

External acoustic meatus and tympanic membrane

The ear is the organ responsible for **hearing** and **balance** (equilibrium). It is divided into 3 parts: **external ear**, **middle ear** and **internal ear**.

The **external** and **middle ear** are concerned mainly with the transfer of sound into the **internal ear**, where the organ of hearing is located.

The Auricle (pinna)

Composed of irregularly shaped plate of **elastic cartilage** with **perichondrium**, covered by a thin layer of **skin**.
Lobule of the auricle: **not cartilaginous** - fibrous tissue, fat and blood vessels.

Blood supply of auricle

- Branches from the superficial temporal artery
- Branches from the posterior auricular artery

Innervation

Sensory innervation:

- Great auricular nerve (from cervical plexus)
- Auriculotemporal nerve (from mandibular nerve)
- Vagus nerve
- Facial nerve
- Lesser occipital nerve (from cervical plexus)

External acoustic meatus

A canal (2-3 cm) that leads to the **tympanic membrane**.

The canal is wave-shaped:

Lateral 1/3: **Cartilaginous** (elastic), lined with **skin** that is continuous with the **auricle** - contains **ceruminous glands** and **sebaceous glands** that produce **cerumen** (ear wax).

Medial 2/3: **Bony**, lined with **skin** that is continuous with the **tympanic membrane**.

Tympanic membrane

Covered externally by **thin skin** and internally covered by **mucosa** of the middle ear.

It is **concave** in otoscopic view, positioned obliquely inside the meatus.

- The umbo: the peak of a large depression in the center
- Malleolar stria: handle of malleolus
- Malleolar prominence: lateral process of malleolus
- Anterior and posterior malleolar folds: formed by the connection with the **malleus**

The rest of the membrane is classified as:

- Pars tensa (tensed membrane)
- Pars flaccida (loose membrane): forms the superior recess of the middle ear.

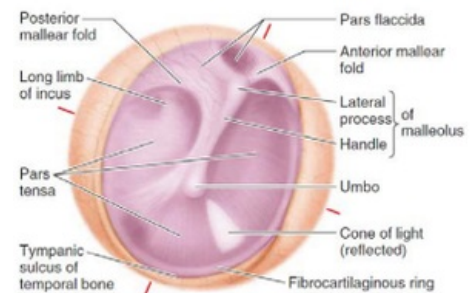
Cone of light: an area light reflects during examination

Paracentesis:

The sampling of fluid using a needle from the middle ear. Usually during infection after unsuccessful treatment with antibiotics.

Myringotomy:

A surgical procedure in which a small incision is made in the tympanic membrane - usually in the posterior-inferior quadrant to avoid damage to the chorda tympani (passing through the middle ear). The procedure is used to drain fluid or pus from the middle ear, and to ventilate it. Very often the procedure is followed by tympanostomy - the insertion of a small tube in the hole made.



Otoscopic view of the tympanum

