COMPOSITE REGIONAL CENTRE FOR SKILL DEVELOPMENT, REHABILITATION & EMPOWERMENT OF PERSONS WITH DISABILITIES [CRC – KOZHIKODE]
(Under the administrative control of NIEPMD, Chennai)
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Human Auditory System

EAR:

Peripheral auditory system divided in three parts namely outer ear, milled ear, inner ear.

Outer ear:

Outer ear collects sound energy and play role as acoustic resonator. It also play critical role in sound localization as a protective mechanism for the human.

Tympanic membrane:

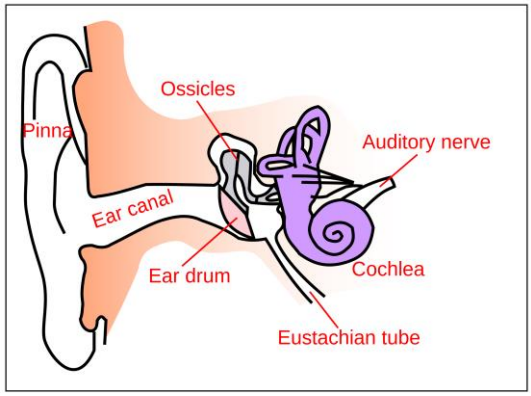
The tympanic membrane lies at the end of the ear canal. The TM made of several layers of skin having thickness of 0.7 mm. it also play protective function of middle ear structures.

Middle Ear:

The middle ear is an air-filled cavity located within the temporal bone of the skull. It consists of the ossicular chain, which are of three continuous bones suspended in middle ear cavity. It forms bridge between TM to the oval window of the cochlea. Pressure wave will strike the tympanic membrane and the fluid-field travelling waves of the cochlea. The middle-ear cavity and bones play role as an impedance matching device.

Inner Ear:

The inner ear consists of two system i.e. auditory and vestibular labyrinths. Inner ear is sensory organ of auditory labyrinth is called as cochlea. Acoustically cochlea acts as a microphone which can convert mechanical energy (vibration) in to the electrical form. Inside the cochlear important structure lies called as outer hair cell and inner hair cell. These hair cell helps in transduction of mechanical vibration into the electrical stimulation to the auditory nerve.



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