing loss in both ears. Cochlear implants provide an important option for people who receive limited or no benefit from a hearing aid. Over 60,000 adults and children world-wide now make use of these devices.

A cochlear implant consists of two parts: an internal part which requires surgery to place it in the inner ear, and an external part worn behind the ear.



HOW DOES IT WORK?

Many people are deaf because they have damage to the inner ear hearing cells. But most people - even those with "nerve deafness" - have some functioning nerve fibres further along the hearing pathway. These nerve fibres may be able to send signals (sound) to the brain if they are stimulated electrically. In this way, the damaged area is bypassed. The "Nucleus" Cochlear Implant System is designed to stimulate these nerve fibres directly.

1. Sound received at the microphone is transmitted to the Speech Processor.
2. The Speech Processor analyses and codes the sound.

3. The coded signal is sent to the transmitting coil of the headset and relayed through the skin to the internal implant.
4. The implant receives the codes and converts them to electrical signals.
5. Electrical signals are sent to the implant's electrodes to stimulate the remaining hearing nerve fibres. These signals pass up the nerve fibres and are recognised by the brain as sound.

WHAT ARE THE BENEFITS?

Individual users report different levels of benefit from their cochlear implant. Among the major benefits:

- Improved level of hearing.
- Restored detection of normal everyday sounds in the environment, eg. doorbell, car horn, phone ringing.
- Most users demonstrate an improved ability to communicate, especially when combining lip-reading with hearing through the implant.
- Many implant users understand speech through hearing alone.
- Over two thirds of people who use a cochlear implant understand speech well enough to have interactive two-way phone conversations.
- In young children, sufficient access to sound to develop speech and language.

Improved communication skills achieved with a cochlear implant may provide new opportunities at work, at school and in social settings.

WHO CAN BENEFIT?

A cochlear implant, as a medical device, will not suit everyone and the amount of benefit for different people will vary. A person may gain benefit from an implant if:

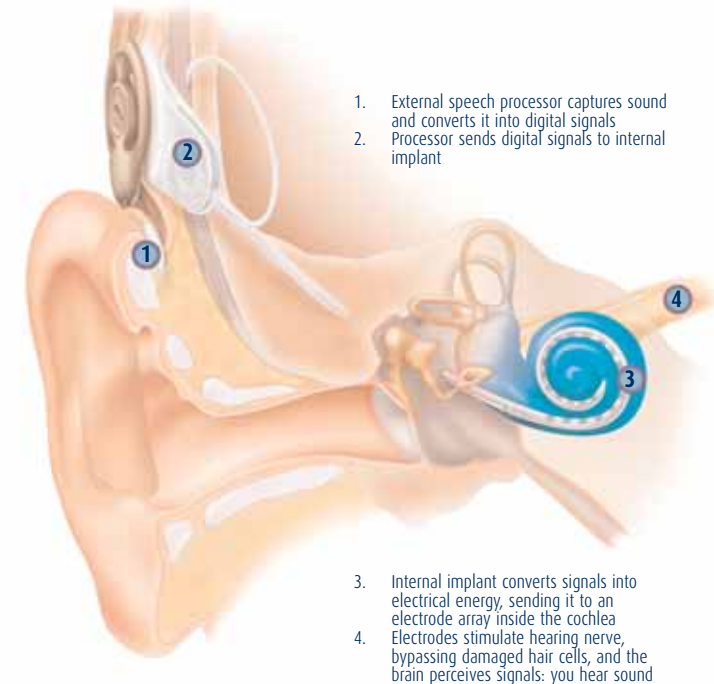
- They have a moderate, severe or profound hearing impairment. This includes those who were born with a hearing loss as well as those who have lost their hearing later in life.
- They cannot hear or have great difficulty on the phone, even with a hearing aid or assistive listening device.
- They (or their parents) feel improved hearing would help them do more and benefit their life. Babies and infants with a moderate to profound hearing loss should be referred for consideration sooner rather than later to maximise benefit.

WHAT IS INVOLVED?

A number of assessments, performed by a multi-disciplinary team of professionals, help determine if a cochlear implant could offer benefit to a person. There are eligibility criteria and guidelines for cochlear implantation in Australia. The audiologist's role in the team is to evaluate a person's current hearing and communication abilities and to discuss the likelihood of improvement with hearing aids or a cochlear implant. The evaluation integrates the audiological, psychosocial and medical aspects of the candidate's profile. Following cochlear implantation, the audiologist has a key role in optimising a person's hearing with the implant as well as providing training to improve communication skills.

WHAT IS THE COST AND HOW DO I FIND OUT MORE?

Each Australian state provides for a number of implant procedures through its public health system. The cochlear implant procedure is also covered by basic private hospital insurance. Your audiologist can recommend whether a referral to a cochlear implant clinic is appropriate and can provide details of the nearest clinic.



1. External speech processor captures sound and converts it into digital signals
2. Processor sends digital signals to internal implant

3. Internal implant converts signals into electrical energy, sending it to an electrode array inside the cochlea
4. Electrodes stimulate hearing nerve, bypassing damaged hair cells, and the brain perceives signals: you hear sound