

Did you know?

➤ *The shape of your outer ear is as unique as you are — but plays an important role in how you hear. Called the pinna, its funnel-like shape and curvy design enable you to determine the direction of sounds, so you immediately know whether they're coming from in front, behind, above or below you.*



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How Hearing Works

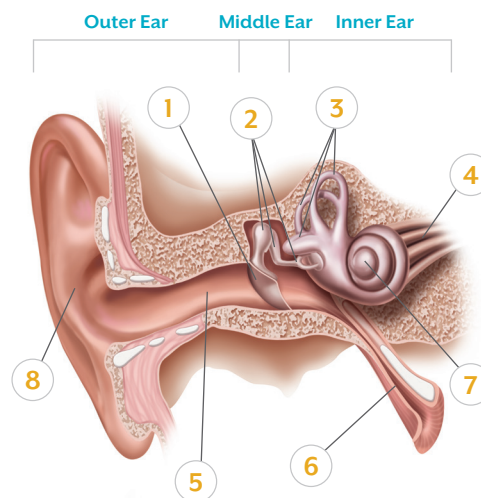
What you need to know about this amazing sense.





It begins with sound

Sound begins with a vibration in the atmosphere. When something vibrates (whether it's wind, a bell or a voice), it moves the air particles around it. Those air particles in turn move the air particles around them, carrying the energy of the vibration through the air as a sound wave. That's where your ear comes in.



1. Eardrum (*Tympanic Membrane*)
2. Auditory Bones
3. Semicircular Canals
4. Auditory Nerve
5. Ear Canal
6. Eustachian Tube
7. Cochlea
8. Pinna

How hearing works

Hearing is one of the human body's most extraordinary processes. A complex system of delicate and synchronous parts, it's easy to take this critical sense for granted. To better understand why hearing loss happens, it's important to first know how hearing works.

From waves to words

(and everything in between)

Sound waves are collected by the **outer ear** and directed along the ear canal to the eardrum. When the sound waves hit the eardrum, the impact creates vibrations, which, in turn, cause the three bones of the **middle ear** to move. The smallest of these bones, the stirrup, fits into the oval window between the middle and inner ear.

When the oval window moves, fluid in the inner ear moves, carrying the energy through a delicate, snail-shaped structure called the cochlea.

In the **inner ear**, thousands of microscopic hair cells are bent by the wave-like action of the fluid inside the cochlea. The bending of these hairs sets off nerve impulses, which are then passed through the auditory nerve to the hearing center of the brain. This center translates the impulses into sounds the brain can recognize, like words, music or laughter, for instance.

If any part of this delicate system breaks down, hearing loss can be the result.

*For more details on how
we hear, talk to your hearing
healthcare professional.*