

# Assistive Technology: Cochlear Implants, FM Systems, and Other Assistive Listening Devices

## Cochlear implants

You may have heard or read about cochlear implants. If you are interested in a cochlear implant for your child, talk to your audiologist or ENT doctor. They can tell you if a cochlear implant might be helpful. They can also help you find a pediatric cochlear implant program near you.

There are a few things to know about cochlear implants:

- Cochlear implants are for children with a severe to profound hearing loss.
- A cochlear implant has an internal part that is surgically placed into the inner ear and an external part that your child wears behind her ear.
- Not all children are candidates for cochlear implants.
- The implant bypasses the normal auditory pathway (outer ear, middle ear, inner ear). It stimulates the auditory nerve directly and the brain learns to interpret this electrical stimulation as speech.
- A cochlear implant “synthesizes” hearing of sounds. Your early intervention provider will help you help your child learn to listen and understand through their cochlear implants.
- With proper follow-up therapy, cochlear implants can help children with severe to profound hearing loss develop better speech and language skills.
- Federal guidelines say that a child with a profound hearing loss should be at least 12 months old at the time of surgery. It is important to start the cochlear implant candidacy process early and speak with the implant team about your child’s potential candidacy.
- Speak with your implant team surgeon and audiologist about the potential risks and benefits of cochlear implantation.

## FM systems

FM Systems are wireless electronic devices that send speech directly to the person wearing the receiver, thus helping overcome listening challenges such as distance and background noise. This allows your child to hear the speaker’s voice better. It is helpful in places with a lot of background noise, like school or on the playgrounds.

If you think an FM system would be helpful for your child, talk to your audiologist. When your child enters preschool, you can request that your county school district supply this equipment.

There are a few things to know about FM systems:

- One person (the parent, therapist or teacher) wears a microphone and transmitter.
- Your child wears a receiver.
- The microphone picks up the speaker’s voice.
- The speech sounds are sent to your child’s ears through radio waves.

- FM systems can be used alone, with hearing aids or with cochlear implants.
- FM systems are helpful in the classroom or at home.

## Other assistive listening devices

- *Alerting devices*: These devices help to alert your child of sounds such as the doorbell or telephone ringing. They might provide a visual signal such as a flashing light, or a tactile signal such as a pocket receiver that vibrates. Some of the most common devices used are alarm clocks, smoke alarms, doorknockers, bed vibrators and phone flashers. The Hearing, Speech & Deafness Center (HSDC) Store, and companies such as Harris Communication or ADCO Hearing Products, have on-line stores or catalogs of alerting devices.
- *Captioning*: Captioning is the text of the audio portion of a video or film displayed directly on the screen. Usually you see captioning on the bottom of the screen. Captioning may include not only the words, but also sounds that are important to understand and the source of the sounds. Open captions cannot be turned off and closed captions are not visible unless they are turned on for display.
- *Communication Access Realtime Translation (CART)*: CART is verbatim text of spoken presentations provided for live events. Only the text is provided on a computer screen or projected for display on a larger screen. CART is beneficial in large group settings such as classrooms, meetings, workshops, live theater and other events.
- *Telephone amplifier*: This device makes the telephone signal louder. It can be used with or without a hearing aid.
- *Telecommunications Device for the Deaf (TDD)*: A TDD is a teleprinter—an electronic device for text communication over a telephone line.
  - The typical TDD is the size of a typewriter or laptop computer. It has a keyboard and small screen that displays typed text electronically. In addition, TDDs commonly have a small spool of paper on which text is also printed. Old versions of the device had only a printer and no screen. Text is transmitted live, through a telephone line, to a compatible device (a device that uses a similar communication protocol).
  - A TDD allows a person with hearing loss to use a telephone by typing rather than speaking. A person using a TDD can call another TDD user direct, or use a relay service to call someone who doesn't have a TDD.