# **Cochlear Implant**



A cochlear implant is a device designed to replace acoustic (normal) hearing in the ear with electrical sound. It was originally used exclusively in those with no useful hearing in either ear but is now used more widely in those with hearing that is not clear enough or where one ear works but the other doesn't

Your surgeon, along with a team of audiologist and speech therapists at the Cochlear Implant Clinic at RVEEH will determine if this is the best hearing solution for you or your child.

A series of complicated hearing tests, a MRI and CT scan is generally recommended as workup for this condition.

### RISKS OF SURGERY

The operation to place the cochlear implant is relatively straight-forward. It involves a single cut behind the ear. Then the surgeon will drill the bone behind the ear to access the inner ear structures. To do this the surgeon needs to identify the facial nerve (movement of the face) and a taste nerve in order to pass between them to find the place were the cochlear implant will be placed. A small opening is then made into the cochlea and the implant placed inside it. The main body of the device is placed under a pocket of soft tissue against the bone of your skull. This is where an externally worn device will connect to the implant and send messages to it from outside via a magnet holding the two together. The skin is then closed and the device is tested to ensure it is working and to get a baseline of the amount of electricity your ear would need to hear.

## Possible risks of surgery are:

- 1. Facial nerve weakness (<1%)
- 2. Tinnitus (ringing in the ear) is common and is usually temporary but may be permanent
- 3. Hearing loss, you may loose the residual hearing in the ear but the implant is designed to work as a complete replacement of all sound so if this occurs most people still hear well through the implant over time.
- 4. Vertigo ie dizziness. This is always temporary but may be a sign of stimulation of the inner ear that is best treated, so contact Dr Iseli if you experience this.
- 5. Change in taste (the taste nerve is passed during the procedure). Taste is often slightly metallic and usually improves with time but this may be a significant problem for someone whose work involves taste eg wine taster, chef.
- 6. Scar behind the ear (a small amount of hair behind the ear will need to be shaved). Generally the scar sits in the hairline but the lower end may be visible. Rarely, the scar is tender or painful to touch.
- 7. Infection. Though this is rare it is best avoided as if not able to be resolved with simple measures it may result in the device needing to be removed. For this reason your surgeon is rigid about sterility in the surgery, you will be



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- given antibiotics while asleep and Dr Iseli asks that you keen the incision line dry for 1 week after surgery,
- 8. Meningitis. Studies show that in the past people with cochlear implants had a higher rate of meningitis than people without. This is reduced to the normal population level by being up to date with pneumococcal vaccination. Check with your GP or Dr Iseli if you unsure what your vaccination status is.

#### PREPARING FOR SURGERY

- If the ear becomes infected (drainage, pain, fevers) it is not safe to place the implant at this time so take antibiotics to clear this infection as early as possible to avoid delaying the surgery.
- Do not eat or drink after midnight before the surgery. If the surgery is in the afternoon, you may have a light breakfast before 0730 (eg toast and orange juice).

# AFTER SURGERY

- You/ your child can usually return to light work/ school a week after surgery.
- After surgery, you will usually be given simple pain relief to use as required. A warm pack or heating pad may also be used for pain relief. Use this for twenty minutes three to four times per day, or as needed. **Do not sleep with a heating pad. They can cause severe burns.** If the pain is not controlled with simple pain killers then contact Dr Iseli, as this may be a sign of infection.
- Do NOT blow your nose with your nostrils blocked for 2 weeks after surgery. If you need to sneeze, open your mouth to release the pressure.
- Do NOT lift more than 2 milk bottles (5kg) for 2 weeks and if you do need to lift something the do this with your mouth open
- Keep your incision line dry until the wound is check by Dr Iseli (usually 1 week after surgery) as this improves healing and reduces infection.
- Air travel and diving should be delayed if possible for at least 2 weeks after surgery.
- Ideally do not smoke cigarettes for 3 months after surgery as these have been shown to delay/ prevent healing.

## **SEEK MEDICAL ATTENTION IF:**

- There is bleeding or *purulent* (pus-like) material coming from your ear (you may have an infection)
- You have problems with balance, feel dizzy, or develop *nausea* (feeling sick to your stomach) and vomiting.
- You feel the hearing (got worse) or tinnitus (got louder) has changed from the day you were discharge
- You develop increased pain and/or an oral temperature above 38.5 degrees celcius which is not controlled by medications.



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