

Programming and Follow-Up for Your Child's Cochlear Implant

After the surgery site has healed and the device is turned on (activated), the exciting process of learning to use new sound begins. Your family will have lots of training with the audiology and aural habilitation teams over the next several years.

“Mapping” or programming the speech processor

The programming or “mapping” of the speech processor by an audiologist begins at the initial stimulation when the device is turned on for the first time, 2 to 4 weeks after surgery.

The speech processor is a small computer worn on the ear, similar in appearance to a hearing aid. It changes sound into digital information and then sends that information via a coil/transmitter to the internal device through electrical signals. “Mapping” is a term that describes how the speech processor of a cochlear implant is programmed to convert sound into electrical signals.

During mapping your child will wear the speech processor while connected to the audiologist's computer. The process is similar to a hearing test in that your child must wait and respond when a sound is presented. Depending on your child's age/abilities, they will play various listening games or participate in activities to determine the stimulation levels.

The audiologist will adjust the levels on each electrode so that your child can hear a wide range of sounds. Each electrode codes a different sound and pitch. The audiologist will find the softest and loudest sounds that will be heard on each electrode. The responses to the softest, as well as the loudest levels will be stored in the speech processor as a “map” or “program.”

Several “mapping” appointments are needed to ensure that your child has good access to sound. This will be repeated throughout their lifetime.

Initial stimulation “turning on” the device

Initial stimulation or “turning on” the device typically happens in 3 visits over 10 days.

On Day 1, your child's cochlear implant will be activated for the first time. We ask that only parents be present for this first visit. This experience will be very new for your child and they may or may not like the sensations/sounds. Your child may react with joy, curiosity or even fear. They may need extra attention, reassurance and hugs from parents. The audiologist will watch your child's reaction to see if they detect the signal presented. They may react with stillness, widen their eyes, furrow their brow, smile, cry or may not have any reaction.

1 of 3

To Learn More

- Childhood Communication Center
206-987-3853
- Ask your child's healthcare provider
- seattlechildrens.org

Free Interpreter Services

- In the hospital, ask your nurse.
- From outside the hospital, call the toll-free Family Interpreting Line, 1-866-583-1527. Tell the interpreter the name or extension you need.

Programming and Follow-Up for Your Child's Cochlear Implant

On Days 2 and 3 of the initial stimulation, the audiologist will make adjustments and fine tune the maps. Other family members, caregivers, or professionals working with your child are welcome to attend. On Day 3, the audiologist will also do soundbooth testing with the cochlear implant.

Creating the best map for a child's cochlear implant is a gradual interactive process based on their responses during mapping and soundbooth testing, your observations, as well as therapists' and others' observations. Learning to pay attention to sound and have it become meaningful for your child is also a gradual process that may take several months.

Success with a cochlear implant

In order for your child to be able to build their listening and spoken language skills as fast as possible:

- Your child must wear their cochlear implant during all waking hours.
 - The speech processor should always be working and well maintained.
 - Spoken language should be used at all times at home and in school. If sign language is used, it is critical that spoken language is used at the same time.
 - You and your child must be active participants in appropriate programming, aural habilitation therapy and follow-up appointments.
-

Aural habilitation

Aural habilitation therapy will help your child learn to make sense of the auditory information provided by their cochlear implant. This therapy is critical to your child's success with a cochlear implant. We require that children participate in therapy after stimulation of their implant. We typically recommend 3 to 4 years of weekly therapy or until they develop age-level listening and spoken language skills. Therapy is scheduled with an aural habilitation therapist at Seattle Children's, or an aural habilitation specialist can be recommended in your community.

Developing listening and spoken language using a cochlear implant takes time. Family involvement is essential to help your child achieve their maximum potential. Your child's therapist will teach skills through fun, play-based activities that you will also use at home.

Periodic auditory skills evaluations are completed by an aural habilitation therapist at Seattle Children's hospital, either as part of weekly therapy or as a separate appointment if therapy is in your community. These evaluations help monitor your child's listening and spoken language progress, set goals and provide specific feedback to aid your audiologist in mapping the cochlear implant.

Follow-up Assessments

Your child will need follow-up appointments throughout their life.

Mapping Appointments

Year 1

- 2 to 4 weeks after surgery – 3 visits for initial stimulation
- 1 month post-stimulation
- 3 months post-stimulation
- 6 months post-stimulation
- 9 months post-stimulation
- 12 months post-stimulation

Years 2-3

- Every 6 months

Years 4+

- Every 12 months

Aural Habilitation Therapy

Weekly for 3 to 4 years (or until they develop age-level listening and spoken language skills)

Aural Habilitation Evaluations

Year 1

- 3 months
- 6 months
- 12 months

Year 2

- Every 6 months

Years 3-5

- Every 12 months

Years 6+

- As recommended by the aural habilitation specialist

Medical Evaluation

- Yearly