

Cochlear Implant Surgery

Ear, Nose & Throat Clinic

4480 Oak Street, Vancouver, BC V6H 3V4
604-875-2113 1-888-300-3088
www.bcchildrens.ca

What is a cochlear implant?

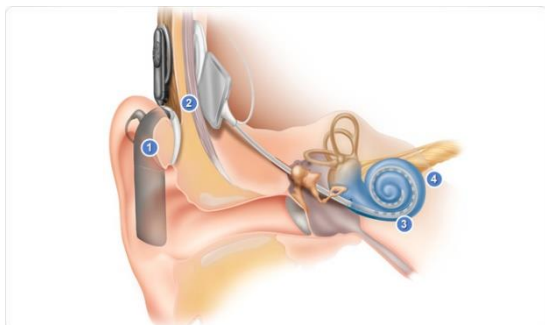
A cochlear (KO-klee-er) implant is a device that directly stimulates the hearing nerve. It can provide sound for children who have severe to profound sensorineural hearing loss and/or who receive little or no help from regular hearing aids. A cochlear implant is usually inserted around the age of one or when the hearing decreases into the severe to profound range.

What is the difference between a hearing aid and a cochlear implant?

Hearing aids make sounds louder. However, for children who have significant hearing loss, hearing aids may be inadequate in providing enough sound for the understanding of speech. Cochlear implants may be a good option for these children.

What are the parts of a cochlear implant?

The cochlear implant has a tiny electrode or wire that is surgically inserted into the cochlea (inner ear), and a receiver-stimulator that is implanted behind the ear. In the picture, you can see the electrode (3) inserted into the inner ear (cochlea) (4). The receiver-stimulator (2) is under the skin behind the ear. The child also wears an external sound processor (1) that has a microphone attached to it.



How does a cochlear implant work?

- Sound is picked up by the microphone located in the sound processor. (1)
- The sound processor then changes the sound into a digital signal.
- This digital signal is sent to the transmitter coil.
- The transmitter coil sends the information via radio waves to the receiver-stimulator located under the skin. (2)
- The receiver-stimulator sends the information to the electrode (3) in the inner ear (cochlea) (4)
- The electrode sends signals to the hearing nerve and to the brain, which then recognizes or perceives sound.

How do we prepare for surgery?

- Learn more at the **BC Children's Hospital Procedures and Surgical Services** page: <http://www.bcchildrens.ca/our-services/hospital-services/procedures-surgical-services>
- Read a booklet called, "Your Child's Surgery or Procedure". The Cochlear Implant Services clinic will provide you with a copy. It will help prepare both yourself and your child.
- **Wash your child's hair the night before surgery. After the surgery your child can't wash their hair for 10 days.**
- Please contact the ENT Clinic Nurse at 604-875-2345 ext. 7053 if your child has a cold, flu or fever 2 weeks before surgery, or if your child has any skin rashes or open sores around the ear or on the scalp. Surgery may need to be re-booked.
- There is also the possibility that your child's surgery may be cancelled due to emergency cases and bed availability.

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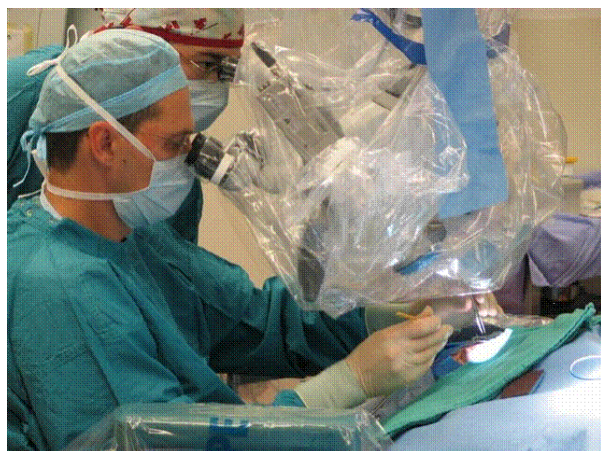
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- The Pre-Anesthesia Clinic is currently mostly virtual and will call you a few days before your child's surgery to review the anesthetic (sleep medicine) and fasting instructions. If you don't hear from them within a few days of the surgery date, you can call them at 604-875-3447. They may schedule an in-person visit if needed.
- Your child may need to stay one night in hospital depending on your child's age and the start time of surgery. Rarely the first night is in the ICU. One parent is able to stay and sleep at the bedside on the regular ward.
- For out-of-town families, we may suggest that you and your child stay in-town one more night after surgery to allow for your child to recover.

What happens during surgery?

- Your child will have a general anesthetic (sleep medicine).
- The surgery usually takes about 3-4 hours for one ear or 5-6 hours for both ears.
- An incision (cut) is made behind your child's ear. This allows the surgeon to insert the cochlear implant.



What can we expect after surgery?

- Incision line:
 - Dissolvable stitches are used to close the skin along with topical glue.
- Dressing:
 - Sometimes there is a dressing around your child's head with extra gauze around the ear(s) that have been implanted. Usually there is no dressing, but if there is a dressing, it will be removed the day after surgery either at the bedside or in the ENT Clinic. **If your child's head dressing comes off overnight, it is not necessary to replace it.**
- Pain & medication
 - You can give your child Tylenol (acetaminophen) and Advil (ibuprofen) for pain.
 - If your child is in lots of pain after surgery, your child needs to be assessed.
 - **Antibiotics after surgery will be ordered and need to be taken for 1 week.**
- Diet
 - Your child can eat their normal diet when they are ready. Encourage lots of fluids.
- Dizziness
 - Your child may be off balance or dizzy for a few days. Your child should try to avoid sudden movements.
- Bathing and showering
 - Your child can have a bath but avoid getting water over the incision line for 10 days. Do not wash your child's hair for 10 days.

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When can my child return to activities?

- When your child feels well enough, they can return to school after the surgery.
- Your child can play quietly if they feel well enough.
- Your child can resume active play in **6 weeks**.



Call the ENT Clinic Nurse if:

- Your child has a fever higher than 38.5°C
- The incision oozes pus (white, yellow or green fluid), or is warm, red, or swollen.
- Your child's pain does not get better with pain medicine.
- Your child vomits more than 24 hours after their surgery.
- The incision line opens up
- Your child has a lopsided smile
- Your child is not peeing more than 2 times a day.
- You have other worries about your child.



Follow up

- The 1st appointment should be approximately 1 week after the surgery
- You will see the Cochlear Implant team approximately 2 weeks after surgery at the time of your child's implant activation.
- After your child's surgery, call your ENT doctor's office to schedule this visit.



Contact information

- ENT office: 604-875-2113
- ENT clinic nurse:
604-875-2345 ext. 7053
Monday to Fridays, except holidays
8:30am-4:30pm
- Weekends and after hours, phone the ENT resident on call: 604-875-2161, ask for "ENT ON CALL"