

How Does the Ear Work?

How do we hear?

Our ears are divided into three main parts:

- The external (or outer) ear
- The middle ear
- The inner ear

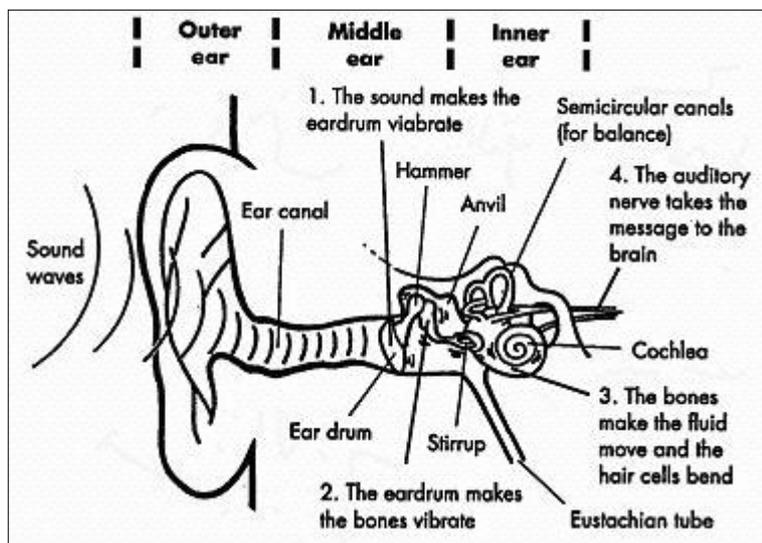


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The External (or Outer) Ear

The sound travels through the external (or outer) ear and causes the eardrum to vibrate.

The Middle Ear

The vibrations from the eardrum then pass along to the very tiny bones (called the ossicles) in the middle ear and cause them to vibrate.

For further information about Deaf Children Australia visit our website,

www.deafchildrenaustralia.org.au

Helpline 1800 645 916 Email helpline@deafchildren.org.au

Deaf Children Australia uses the term 'deaf' to refer to all degrees and types of hearing loss.

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The Inner Ear

The vibrations from the small bones in the middle ear causes small waves in the fluid inside the cochlear. The cochlear is shaped like a snail's shell, is very intricate and complex and has about 24,000 very tiny hair cells. In the cochlear, the hair cells are arranged so that high frequency sounds can be detected at one end of the spiral and low sounds at the other end.

Each hair cell can detect one frequency. They are connected to a nerve fibre and the movements produce electrical activity in the auditory nerve. The electrical activity then travels along the auditory nerve to the brain. Once the brain receives the nerve impulse, it is interpreted as sound.

What about balance?

Balance is controlled by the semicircular canals in the inner ear. They are filled with fluid and the fluid moves when a person moves. The signal plus information from the other senses is sent to the brain to enable us to keep our balance.

References

Books

Australian Hearing. 2001. "Choices"

This is a free, comprehensive book for parents and carers of children with a hearing loss which been produced by Australian Hearing. This book is highly recommended and is available from your nearest Australian Hearing office. This can be found at their [website](#).

Websites

National Deaf Children's Society www.ndcs.org.uk

This is a fantastic website with lots of information on childhood hearing loss. It has a wealth of topics for families to explore.

Ears Explained www.betterhealth.vic.gov.au/bhcv2/bhcarticles/pages/

This site discusses how we hear.

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