

Our Ears and Types of Hearing Loss



The 3 Main Parts of The Human Ear:

1. **Outer Ear**

The **pinna** brings sound into the **ear canal** where they hit and vibrate the ear drum.

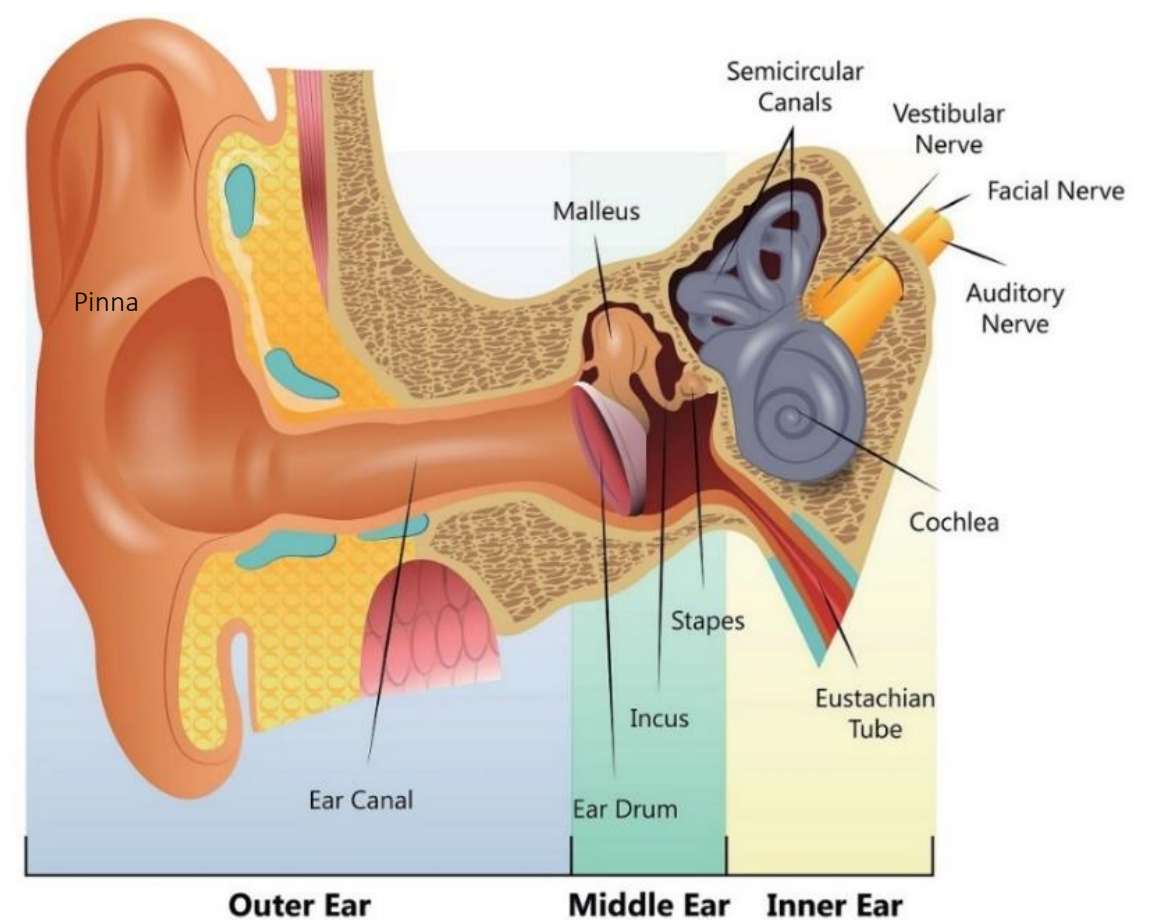
2. **Middle Ear**

The 3 tiny bones (malleus, incus and stapes), also known as the **ossicles**, pick up the vibrations from the **ear drum**, amplify them, and send them to the cochlea.

3. **Inner Ear**

Tiny hair cells inside the **cochlea** convert the vibrations into electric signals, which are then sent to the brain through the **hearing nerve**. This makes up our **hearing system**.

The **semi-circular canals** in the inner ear respond to head rotations. Electrical signals are sent to the brain through the **vestibular nerve**. This makes up our **balance system**.



The 3 Main Types of Hearing Loss:

Conductive Hearing Loss	Sensorineural Hearing Loss	Mixed Hearing Loss
<ul style="list-style-type: none"> This happens when sound travelling through the outer and middle ear is unable to fully enter the inner ear Causes: excessive ear wax, damage to the ear drum or ossicles, fluid in the middle ear, infection in the outer or middle ear 	<ul style="list-style-type: none"> This happens when the inner ear is unable to convert sound into electric signals to be sent by the hearing nerve to the brain Causes: ageing, prolonged loud noise exposure, infection and disease in the inner ear, ototoxic medications, congenital or hereditary abnormalities 	<ul style="list-style-type: none"> This happens when components of conductive and sensorineural hearing loss are both present



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我们的耳朵与听力失聪的类型



人耳主要的3个部分:

1. 外耳

耳廓将收集的声波导入外耳道，并引起耳膜的振动。

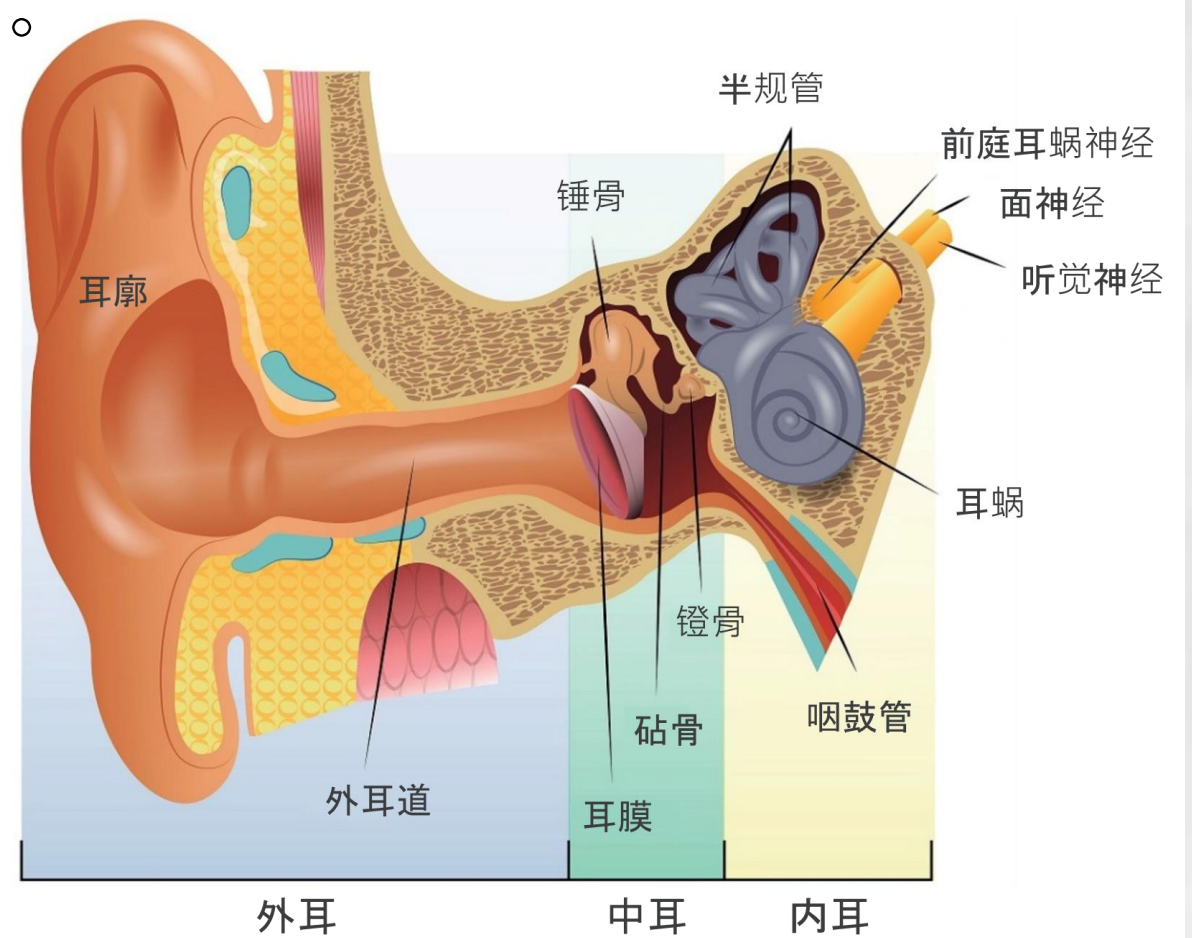
2. 中耳

三个听小骨(锤骨, 砧骨及镫骨)接收经由耳膜振动所引起的声波, 扩大后传入耳蜗。

3. 内耳

耳蜗的毛细胞将振动力转化为电信号, 并通过听觉神经传送至大脑。这形成了听力系统。

内耳中的半规管对头部旋转动作产生反应, 信号通过前庭耳蜗神经传送至大脑。这形成了平衡系统。



听力失聪的类型主要分成 3 种:

传导性失聪	感音神经性失聪	混合性失聪
<ul style="list-style-type: none">当外耳或中耳有问题, 导致声音无法完整的传入内耳病因: 耳垢堵塞, 耳膜或听小骨受损, 中耳积液, 外耳或中耳感染	<ul style="list-style-type: none">当内耳无法完整的将声波转化为电信号, 通过听觉神经传送至大脑病因: 老年性失聪, 噪音性失聪, 内耳感染或病症, 耳毒性药物, 先天或遗传性异常	<ul style="list-style-type: none">当传导和感音神经结构同时存在异常



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