



COCHLEAR IMPLANTS



WHAT ARE THEY?

Cochlear implants are small electronic devices designed to help people hear. There are several parts to a cochlear implant:

- **Electrode array:** surgically inserted in the cochlea (part of your inner ear) to stimulate the auditory nerve
- **Sound processor:** Picks up sound from the environment, often worn behind the ear
- **External coil:** Receives the sound signal from the processor and sends it to the internal component, attaches to a magnet to send the signal and stay in place

WHAT IS IT LIKE?

The surgeon will make a small incision behind the ear to insert the electrode array in the cochlea and place the internal magnet on the mastoid (part of the skull behind the ear)

About two weeks after surgery, the audiologist will turn the cochlear implant on. There will be many follow up appointments for the audiologist to adjust the settings of the implant.

The electrical sound from the implant is very different than the acoustic sound people are used to. It takes time to relearn what speech sounds like. Once the implant is on, it is important to participate in a rehabilitation process with an audiologist and speech-language pathologist, this may take several months.

HOW DO THEY WORK?

All the sound and noise in your environment starts as "acoustic sound". As sound moves through the auditory system, it is converted to neural signal so that it can be passed on to the brain for understanding.

In a cochlear implant, the sound processor turns the acoustic signal into a digital signal and sends it to the external coil. The coil converts the digital signal to an electronic signal. The electronic signal is sent to the internal component through a magnet. This electronic signal can stimulate the auditory nerve so it can be passed on to the brain.

Cochlear implants are permanent. The hearing system cannot "go back to normal" after the electrode array has been placed in the cochlea.

WHO SHOULD GET ONE?

A cochlear implant may be an option for people that are not finding benefit from hearing aids.

The evaluation process includes different types of hearing tests from an audiologist and a medical evaluation from an Ear, Nose and Throat doctor.