

The Ear

The ear is made up of three main sections (Figure 1):

- the outer ear
- the middle ear
- the inner ear

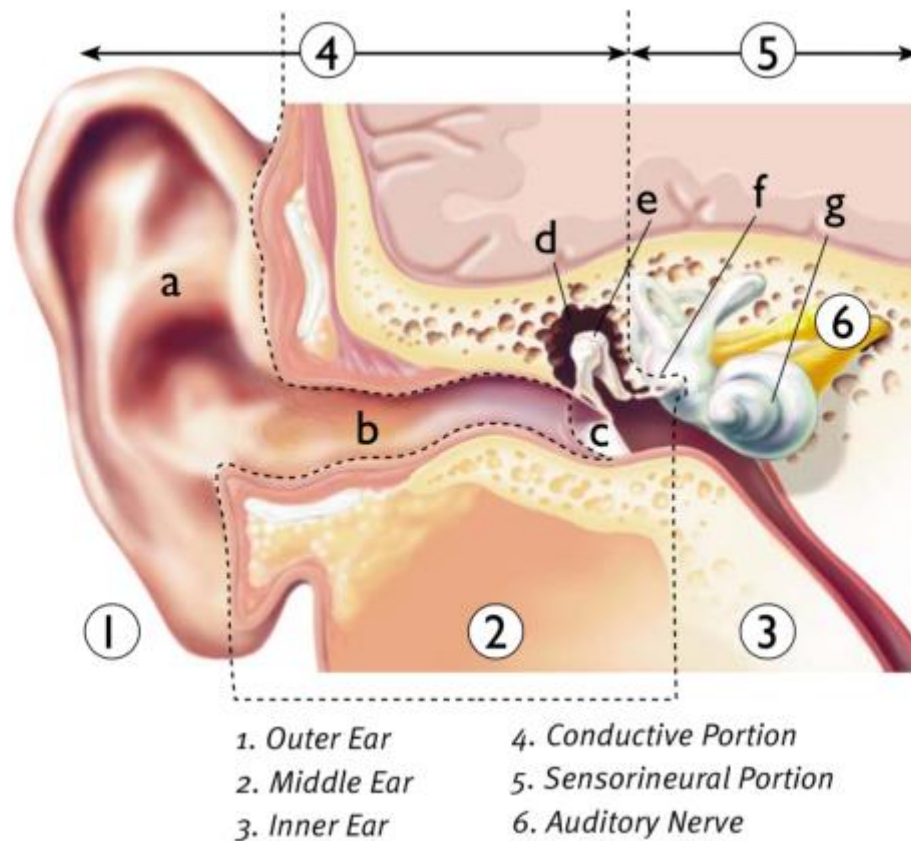


Figure 1. Cross-section of the Human Ear.

From [Parents' Guide: A Guide for Parents of Children with Hearing Loss, Oticon Paediatrics](#)

How We Hear

The two main parts of the **outer ear** are the pinna (a) and the ear canal (b) (see Figure 1).

Sound waves enter the ear canal and travel towards the eardrum (c) (see Figure 1). When sound reaches the eardrum, it vibrates - just like a real drum does when you hit it.

When vibrations reach the **middle ear**, or the air-filled space behind the eardrum, three tiny bones called the ossicles (also known as the hammer (d), anvil (e) and stirrup (f)) begin to vibrate. They amplify the sound even more.

When sound waves reach the **inner ear**, they enter the cochlea (g). This looks like the circular shell of a snail. Inside, there is a system of tubes filled with fluid. The sound vibrations make this fluid move and thousands of tiny hair cells are set in motion. These cells are tuned to respond to different pitches, tuned somewhat like the keys on a piano. When they respond, they bend, generating small electrical pulses that travel up the auditory nerve to the auditory centres of the brain. The brain interprets these signals and that is how we hear.

Adapted from
[*-Parents' Guide: A Guide for Parents of Children with Hearing Loss, Oticon Paediatrics*](#)