**How does normal hearing work?**

The three parts of the ear anatomy are the outer ear, the middle ear and the inner ear. The inner ear is also called the cochlea. ('Cochlea' means 'snail' in Latin; the cochlea gets its name from its distinctive coiled up shape.)

- The **outer ear** consists of the pinna ,ear canal and eardrum
- The **middle ear** consists of the ossicles and ear drum
- The **inner ear** consists of the cochlea, the auditory (hearing) nerve and the brain

Inner Ear

Middle Ear

Outer Ear
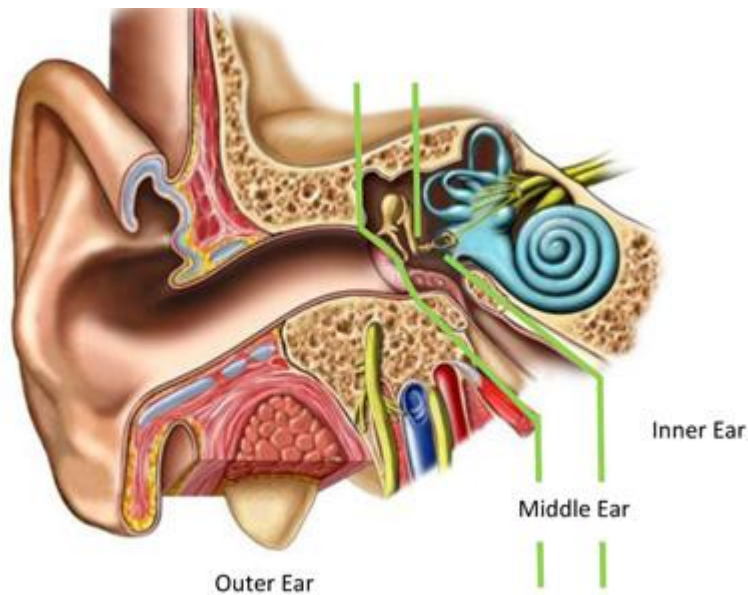
Sound waves enter the ear canal and make the ear drum vibrate. This action moves the tiny chain of bones (ossicles) in the middle ear. The last bone in this chain 'knocks' on the membrane window of the cochlea and makes the fluid in the cochlea move. The fluid movement then triggers a response in the hearing nerve.

Pinna   Ossicles (malleus, incus, stapes)   Cochlea

Hearing nerve

Ear canal   Ear drum
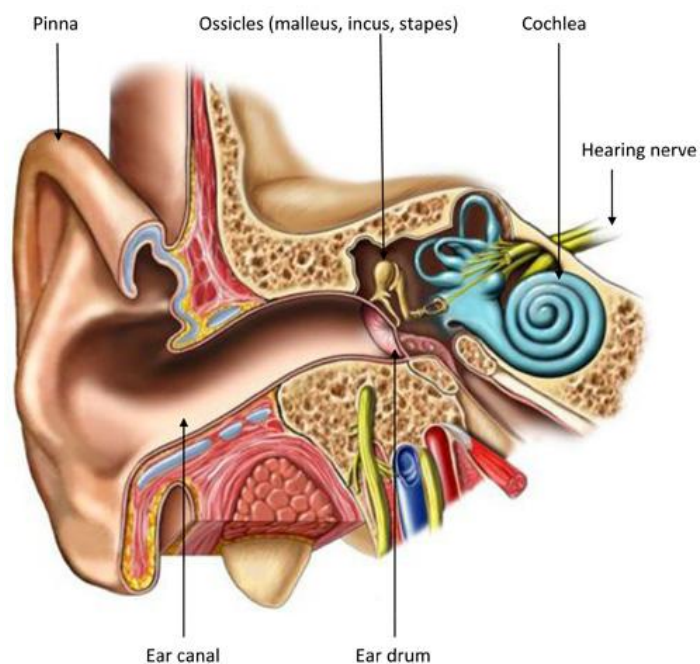
What happens when you have problems with hearing?

When your hearing is working normally, information is being passed through the different parts of the ear to the brain. The type of hearing problem you may have depends on which part of the ear is not responding well.

Outer ear or middle ear problems lead to inefficient transfer of sound. The cochlea is still working but may not receive enough information. This type of hearing loss is called *conductive* hearing loss. The problem is that the sound is not being conducted (transferred) well enough. Conductive deafness can be caused by things such as an ear infection, a hole in the eardrum or otosclerosis.

An inner ear (cochlear) problem means that sound arrives at the cochlea, but is then not fully passed on to the hearing nerve. Also it is possible that the hearing nerve itself is not passing on information well, or fails to pass on the sound at all. A cochlear or neural hearing loss is called a *sensorineural* hearing loss. Sensorineural hearing loss can be caused by things such as old age, *Ménière's Disease* or loud noise.It is possible to have a *mixed* hearing loss with both a conductive and sensorineural element.

https://www.youtube.com/watch?v=qgdqp-oPb1Q