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# The Hearing Process



The outer ear collects sound waves and directs them to the eardrum.



The eardrum vibrates with sound.



Sound vibrations move through the ossicles to the cochlea.



Sound vibrations cause the fluid in the cochlea to move.



Hair cells sense the vibrations within the fluid of the cochlea and generate wave signals that are transmitted to the brain by the auditory nerve.



# How a Cochlear Implant Works



Sounds are picked up by the microphone in the audio processor. The audio processor analyzes and codes sounds into a special pattern of digital information.



This information is sent to the coil and is transmitted across the skin to the implant.



The implant interprets the code and sends electrical pulses to the electrodes in the cochlea.



The auditory nerve picks up the signals and sends them to the auditory center in the brain.

The brain recognizes these signals as sound.





## **Implant**

Internal Component Surgically placed under the skin

The implant consists of a housing, which contains the electronics and the electrode array, as well as the receiving antenna and a magnet that holds the coil of the audio processor in place behind the ear.



### **Audio Processor**

External Component Worn behind the ear

The audio processor consists of a control unit with the microphone, a battery pack, and a coil that transmits information through the skin to the implant.



The first questions to consider should be about the internal device.

After all, this is what is going to be with you for the rest of your life!

What makes each internal implant unique?

How does the length of the electrode array compare between devices?

How does the placement of the electrodes affect how I hear or the way my brain works to access sound?

How is the device inserted?

Are there any risks associated with the type of device or insertion process?

Are any of the brands better for maintaining residual hearing?

Can I get an MRI with this device?



The external processors will change over the years, so you will want access to upgrades and future technology.

What external processor options are there?

Are there waterproofing options?

What kind of batteries do they take?

How long is the typical battery life?

Are there any interesting features on the device?

What kinds of color options do they have?

Can I upgrade to the latest audio processor while still using my older implant?



Ask about the history and philosophy of the company.

You'll be using your implant for a long time, so it's important to learn about the company behind your device.

Where are they located?

What do you know about the reliability of the company and their products?

Have they had any recalls? How many and when were they?

How long are the warranties on devices?

What is their customer service like?

How quickly do they fix/send replacement pieces?

Do they have a replacement policy for lost or broken items?

Do they ensure that all external processors work with the previous internal implant so I always have access to future technology?



From customer service, device support and reimbursement, to community outreach and rehabilitation, we'll be here for every step of your hearing journey.

888-633-3524 TOLL FREE

#### **Customer Service**

customerservice.us@medel.com

General information on products, warranties, and support

#### Reimbursement

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Reimbursement and insurance coverage assistance

### In-House Audiology

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Product specific and candidacy information

#### HearPeers

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Connect with a community of recipients with cochlear implants to learn from their personal journeys.







## JOURNEY TO BETTER HEARING

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