

# HEARING AIDS OR COCHLEAR IMPLANTS: WHAT'S THE DIFFERENCE?

So you just found out that your child has been identified with hearing loss. And, you know that you want them to learn to listen and talk. They'll need hearing devices. And they'll need hearing devices that provide access to all the sounds of speech through their ears. So let's dive into what hearing aids are and what cochlear implants are, what the difference is, and why or when you might need them.

I'm Dr. Teresa Caraway from Hearing First and we're here to support you as families, as parents so that your child with hearing loss can learn to listen and talk, read, and thrive.

So to understand the differences between hearing aids and cochlear implants and what they do, we also need to understand some basic ways the ear works. And if we think about it, sometimes we think hearing loss is about the ears, but it's really about the brain. So hearing aids and cochlear implants, they're actually brain access devices.

Think of hearing loss as a doorway problem. So hearing aids and cochlear implants, they provide access or they open that door to the brain so that sound, and meaning, and language can get to that brain, so that a child can learn to listen and talk.

In a simplified, quick version of how the ear works is that we have our outside part of our ear, don't we? And we have an ear canal, and one of the ways that happens is that the ear picks sound as transmitted and that sound is acoustic energy. It travels through the middle ear and it travels to the cochlea. So, the job of the cochlea is to transduce or to convert the acoustic energy into electric energy. And how it does that, it has inside that cochlea, it has little hair cells, and those hair cells propagate or move that sound along and help transduce or convert it. So, what happens then is that then in a typical ear that electric energy is carried onto the brain and the signal gets to the brain.

But sometimes there's those little hair cells within that cochlea that are missing or are absent, and, then we need to make the the sound louder or amplify the sound; and that's what hearing aids do. And sometimes the hair cells are missing or absent to the extent that we can't make the sound loud enough. What needs to happen is that that ability of the cochlea to transduce or to convert acoustic energy into electric energy needs to happen through a cochlear implant. But the bottom line is that no matter what we typically can think of hearing technology on a continuum, that no matter what the severity of your child's hearing loss is they can have access to sound. They can have access to all the speech and the language that surrounds them, so that they have their little brain stimulated and it grows and develops.

Whether your child needs a hearing aid or cochlear implants really depends upon the severity and the type of hearing loss your child has. And your pediatric audiologist will be your best guide in helping you to be a partner and deciding what's going to be the best technology for your child to have access to all the sounds of speech through their ears, so that it can stimulate their brain.

And remember, the reason why your child needs access to all the sounds of speech and the language that surrounds them is because that's how they gain knowledge. That's how they gain understanding of the world, and that's how they become great communicators, great conversationalists, and lays the foundation for reading and doing well in school and later life.

With hearing aids, your baby will need something called an ear mold, that's been specifically designed or created by your pediatric audiologist. And, that the device then sits on the baby's ear. And that will amplify or make the sound louder for your baby to have access to sound.

A cochlear implant has different parts. It has the external part, that the child wears on the ear, and that it has an internal component, in which is surgically implanted by a highly specialized physician. The external part of a cochlear implant is the part that collects the sound or takes the sound and the acoustic energy into the cochlea. And the electrode array that's been inserted into the cochlea stimulates that auditory nerve directly.

A cochlear implant surgery may sound a little scary for a little one, but rest assured that it's a safe, surgical procedure and something you should explore and talk about with your surgeon. Typically, a cochlear implant surgery is less risky than a tonsillectomy.

Whether your pediatric audiologist recommends hearing aids or cochlear implants, the important thing is to act urgently and to wear hearing devices all waking hours, and to ask your audiologist to make sure that your child has access to all the sounds of speech through their hearing technology. And that means keeping their audiological appointments. Going to those appointments, going to follow up appointments with your pediatric audiologist and partnering with your early interventionist, as well.

Your child's diagnosis of hearing loss may be overwhelming, it may be unexpected, but the terrific thing about today is that with the hearing technology we have, it is probable that they can learn to listen and talk, read, and do well in life.

This video has just barely scratched the surface of the detail and the information that you may be seeking and want to know. We have a great webinar by a leading pediatric audiologist who goes into more detail that I think you'll want to check out. Click the link below for this webinar, that's completely free, for you to hear more information from a pediatric audiologist.

Wherever you are in this listening and spoken language journey, you are not alone. We at Hearing First are with you and here to support you every step of the way. Make sure you subscribe to our channel. Check out the Facebook group. And, check out our website at [hearingfirst.org](http://hearingfirst.org).