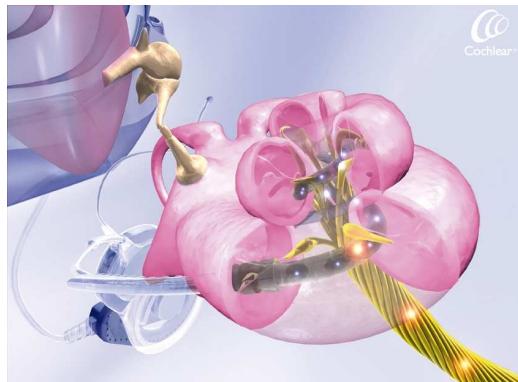


## Additional Information on Cochlear Implants



The benefit provided by a cochlear implant CANNOT be guaranteed. All users, however, obtain environmental awareness and many experience improved lip-reading ability, and gains in speech understanding through audition alone.

## Cochlear Implant Research Projects at LHSC

LHSC cochlear implant team members also participate in research. Some of the most recent projects the LHSC team are involved in include:

- ➲ **Pediatric Bilateral Cochlear Implantation** – involving implantation of both ears. Hypothesized to improve speech perception performance in noise, and sound localization abilities.
- ➲ **Adult Electro-acoustic Study** – involving use of a hearing aid and cochlear implant in the same ear. Hypothesized to improve music comprehension.

## Cochlear Implant Team Referrals

While a physician's referral is required to complete the medical assessment, initial contact with the Cochlear Implant Program can be made by:

- ➲ family members
- ➲ physicians
- ➲ teachers/therapists
- ➲ audiologists and other professionals

## Early Intervention and Cochlear Implantation

The ability to detect sound is critical to a child's ability to learn speech and language. The absence of such sound can have profound effects on speech and language development, as well as the educational achievements of children.

**Given the potential impact on a child's life, it is critical that hearing impairment in children be detected early. Similarly, early referrals (from 2 months of age on) to the Cochlear Implant Team are crucial to maximize the potential benefit obtained from the cochlear implant.**

London Health Sciences Centre -  
University Hospital

Cochlear Implant Program  
339 Windermere Road  
Phone (519) 663-3641  
Fax (519) 663-3916  
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Designed by: Kim Zimmerman  
Revised: January of 2009



## Cochlear Implant Program

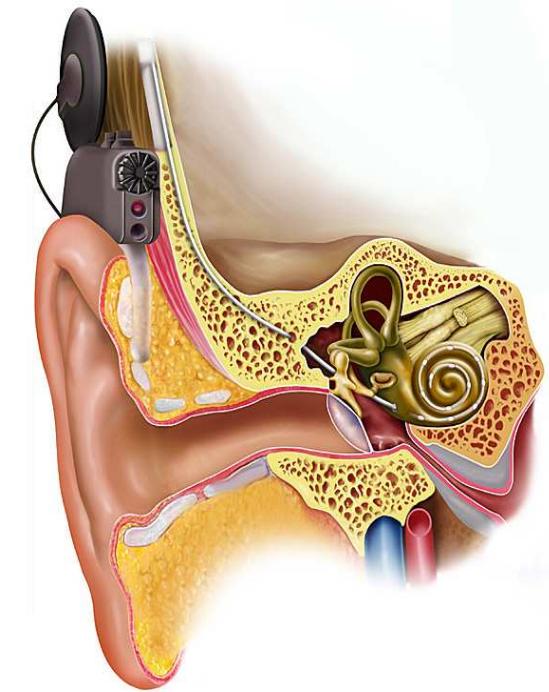


Photo: Courtesy of Med El Corporation

**A Multidisciplinary Approach**

## The LHSC Cochlear Implant Program

The Cochlear Implant Program at LHSC was established for adults in 1987, and for children in 1989. The Ministry of Health and Long Term Care began funding cochlear implants in 1993. They continue to do so today. There are a limited number of devices available each year. Consequently, candidates approved for implantation may be placed on a surgical wait list.

Cochlear implantation is a recognized and accepted medical procedure for the treatment of severe to profound sensorineural (SNHL) hearing loss in both children and adults.

### The Cochlear Implant

The cochlear implant is a device that provides individuals who obtain limited, to no benefit from traditional hearing aids, with a sensation of hearing. It does not restore normal hearing. The device consists of a surgically implanted electronic internal component and an external component that looks similar to a behind the ear hearing aid.

#### Internal components



#### External components

## Pediatric Cochlear Implant Program

Children who are referred for implantation must meet a minimum set of criteria to be eligible:

- ⌚ 6 months to 17 years of age
- ⌚ bilateral profound, or severe to profound SNHL (dependent on age)
- ⌚ limited, to no benefit, from hearing aids
- ⌚ no medical contraindications
- ⌚ spoken language as primary mode of communication
- ⌚ speech perception abilities that correspond to predicted aided potential
- ⌚ educational placement with strong auditory component
- ⌚ strong motivation and family support

## Adult Cochlear Implant Program

Adults must also meet a minimum set of criteria to be considered for cochlear implantation:

- ⌚ 18 years of age or older
- ⌚ bilateral severe to profound SNHL
- ⌚ limited, to no benefit, from hearing aids
- ⌚ no medical contraindications
- ⌚ spoken language as primary mode of communication
- ⌚ speech perception abilities that correspond to predicted aided potential
- ⌚ realistic expectations, as well as strong motivation and family support

## Cochlear Implant Team Members at LHSC

Team members are all specifically trained to assist potential candidates and their families.

**Audiologists:** **Kim Zimmerman and Kim Twitchell.** Potential candidates are introduced to the program by our audiologists. Kim and Kim also provide pre- and post-implant assessments, counseling, educational consultation and programming of the speech processor.

**Surgeons:** **Dr. Lorne Parnes and Dr. Sumit Agrawal.** Ensure that there are no medical reasons that would prevent surgery from being able to take place. After surgery, Drs. Parnes and Agrawal also addresses any medical concerns related to the implant.

**Psychologist:** **Dr. Paul Derry.** Dr. Derry assesses children and their families preoperatively regarding their expectations of the cochlear implant, and provides counseling.

**Social worker:** **Marianne Lee.** Marianne provides assessment and counseling for adult patients regarding the psychosocial effects of deafness and cochlear implantation.

**Psychiatrist:** **Dr. Elizabeth Lock.** Dr. Lock provides psychiatric assessment and counseling for potential cochlear implant patients.

The Pediatric Day Surgery Program allows children a chance to see, touch, and play with medical equipment in an attempt to allay any fears the child might have about the operation.

An auditory verbal therapist works closely with children and their families to assess and foster children's listening and language skills. Community therapists generally provide this service.