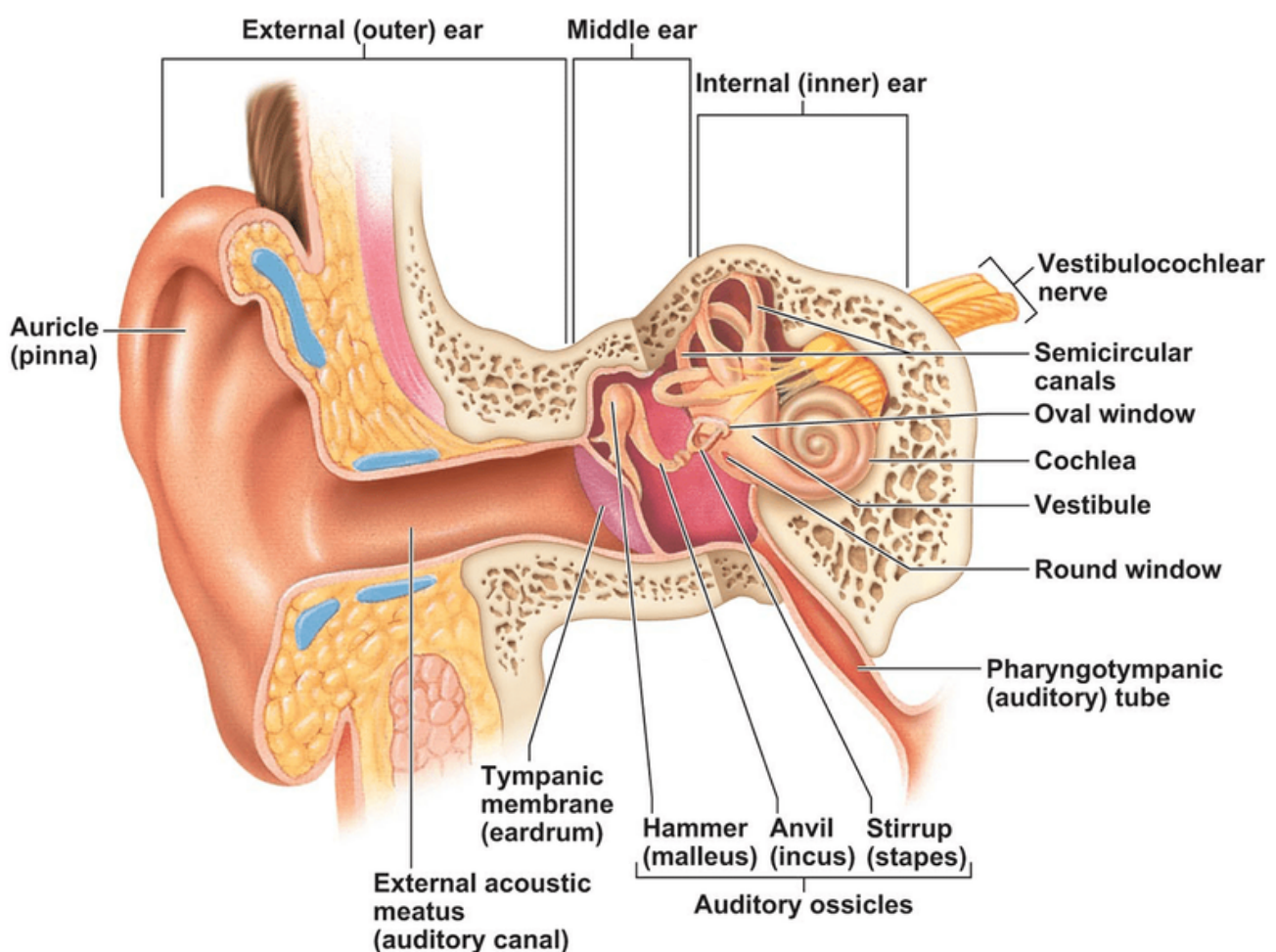




# ANATOMY AND PHYSIOLOGY OF HEARING

Episode 19.1

## ANATOMY & PHYSIOLOGY

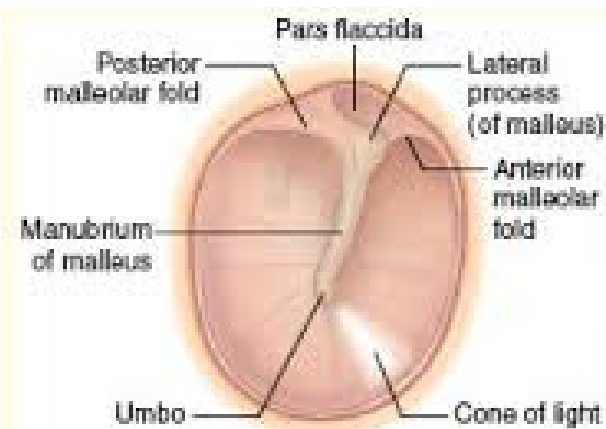


- **EXTERNAL EAR:** collects and transmits sound to tympanic membrane, provides volume amplification. Lateral 1/3 is cartilaginous, cerumen producing. Medial 2/3 is bony, epithelial lined

- **MIDDLE EAR:** transmits sound from external to inner ear, matches impedance between air and cochlea, provides volume amplification. Air filled cavity continuous with mastoid air cells and nasopharynx (via eustachian tube). Middle ear muscles (tensor tympani and stapedius) protect cochlea from excessive sound and strength to ossicular chain

- **INNER EAR:** conversion of acoustic energy to electrochemical impulses that are interpreted by vestibulocochlear nerve (CN VIII)

**REQUIRED FOR HEARING: IMPEDANCE MATCHING, NORMAL ANATOMY AND FUNCTIONAL EXTERNAL EAR, INTACT TYMPANIC MEMBRANE, NORMAL OSSICULAR CHAIN AND PROPERLY VENTILATED MIDDLE EAR. ANY DYSFUNCTION IN THIS CHAIN RESULTS IN HEARING LOSS**



Tympanic membrane anatomy



Eustachian tube function

