



## **COCHLEAR IMPLANT SURGERY**

The surgical placement of a cochlear implant has been performed for over 30 years. Newer implant designs and surgical techniques allow placement of these devices with very few complications and excellent cosmetic results.

The procedure is performed in a day surgery unit with most adult patients going home the same day. General anesthesia is administered in the operating room and a small amount of hair behind the ear is shaved. An incision is made in the crease behind the ear, which makes the scar very inconspicuous once it has healed. A pocket is created under the skin to accommodate the receiver-stimulator portion of the implant. This part of the implant has a very flat design so that it will not make a noticeable deformity. An opening is made into the air-filled bone called the mastoid. This mastoidectomy allows us to access the cochlea (in the inner ear) without disturbing the ear canal or eardrum. A very small opening is made into the cochlea. The implant electrode array is threaded in as far as possible. Most cochleas can accommodate the complete electrode array unless meningitis is the cause of deafness, in which case a partial insertion may be necessary. The incision is closed with hidden absorbable stitches that do not require removal.

A Velcro cup dressing is placed on the ear and remains in place for 2 days. Patients usually leave the hospital in 3 to 4 hours after surgery is completed. Pain is mild-to-moderate for 1 to 2 days and can be controlled with oral pain medications. Some patients experience imbalance for a few days after surgery, but this resolves spontaneously within the first week. The incision can tolerate water 3 days after surgery. Patients are seen in the office 1 week after surgery to check the incision. Most patients are able to return to work or school at that point. Sports, exercise and air travel should be suspended for 3 weeks. After 3 weeks, there are no activity restrictions. The initial activation of the device and orientation of the external equipment takes place about 1 week after surgery. Once healed, there is practically no visible evidence of the implant's presence.

Cochlear implants are extremely reliable. It is expected that a patient will never need to have his/her implant replaced. Less than 1% of implants have malfunction that requires replacement. Fortunately, if necessary, implants can be surgically replaced without losing any hearing performance.