



Inova Children’s Hospital offers specialized care to children with hearing impairment. In children whom do not benefit from traditional hearing aids, our cochlear implant team can offer comprehensive evaluation, diagnosis, and discussion about surgical options.

At Inova Children’s Hospital, our multi-disciplinary team includes surgeons, nurses, audiologists, social workers, child life specialists, speech-language pathologists, and more to help guide you through this process.



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Dr. Murray is a fellowship-trained, board-certified pediatric otolaryngologist. He is a graduate of the Carver College of Medicine of the University of Iowa. He completed his residency in Otolaryngology at the Thomas Jefferson University Hospital in Philadelphia, Pennsylvania and

his Pediatric Otolaryngology Fellowship at the Boston Children’s Hospital, Harvard Medical School. Dr. Murray has published on many aspects of Otolaryngology, and has presented his research at numerous national meetings. His fellowship training focused on pediatric head and neck masses, pediatric ear disease and hearing loss, pediatric sinus and allergy, and pediatric sleep apnea.

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Cochlear Implant Program

Providing specialized care for babies and children receiving cochlear implants



To learn more about the Cochlear Implant program at Inova Children’s Hospital, visit inovachildrens.org/cochlearimplant

Cochlear Implant Program

What is a cochlear implant?



Cochlear implants differ from traditional hearing aids in that they do not amplify sound. A cochlear implant is a surgically implanted device that bypasses the parts of the ear that

are damaged to deliver information directly to the hearing nerve. A sound processor (worn on the ear) captures sounds and sends them to a receiver implanted behind the ear (under the skin). The receiver sends signals to an electrode that has been surgically placed inside the cochlea, or inner ear. Because these devices work differently than traditional hearing aids, they can give some children access to sound information that they would otherwise miss out on.

Who can benefit?

Children with severe to profound hearing loss are usually good candidates for cochlear implants. For children with profound hearing loss in both ears, using cochlear implants in both ears can maximize the potential for learning spoken language.

Your child may be a candidate for a cochlear implant if he or she:

- Has profound sensorineural hearing loss in both ears
- Receives little or no benefit from hearing aids
- Has no medical condition that would prevent surgery
- Has access to an environment that supports successful learning and rehabilitation with a cochlear implant

What is the process like?

In many infants, hearing loss is identified via newborn hearing screenings. These tests are usually performed in the hospital just after a baby is born. Follow-up testing with an audiologist is required to confirm the hearing loss. Once hearing loss has been determined, a child will be referred to an otolaryngologist, a doctor that specializes in conditions of the ear, nose, and throat. The doctor will perform a series of tests, over multiple visits, to determine if a cochlear implant is right for your child. These tests can include:

- MRI or CT scan
- Audiogram (hearing test)
- Examination of the ear



Children who are candidates for a cochlear implant are required to undergo a trial period with hearing aids. During this trial period, children will be assessed for their speech and language development and benefit from hearing aids.



Most children have their cochlear implant surgery at about one year of age. The surgery generally includes an overnight hospital stay. Once the child has had time to heal, about 4-6 weeks after the surgery, the cochlear implant will be activated at the doctor's office. An audiologist, a medical professional who evaluates and manages hearing loss, will turn on the implant and program it based on the child's individual needs. Children with cochlear implants will be followed regularly by our audiologists to assess their progress and make programming adjustments.

Because a cochlear implant does not simply amplify sound, children with cochlear implants need special training to learn how to make use of the sounds from their device. Specially trained speech-language pathologists provide listening training for children and help families integrate listening activities in their daily routines. Ongoing active participation in this therapy is critical in order to realize the full potential of the implanted device.

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