Give your child **early access to sound**

Hearing is the process of sound travelling through your child's ears, but it's actually their brain that interprets what they hear.

Selecting the most appropriate hearing technology is critical to your child's success. For some, hearing aids may be an effective option to treat hearing loss, however, with a more severe hearing loss, hearing aids might not be enough to understand sounds and learn speech.

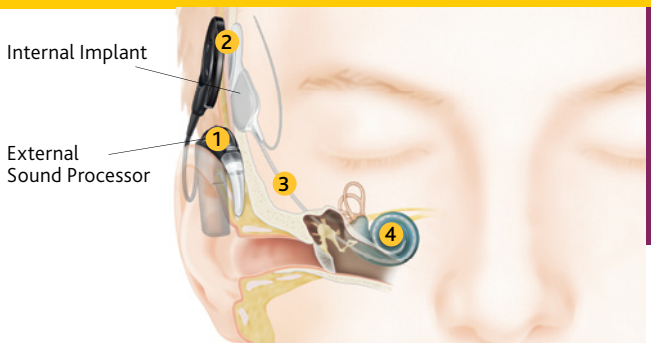
Cochlear implants are designed to replace the function of the inner ear and mimic natural hearing.

With a cochlear implant your child could

Develop spoken language early
Children develop better spoken language if they receive their cochlear implants as early as possible[1,2]

Achieve outcomes on par with typical-hearing peers
Acting early could put your child's speech and language development at the same level as their hearing peers[3]

Establish better language skills
Children implanted prior to 12 months of age can develop better language skills than those who are implanted later[3]



1. Microphones on the sound processor pick up sounds and the processor converts them into a digital signal.
2. This signal is transferred to the implant just under the skin.
3. The implant send the digital sound signal to the electrode array in the cochlear.
4. The hearing nerve picks up the signal and sends it to the brain, which is understood as sound.

80%

In a recent study:
of children who received their cochlear implants younger than 12 months demonstrated comprehensive understanding of vocabulary within the normal range by school entry.[4]

Unlock a world of possibilities for your child

Attend mainstream education
80% of children implanted prior to 18 months attend mainstream schools[5]

Enhance social skills
With better language skills children can make new friends more easily[6]

Support long term speech and language abilities
Successful literacy and academic achievement is rooted in preschool language skills[7]

Hear now. And always

Cochlear®

Hearing and language milestones

It is important to monitor your child's speech and language development as well as responses to sound. The following provides a general guide to hearing and language milestones.[8]

Birth to 3 months

- Reacts to loud sounds
- Makes cooing noises
- Quiets to familiar voices or sounds
- Responds to speech by looking at speaker's face

3-6 months

- Turns eyes or head toward sounds
- Starts to make speech-like sounds
- Laughs and makes noises to indicate pleasure and displeasure

6-9 months

- Babbles, e.g. "dada", "mama", "baba"
- Shouts/vocalises to get attention
- Responds to singing and music
- Will often respond to "no" and own name

9-12 months

- Imitates speech sounds of others
- Understands simple words, e.g. "hat", "dog", "daddy"
- Turns head to soft sounds
- First words emerge

12-18 months

- Appears to understand some new words each week
- Follows simple spoken instructions, e.g. "get the ball"
- Points to people, body parts or toys when asked
- Continually learns new words to say although may be unclear

18-24 months

- Listens to simple stories or songs
- Combines two or more words in short phrases e.g. "more food"

2-3 years old

- Understands longer sentences
- Listens from a distance (in quiet)
- Follows directions that include 2-3 steps

3-4 years old

- Processes complex sentence structures
- Retells longer stories in detail – 5 or more sentences

> "It's just amazing how his language has progressed."
>
> Candisha P., Mother of Justin, Cochlear implant recipient

If you would like to discuss your child's hearing and language development further please contact your hearing health professional. **For more information visit www.cochlear.com**

1. Ching TYC, Dillon H, Leigh G, Cupples L. Learning from the Longitudinal Outcomes of Children with Hearing Impairment (LOCHI) study: summary of 5-year findings and implications. Int J Audiol. (2018 May); 57(sup2). 2. Ching TYC and Dillon H. Major Findings of the LOCHI study on children at 3 years of age and implications for audiological management. Int J Audiol. (2013 Dec); 52:sup2, S6-S68. 3. Ching TYC, Dillon H, Button L, Seeto M, Van Buynder P, Marnane V, Cupples, L, Leigh G. Age at Intervention for Permanent Hearing Loss and 5-Year Language Outcomes. Pediatrics. (2017 Sep); 140(3). 4. Dettman SJ, Dowell RC, Choo D, Arnott W, Abrahams Y, Davis A, Dornan D, Leigh J, Constantinescu G, Cowan R, Briggs RJ. Long-term Communication Outcomes for Children Receiving Cochlear Implants Younger Than 12 Months: A Multicenter Study. Otol Neurotol. (2016 Feb); 37(2). 5. Semenov, YR, Yeh, ST, Seshamani, M, Wang, N-Y, Tobey, EA, Eisenberg, LS, Quittner, AL, Frick, KD, Niparko, JK, CDaCI Investigative Team. Age-Dependent Cost-Utility of Pediatric Cochlear Implantation. Ear Hear. (2013 Feb); 34(4):402-412. 6. Sarant JZ, Harris DC, Galvin KL, Bennet LA, Canagasabey M, Busby PA. Social development in children with early cochlear implants: normative comparisons and predictive factors, including bilateral implantation. Ear Hear. (2018 Jul/Aug); 39(4):770-782. 7. Geers AE and Nicholas JG. Enduring advantages of earlier cochlear implantation for spoken language development. J Speech Lang Hear Res. (2013 Apr); 56(2). 8. Cochlear Ltd; Z60407. Book Listen Learn and Talk. 2014; JUN.

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