

# Surgery for Cochlear implantation

Information for you



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The following is a general description of the surgery.

**Your surgeon will explain any points that are specific to your / your child's case.**

## **What is cochlear implantation?**

This is an operation to insert an electrode into the inner ear in cases of severe or profound deafness. The hearing (auditory) nerve can then be stimulated to produce a hearing sensation.

## **What does the operation involve?**

The operation is carried out under general anesthesia (you are put to sleep). It will last two to three hours, or four to five hours for children having both sides implanted. You will usually spend one night in hospital before the operation and one to three nights after, depending on how near to Ayrshire you live. You will need to take one to two weeks off work or school to recover. It is very important to get up and about the house during this time.

The incision will be made behind your ear and will be about four inches long. With time, it usually heals without a noticeable scar. A small amount of hair needs to be shaved, but of course this grows back. We usually use dissolving stitches. These may disappear, or may be seen dropping out of the wound two to four weeks after

surgery. They are best left to come out by themselves. If non-dissolving stitches or clips are used, they need to be removed by your family doctor (GP) five to seven days after surgery. We will tell you which stitches are used. You may wash your hair normally after 48 hours.

Please call the implant unit on 01563 577323 or contact your GP if you have any concerns about your wound.

After one month you return to Crosshouse for the 'switch- on' of the implant.

## **Which ear is chosen for implantation?**

- **Adults.** There are many factors that determine this - we can advise you. In some cases, either ear is possible and you can choose, depending on, for example, whether you are right or left handed. Current opinion is that the ear that has had the best hearing over your life still has the best 'memory' of sound and will give the best results from implantation.
- **Children.** Children are now offered implantation in both ears, although not all patients are suitable for this or choose this option.

## **What about visits after the 'switch-on'?**

There is a programme of regular visits for life, most frequent during the first five years, for check-ups, maintenance, rehabilitation and tuning. Details are given in the information sheet on 'switch-on'.

After switch on, adults (and older children who had speech before their surgery) can take up to nine months to get used to their implant.

Children who have been born deaf take more time to reach their full potential after implantation. They must first try to make up for the prior deaf period. For younger children this can take a matter of months but for older children (or those with other difficulties) it may take several years. Further learning and development of communication is then needed on into adulthood.

### **Your goals are:**

- Implant/s worn all waking hours where possible.
- The implanted adult or child must interact with parents and other people as much as possible - set aside time for speaking and listening on a daily basis.
- Attend all scheduled appointments.

### **What are the risks of surgery?**

Cochlear implant surgery is very reliable and has an excellent safety record. However, all surgery has risks, and complications do sometimes happen. The main ones are described here. The figures given are estimates based on experience so far: that is, in the 30 or so years that cochlear implants have been in general use.

- **The risks of the anaesthetic.** Please ask the anaesthetist for details.
- **Loss of residual hearing in the implanted ear.** Any remaining natural hearing is usually lost but the electronic hearing from the implant is almost always better.
- **Wound infection/breakdown.** This can happen in around two per cent of cases (two in every hundred). If this happens the implant may have to be removed and replaced at a later date, either in the same or the opposite side. It usually happens in the first year after the surgery. The risk is higher if there is a scalp problem, for example psoriasis. In all patients, even after healing, the skin over the implant is vulnerable to knocks or pressure, for example from a tight helmet. Special care is needed to prevent damage to it. More information is available from the device manufacturer via their website.
- **Incomplete implant insertion.** Sometimes it is not possible to fully insert the electrode into the inner ear. This is usually because of blockages caused by, for example, scar tissue or bone growth after meningitis. If this happens the surgeon will try to get as much of the electrode inserted as possible. There can still be benefits even when the electrode has not been fully inserted. Sometimes it is not possible to get worthwhile results. We will then have to consider

other options, for example, we can attempt to insert the implant in your other ear during the same operation or at a later date. In rare cases it may not be possible to get a good insertion in either ear.

- **Electronic / Mechanical failure.** No machine is 100 per cent reliable. Around two to four per cent of implants fail in the first 20 years. They will have to be replaced at another operation, in either the same or the opposite side.
- **Dizziness.** This can happen in up to 20 per cent (one in five) of patients, due to disturbance of the balance system, which is part of the inner ear. It is more likely in patients with prior balance problems. In the vast majority of patients this settles in one to three weeks. Very rarely it can be permanent.
- **Matching the position of the packages in children when both sides are implanted.** It is not always possible to get the two packages at exactly the same position on each side of the head under the scalp. This is because of the positioning of the patient that is necessary during this kind of surgery and because the anatomy of the two sides is not always the same. Fortunately, this is not usually noticeable, especially once a child gets older and the hair grows.

- **Metallic/altered taste in the tongue.** This can happen in around 10 per cent (one in ten) of patients due to disturbance of one of the taste nerves that lies in the ear. This usually settles in two to three months. Rarely it can be permanent.
- **Bleeding.** Slight bleeding from the wound or ear canal is common after any ear surgery. This can last one to two weeks but is rarely cause for concern.
- **Tinnitus (noise in the ear).** This is reported by a few patients after surgery, but many patients have tinnitus before the surgery anyway, and many report an improvement in their tinnitus even when the implant is not in use. Very rarely tinnitus can be permanent.
- **You scalp, ear or wound may feel numb or sensitive.** This is very common but it is not harmful. This settles as the sensory nerves around the ear recover during the 12 – 18 months after surgery. Very rarely it may last longer but even then it is not usually a cause for concern.
- **Facial weakness.** This happens in less than one per cent (one in one hundred) of patients. The nerve that moves one side of the face runs very near the surgical route to the inner ear, and can occasionally be damaged by the surgery. This complication mainly happens in those with unusual or unexpected anatomy in the ear. Understandably, this causes concern to many patients and parents before surgery,

but it is one of the rarest of the main complications. Sometimes the weakness recovers, but even if not, there are often ways of repairing the nerve if this unfortunate complication happens.

- **Risk of meningitis after implantation.** This was seen in 2002 to 2003 in several implantation centres in Europe and the USA. It was mainly linked with a device that was not used in our programme. As a precaution, the government has advised that all cochlear implant patients be immunised, preferably before surgery. A separate information sheet is available on this matter. Please ask cochlear implant staff for further information.

**I have read and understood the above, and have had satisfactory answers to my questions.**

Signature of patient / parent / guardian

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Date

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Signature of doctor

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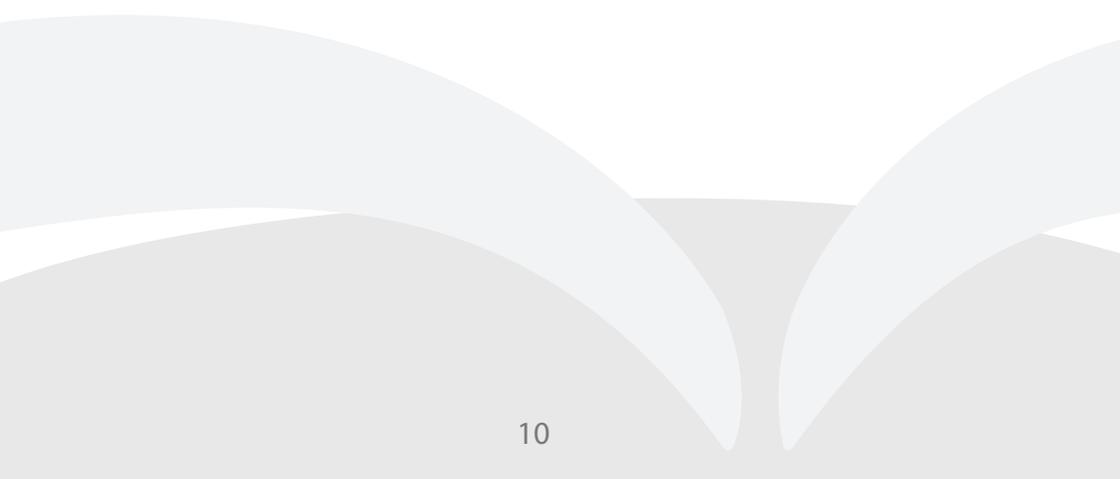
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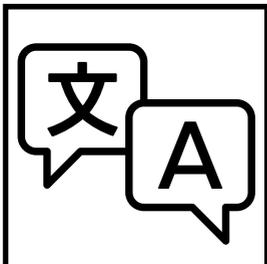
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**Please bring this leaflet with you when you come in for your operation.**





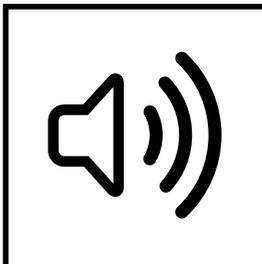
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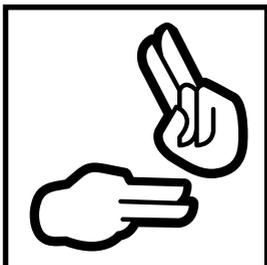
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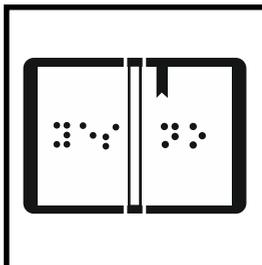
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