



Operation Information

Cochlear Implant Insertion

Introduction

Cochlear implant is an electronic device for patient with severe to profound hearing loss. The cochlear implant stimulates the hearing nerve directly to enable hearing. The device consists of internal and external components. The internal component (receiver/ stimulator) is inserted during the operation. The external component (speech processor) process sound and converts into signals for the internal component.

General Criteria for the Cochlear Implant

1. Severe to profound sensorineural hearing loss, preferably 12 months or above
2. Limited benefit with appropriately fitted hearing aid
3. Some patients with profound single side deafness

Intended Benefits and Expected Outcomes

1. Hearing improvement
2. Will not restore normal hearing, hearing level at best will be 30-40 dB.
3. Implant performance varies among individual patients.
4. Intensive postoperative rehabilitative programs necessary to optimize performance

Conditions that Would Not be Benefited by the Procedure

1. Deafness due to acoustic nerve or central auditory pathway lesions. Nerve and brain cortex function cannot be measured before cochlear implant.
2. If abnormal anatomy (e.g. facial nerve anomalies) or severe infection (e.g. severe otitis media) is encountered, cochlear implant may not be possible for patient safety reason.

Procedures

1. The operation is performed under general anaesthesia;
2. Surgeon will make a small incision (approximate 3 - 4cm) to open the mastoid bone behind the ear, if bleeding encountered, the incision may need to be extended for control of bleeding;
3. Implant the stimulator and electrode;
4. The wound is closed with stitches and covered with sterile dressing and bandage;
5. Hook up the transmitter headpiece and speech processor after 1 week when the wound is healed;
6. At the end of operation, the surgeon will test the function of hearing nerve.

Possible Risks and Complications

Common risks and complications (>1%)

1. Wound and implant infection
2. Haemorrhage
3. Haematoma
4. Loss of residual hearing in the implanted ear
5. Transitory balance problem
6. Numbness around the ear

7. Tinnitus

Uncommon risks with serious consequences (<1%)

1. Facial nerve injury and facial palsy
2. Meningitis
3. Death due to serious surgical and anaesthetic complications
4. Electrode migration and implant extrusion
5. Change in taste sensation
6. Flap necrosis
7. Failure of insertion of electrode
8. CSF/perilymph leakage
9. Delayed abscess formation

** The risks listed above are in general terms and the possibility of complications is not exhaustive. Please understand that even though all operations are carried out with utmost professionalism and care, this does not rule out the possibility of complications arising. In the event of peripheral organ damage or post-operative haemorrhage or leakage, further operations may be required.

Pre-operative Preparations

1. Good hygiene can prevent surgical wound infection. Therefore, we advise you to clean up yourself on the day of operation.
2. The procedure and possible complications will be explained by the doctor and a consent form must be signed prior to the operation.
3. Please inform your doctor and nurse all your past medical history, previous surgical operations, current medication and any complication with drug or anaesthesia.
4. Various tests of hearing, such as an audiogram, CT or MRI scan will be required before operation.
5. Nursing staff will help to shave the scalp of the operation side.
6. Nurse will supply a surgical soap to you for wash the surgical area.
7. No food or drink six hours before operation.
8. Please change into a surgical gown after removing all clothing including undergarments, dentures, jewellery, contact lenses and hearing-aid.
9. Please empty your bladder before the operation.

Post-operative Instructions

General

1. After general anaesthesia, you may:
 - experience discomfort in the throat after tracheal intubation.
 - experience side effects of anaesthesia include feeling tired, drowsy, nausea or vomiting.Inform the nurse if symptoms persist or worsen.
2. Immediately after waking, you may feel pressure or discomfort over the implanted ear or dizziness.
3. Please inform the nurse of wound pain. Proper pain relief treatment by injection or oral medication may be prescribed by the doctor.
4. Skull x-ray to assess the position of electrode in some patients.
5. May discharge home on day one after the procedure.

Wound Care

1. Please follow instructions given by the doctor and take off the crepe bandage on the second day after the operation.
2. The wound normally heals one week postoperatively.
3. May have some swelling around the incision area after the operation, which may take a few weeks to resolve.
4. May experience some bloody discharge from the ear or nose for several days.
5. Hair washing, bathing and showering are allowed as long as the surgical wound is protected with

- water-proof dressing materials. The wound must be kept clean and dry afterwards.
6. Please arrange for implant hook up and fitting of external part of the device few weeks postoperatively.
 7. The audiologist will make adjustments to the speech processor over the next few months. It may make you hear better.

Activities

Swimming, rigorous exercise or contact sports should avoid for few weeks post-operatively.

Diet

A normal diet may be resumed as instructed after recovery from anaesthesia.

Alternative Treatment

1. Hearing aid
2. Other means of communication (like sign language and lip reading)

Consequences of No Treatment

1. Speech deterioration
2. Auditory brain centre degeneration
3. Loss of ability to acquire speech

Advices on Discharge

1. Please comply with medication regime as prescribed by your doctor.
2. You are advised to stay out of work or school and avoid sports for approximately two weeks after surgery.
3. Immediately consult your doctor or return to hospital for medical attention in the event of severe bleeding, swelling, discharge, pain from wound, shivering, high fever over 38°C or 100°F, or any other unusual symptoms (such as severe dizziness or headache) etc.
4. Follow-up consultations should be attended as scheduled.
5. Continuing evaluation of hearing status and adjustment of speech processor if needed.

Should there be any enquiries or concerns, please consult the attending doctor.

Under the professional care of the doctor, you will gradually recover. We wish you all the best during your treatment and recovery.

If you have any questions after reading the entire leaflet, please write them down in the spaces provided in order for the doctor to further follow-up.

Compiled by Union Hospital Operating Theatre (OT) Governance Committee

The above information is for reference only, please enquire your physician for details
Our Hospital reserves the RIGHT to amend any information in this leaflet without prior notification