

Vibrations called sound waves cause molecules in the air to vibrate. Sound waves enter the auditory canal or ear and cause a membrane called the tympanum or eardrum at the end of the ear canal to vibrate. These vibrations are transmitted through three bones in the middle ear: the malleus (also called the malleus), the incus (ancus), and the stapes (stapes). When the stapes vibrate, it causes the oval window, the membrane that separates the middle ear from the inner ear, to move back and forth. In the inner ear, there is a snail-shaped structure called the cochlea, filled with fluid and lined with tiny hair cells. The vibrations cause the fluid inside the cochlea to move like a wave against the hair cells. Hair cells respond by generating nerve impulses in the auditory nerve and transmitting them to the brain balance. The semicircular canals transmit information about the body's position and balance to the brain. The three ducts are located at right angles to each other, are filled with fluid and lined with hair cells. When your head changes position, fluid moves within the semicircular canals. This causes the hair cells .to bend, which in turn sends nerve impulses to the brain