

COMPARTMENTS OF THE MIDDLE EAR

THE ATTIC:

The Attic is separated from the mesotympanum by:

-  Ossicular Chain
-  Tendons of Tensor tympani and Stapedius muscles
-  Mucosal folds: Tensor, superior and lateral malleolar, lateral and medial incudal, plica stapedis, membrane obturator stapedis carry blood vessels to the ossicles.

ANTERIOR COMPARTMENT OF ATTIC:

-  It is also known as anterior malleolar space. Attic extends forward through the incisura tensoris and anterior to the tensor tendon lying above the tensor fold, i. e. extending laterally from the canal of tensor tympani to the anterior malleolar ligament.
-  When in some cases it is limited by the medial extension of the superior malleolar fold-it extends only to the level of tensor tendon. In such cases the space anteriorly would be in communication with the mesotympanum and Eustachian tube and is known as supra tubal space.

POSTERIOR COMPARTMENT OF ATTIC:

It lies posterior to the transversely placed superior malleolar fold. It is divided into:

-  Medial incudal space: The part of this compartment medial to superior incudal fold.
-  Superior incudal space: Its floor is formed by lateral malleolar fold and lateral incudal fold and it extends posteriorly up to posterior incudal ligament,
-  The entrance into Prussak's space is usually located between the lateral malleolar and lateral incudal fold.
-  The posterior compartment of the attic is separated from the mesotympanum by dihedral shaped medial incudal fold extending from both the crura (long and short processes) of incus to the pyramidal eminence of stapes.

THE UPPER MESOTYMPANUM:

It has three compartments:

-  **Inferior Incudal Space:** It extends from inferior surface of incus laterally upto posterior malleal fold. It is medially limited by medial incudal fold and anteriorly limited by interossicular fold; Thus this space lies between long crus of the incus and upper two third of malleus handle.
-  **Posterior Pouch of von Troeltsch:** It lies between the posterior malleal fold and the tympanic membrane. It contains chorda tympani.
-  **Anterior Pouch of von Troeltsch:** It lies between the portion of drum head anterior to malleus handle and anterior malleal fold attached to anterior malleal ligament.
-  **Manubrial fold:** It lies between the malleus handle and drum handle and superior to the umbo.

THE STAPEDIAL FOLD:

These are five in number:

-  Obturatoria Stapedis: Runs between the two crura
-  Anterior stapedial fold: Runs between promontory and anterior crus
-  Posterior stapedial fold: Runs between promontory and posterior crus
-  Plica stapedis: Runs between pyramidal eminence and posterior crus
-  Superior stapedial fold: Runs long crus of incus to either crus of stapes or from the facial canal to the crura.

PRUSSAK'S SPACE:

-  It is also known as pouch of the outer attic.
-  Its boundaries are:
 -  Laterally pars flaccida
 -  Medially neck of malleus
 -  Anteriorly and posteriorly corresponding malleolar folds
 -  Superiorly lateral ligament of malleus

CLINICALLY IMPORTANT POINTS:

-  Keratomas usually develop by invasion of Prussak's space and thence in to attic passing through the posterior embryonic dehiscence in this space.
-  Other Keratomas originate from a posterior marginal defect in the tympanic membrane to the inferior incudal space. They may then extend through the posterior tympanic isthmus to enter the attic.
-  In rare instances where Prussak's space is from saccus anticus, a keratoma may extend directly into anterior compartment of attic or in to supra-tubal space.