

ANATOMY LAB

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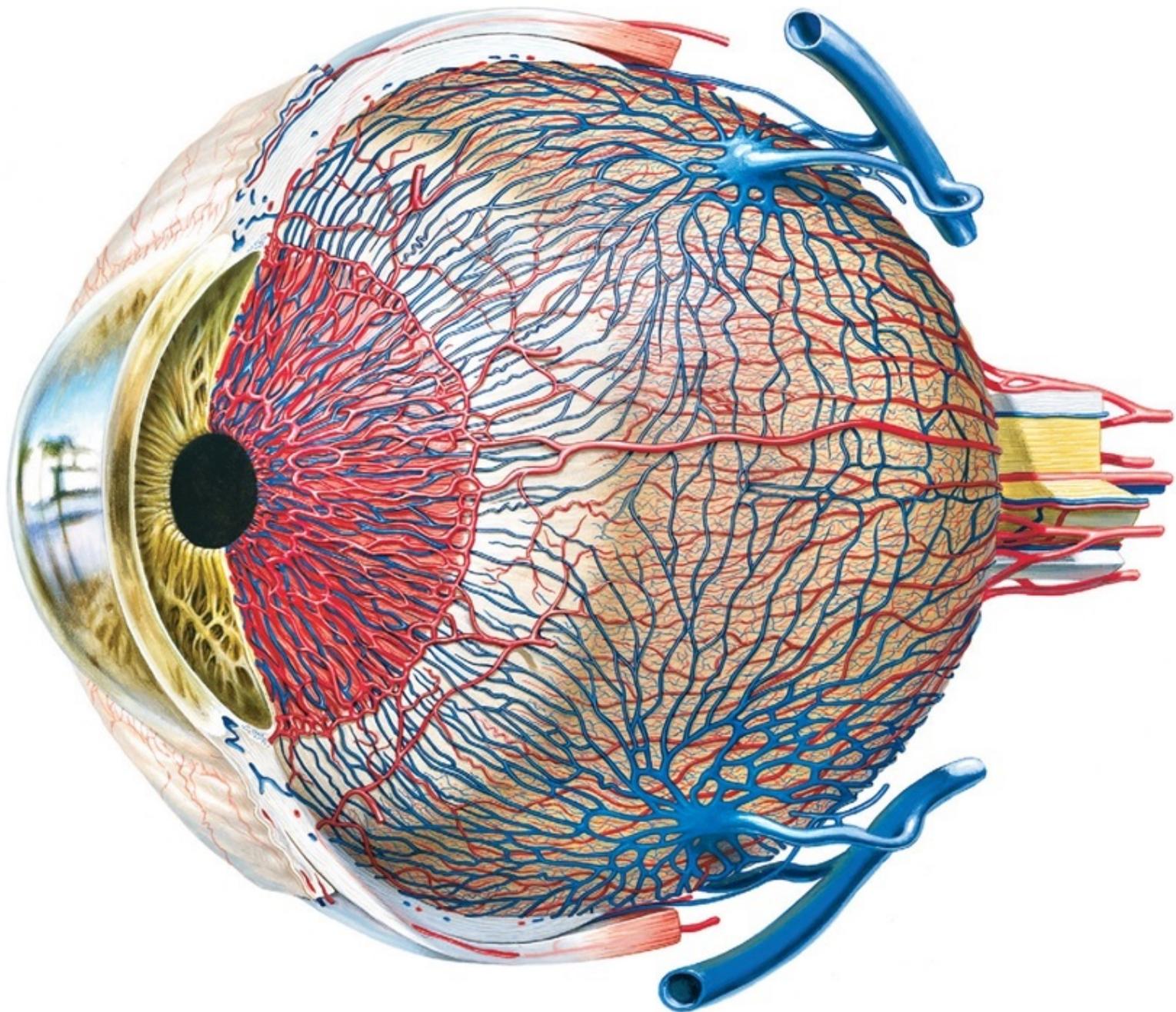
PNS
MED 324

Done by:

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Instructor - Faculty of Medicine





Boundaries of the orbit

Roof

Lesser wing of the sphenoid (2) Orbital plate of the frontal bone (1)

Lateral wall

Orbital surface of greater wing of sphenoid (3)

Orbital surface of the zygomatic bone (4)

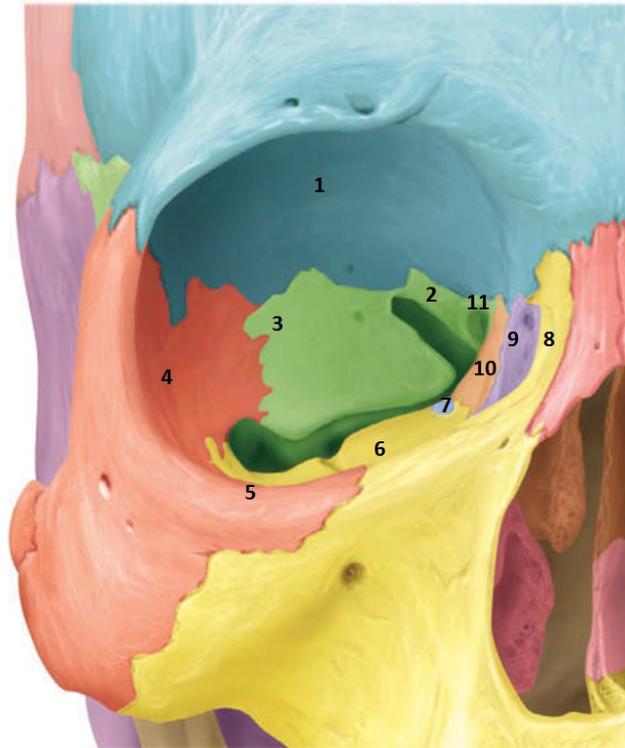
Medial wall

Frontal process of maxilla (8)

Lacrimal bone (9)

Orbital plate of ethmoid (10)

Body of sphenoid (11)



Floor

Orbital surface of the zygomatic bone (5)

Orbital surface of the body of maxilla (6)

Orbital process of the palatine bone (7)

Presenting Features in Four Boundary Walls of Orbit

Roof

Fossa for lacrimal gland (2)

Optic foramen (1)



Superior orbital fissure (S)

Inferior orbital fissure (I)

Medial wall

Lacrimal fossa (4)

Floor

Infraorbital groove and canal (3)

Upper Eyelid

Skin (1)

Subcutaneous tissue (2)

Orbicularis oculi (3)

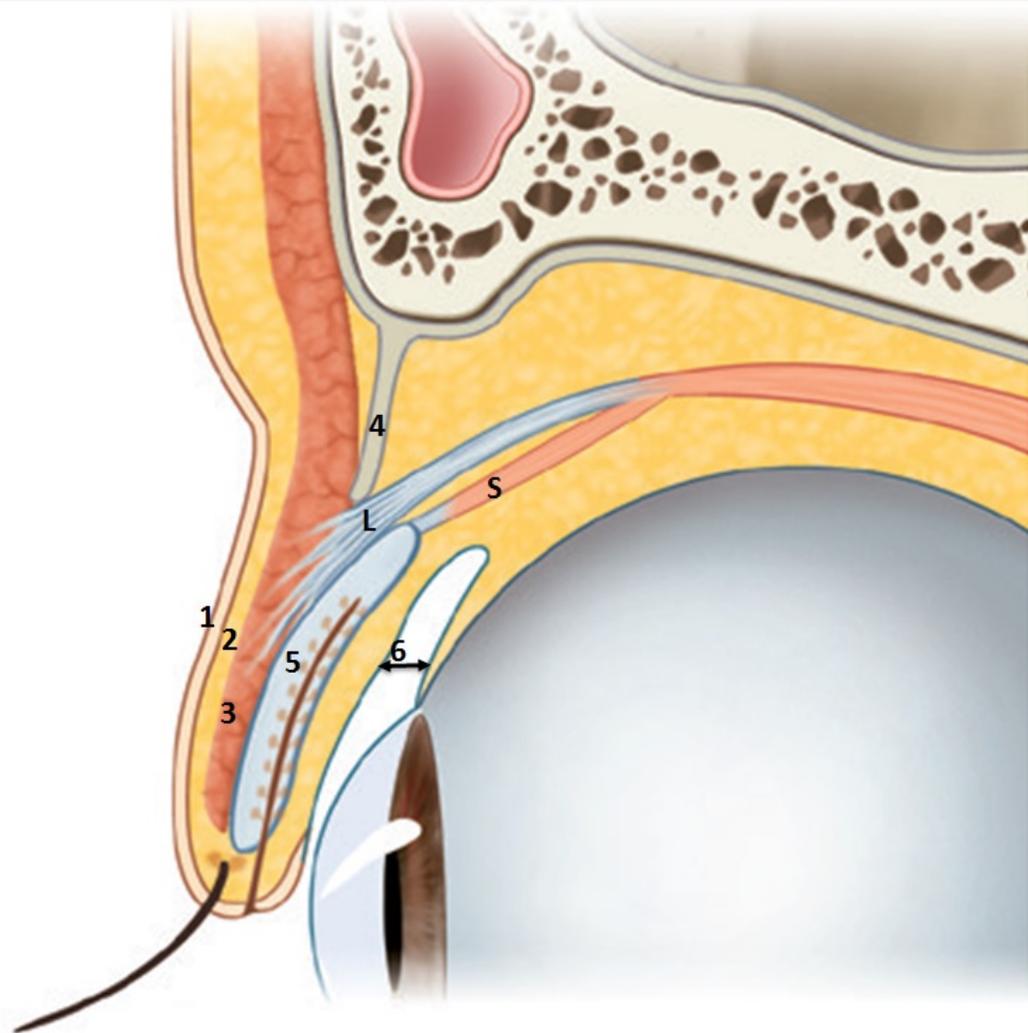
Orbital septum (4)

Tarsus (5)

Conjunctiva (6)

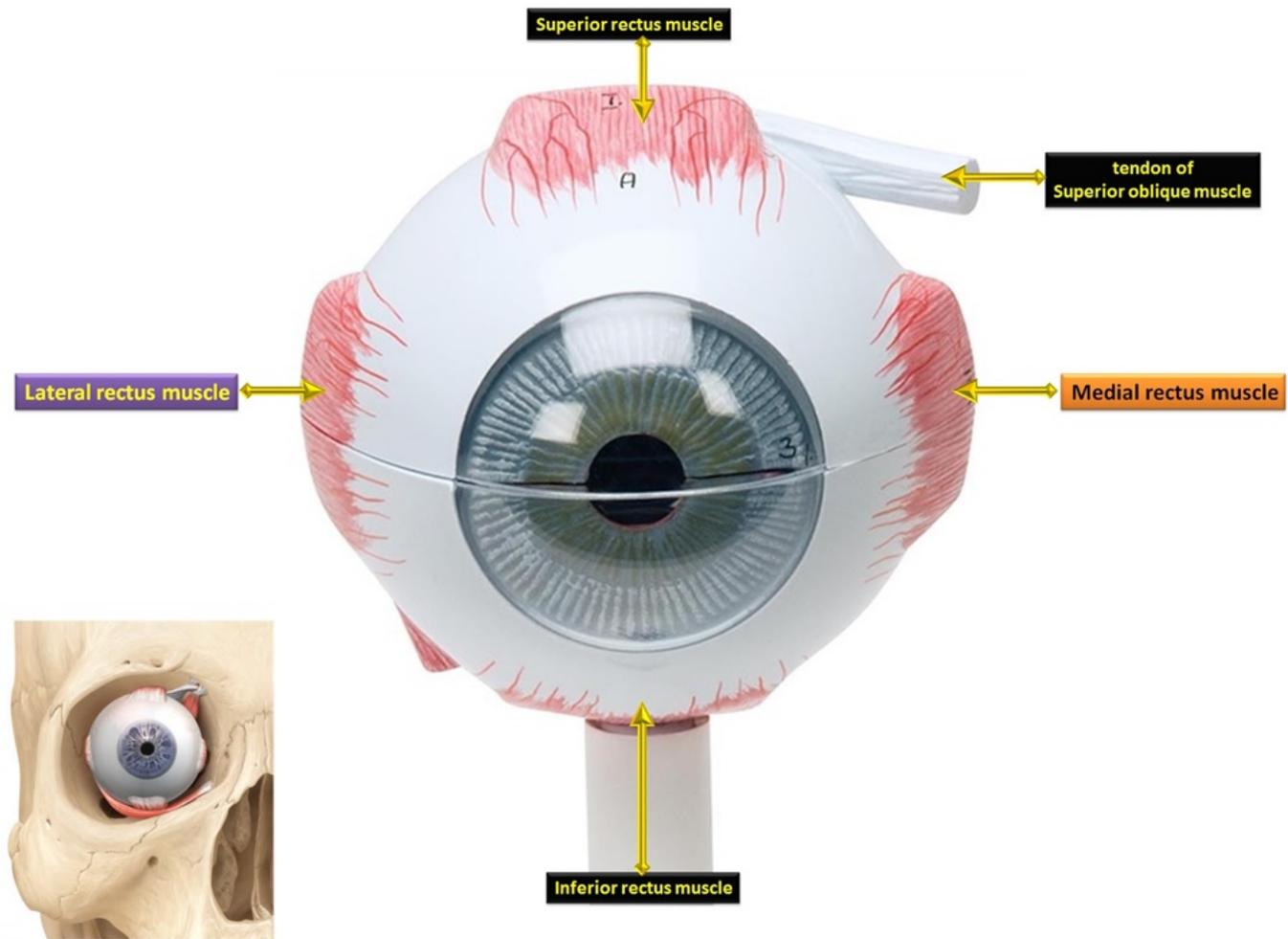
Tendon of levator palpebrae superioris muscle (L)

Superior tarsal muscle (S)



Extrinsic (extra-ocular) muscles

Levator palpebrae superioris
Superior rectus
Inferior rectus
Medial rectus
Lateral rectus
Superior oblique
Inferior oblique



Right Eyeball

Superior rectus muscle

tendon of Superior oblique muscle

Lateral rectus muscle

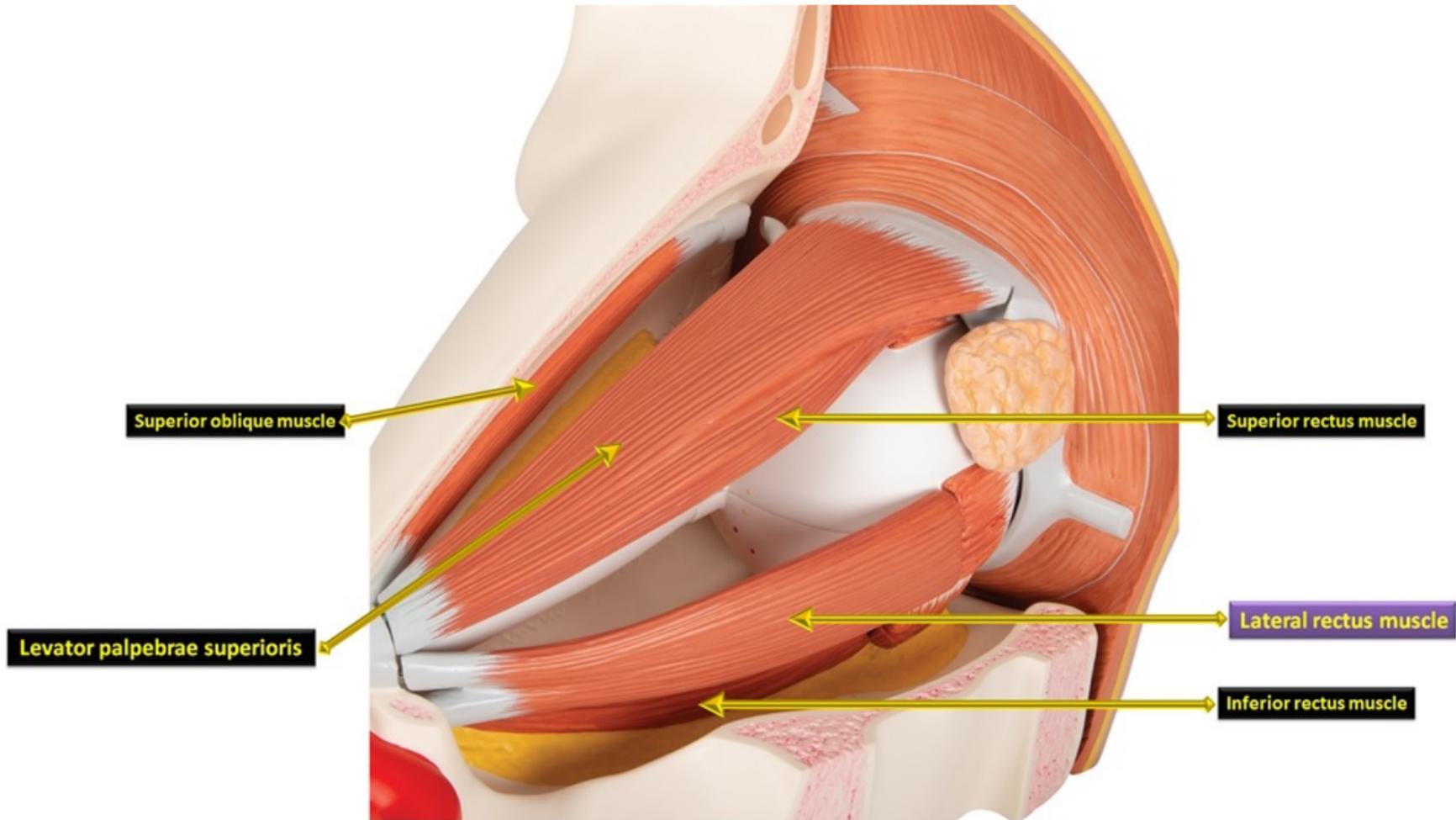
Medial rectus muscle

Inferior rectus muscle

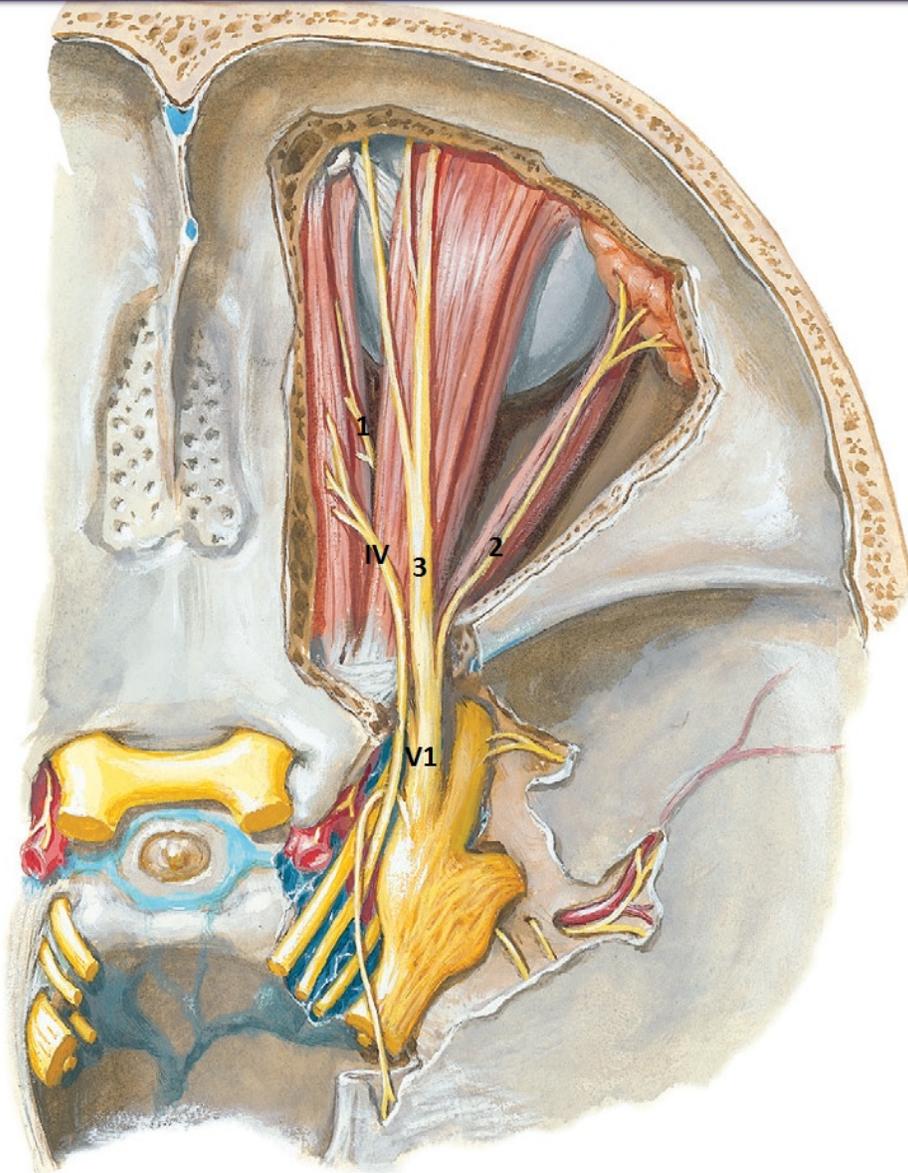
Inferior oblique muscle

Left Eyeball





Ophthalmic nerve [V1] and its divisions , Trochlear nerve (IV)



Ophthalmic nerve (V1)

Nasociliary nerve (1)

crosses the superior surface of the optic nerve as it passes in a medial direction below the superior rectus muscle

Lacrimal nerve (2)

passes forward along the upper border of the lateral rectus muscle

Frontal nerve (3)

runs forwards between levator palpebrae superioris and periosteum lining the roof of the orbit

Trochlear nerve (IV)

curves medially above the levator palpebrae superioris

Walls of the eyeball

Fibrous layer :

➤ Sclera

➤ Cornea

Vascular layer :

➤ Choroid

➤ Ciliary body :

✓ Ciliary muscle

✓ Ciliary processes

➤ Iris

Inner layer :

➤ Retina :

✓ optic disc

✓ ora serrata

TUNICS OF THE EYEBALL

OUTER FIBROUS COAT OF THE EYEBALL

Sclera (1)

Cornea (2)

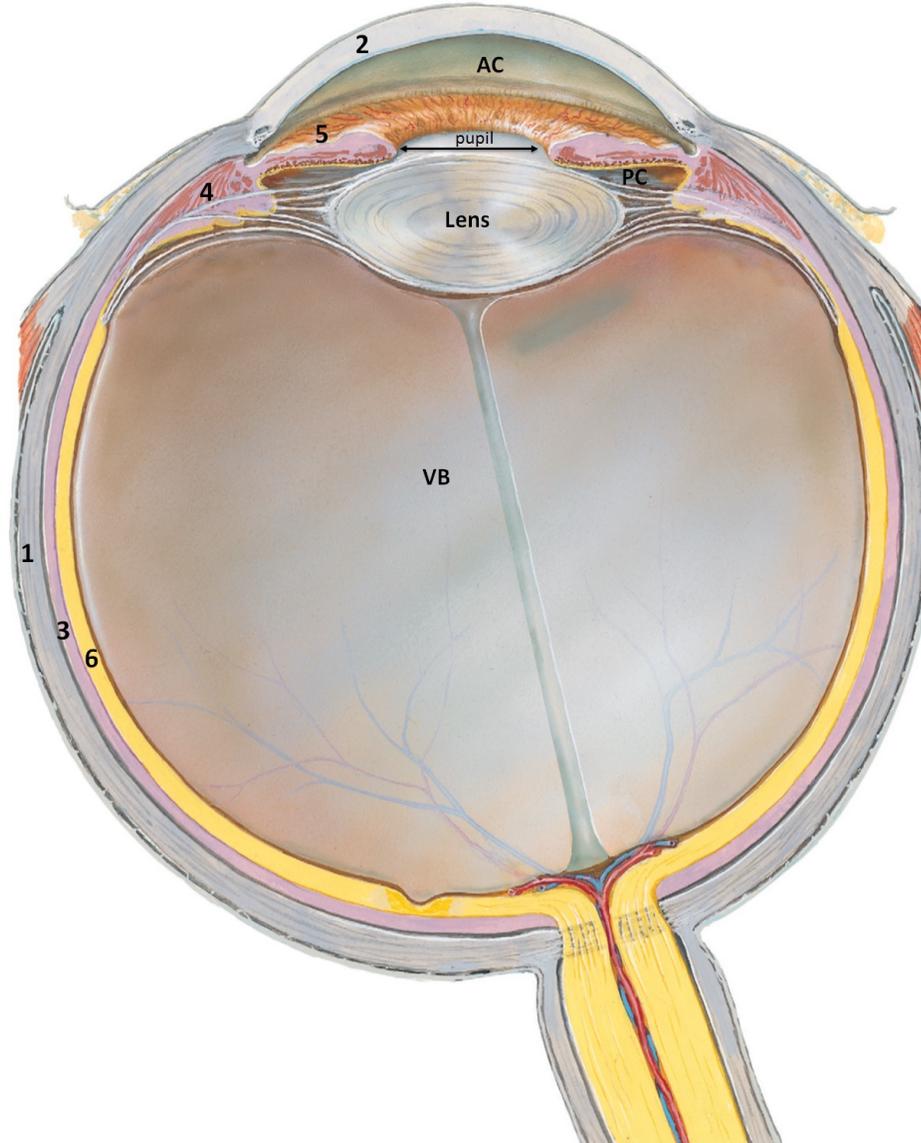
MIDDLE VASCULAR COAT OF THE EYEBALL

Choroid (3)

Ciliary Body (4)

Iris (5)

RETINA (6)



COMPARTMENTS OF THE EYEBALL

Anterior compartment

Anterior chamber (AC)

Posterior chamber (PC)

Posterior compartment

Vitreous body (VB)

TUNICS OF THE EYEBALL

OUTER FIBROUS COAT OF THE EYEBALL

Sclera (1)

Cornea (2)

MIDDLE VASCULAR COAT OF THE EYEBALL

Choroid (3)

Ciliary Body (4)

Ciliary processes (4A)

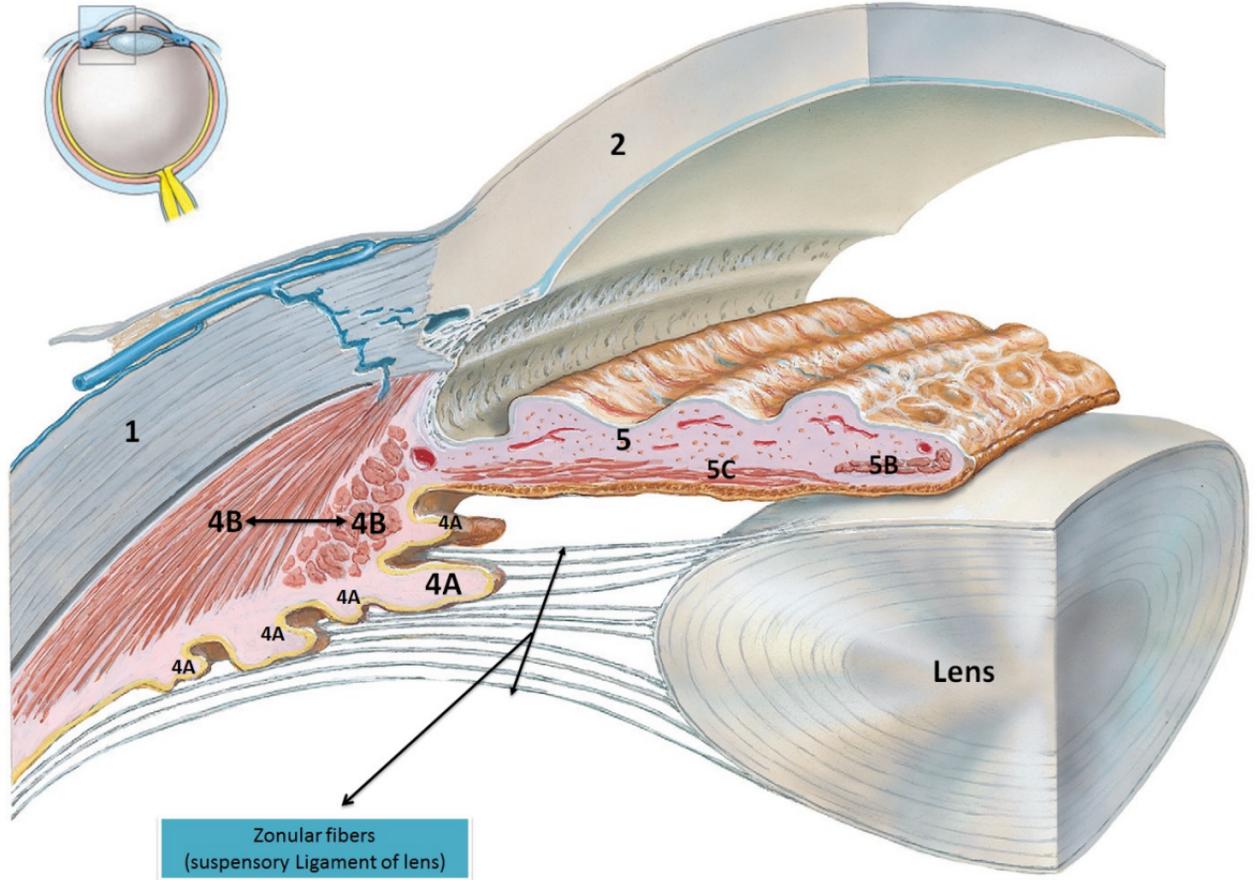
Ciliary muscle (4B)

Iris (5)

Pupil (5A)

Constrictor pupillae (5B)

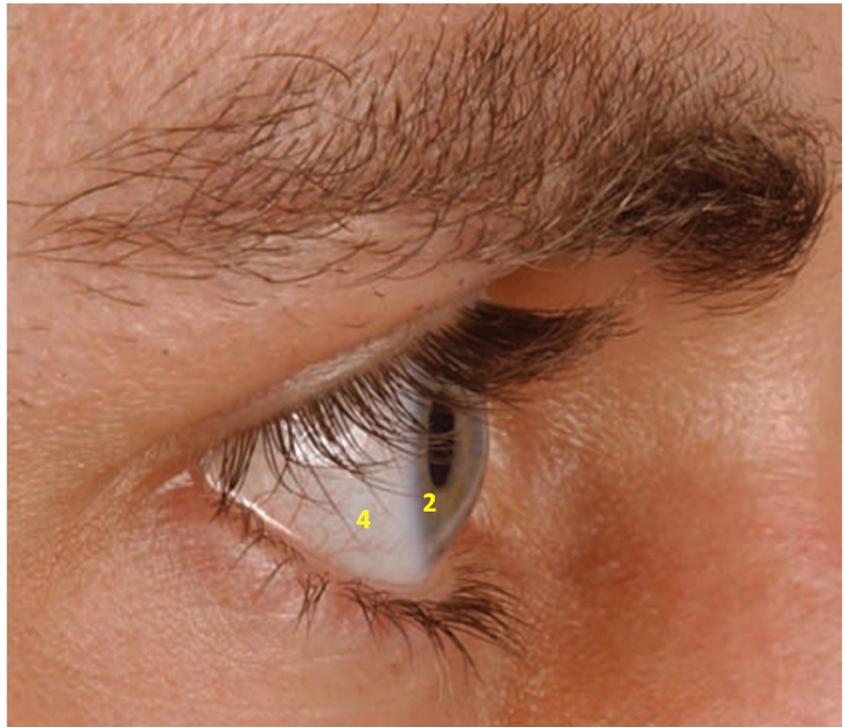
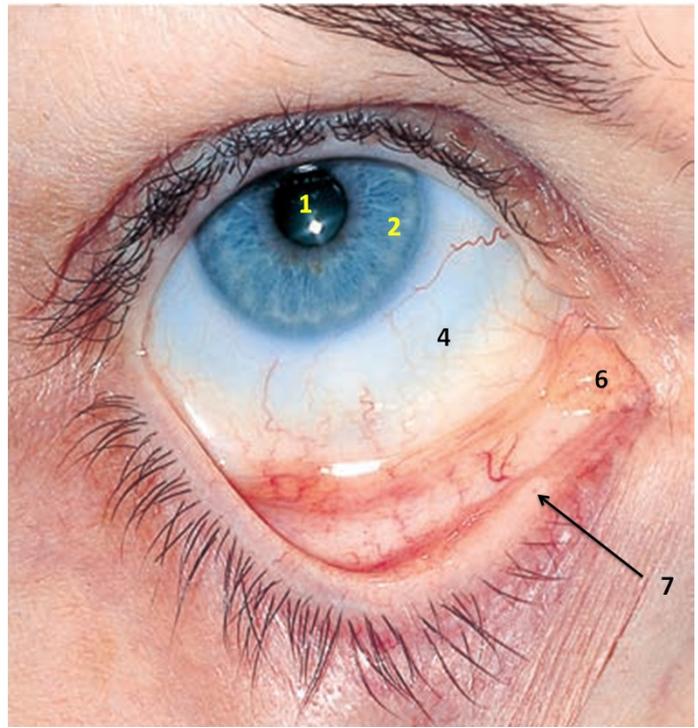
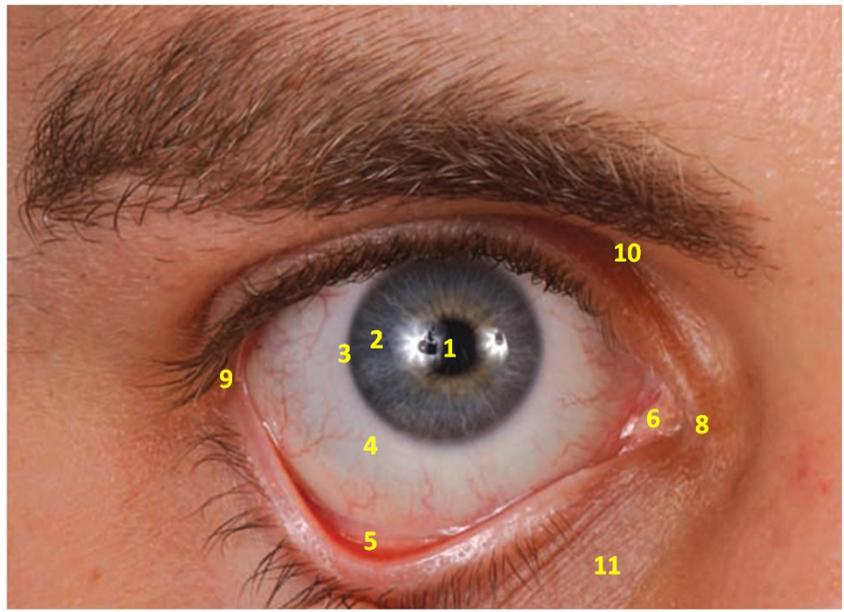
Dilator pupillae (5C)



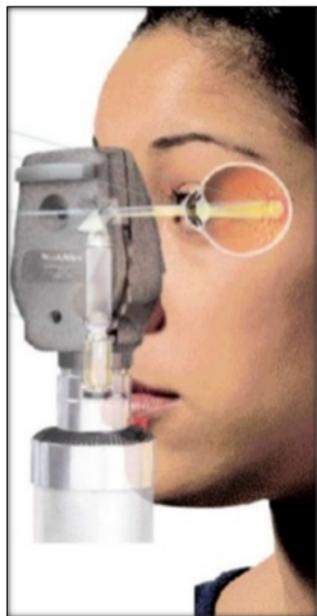
Surface anatomy of the eye

Pupil (as seen through cornea)	1
Iris (as seen through cornea)	2
Corneoscleral junction	3
Bulbar conjunctiva covering sclera	4
Palpebral conjunctiva of inferior eyelid reflecting onto eyeball at inferior conjunctival fornix, becoming bulbar conjunctiva	5
Lacrimal caruncle in lacus lacrimalus*	6
Inferior lacrimal papilla and punctum	7
Medial angle of the eye	8
Lateral angle of the eye	9
Upper eyelid	10
Lower eyelid	11

* small, pink, globular nodule at the inner corner (the medial canthus) of the eye. It is made of skin covering sebaceous and sweat glands



A normal retina, as seen through an ophthalmoscope



Fovea centralis

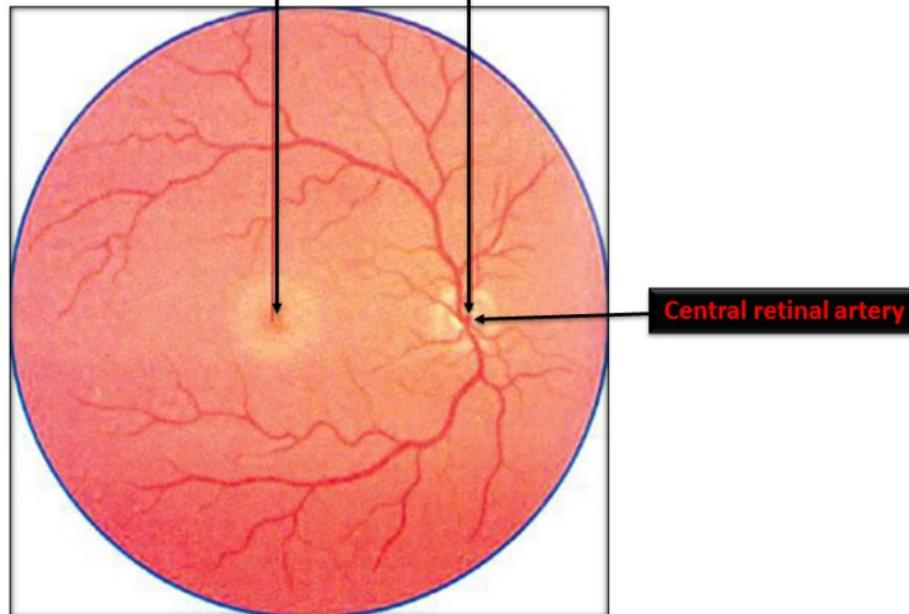
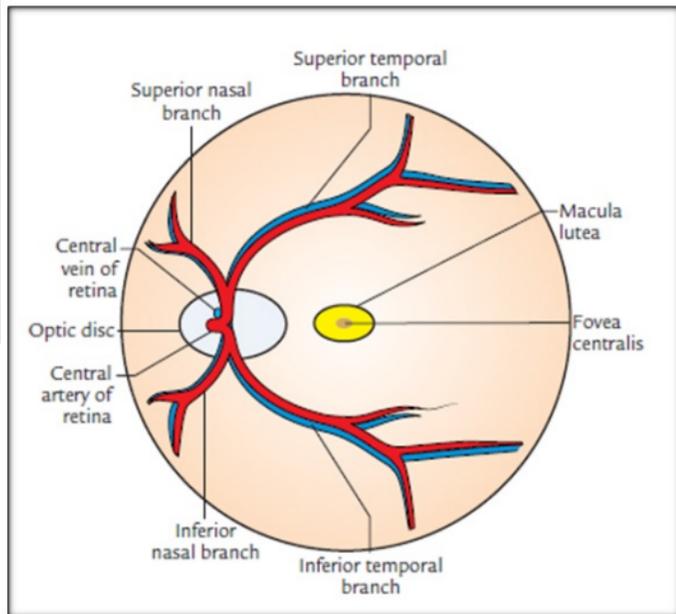
- small depression in the center of the macula lutea
- is the area of highest visual acuity

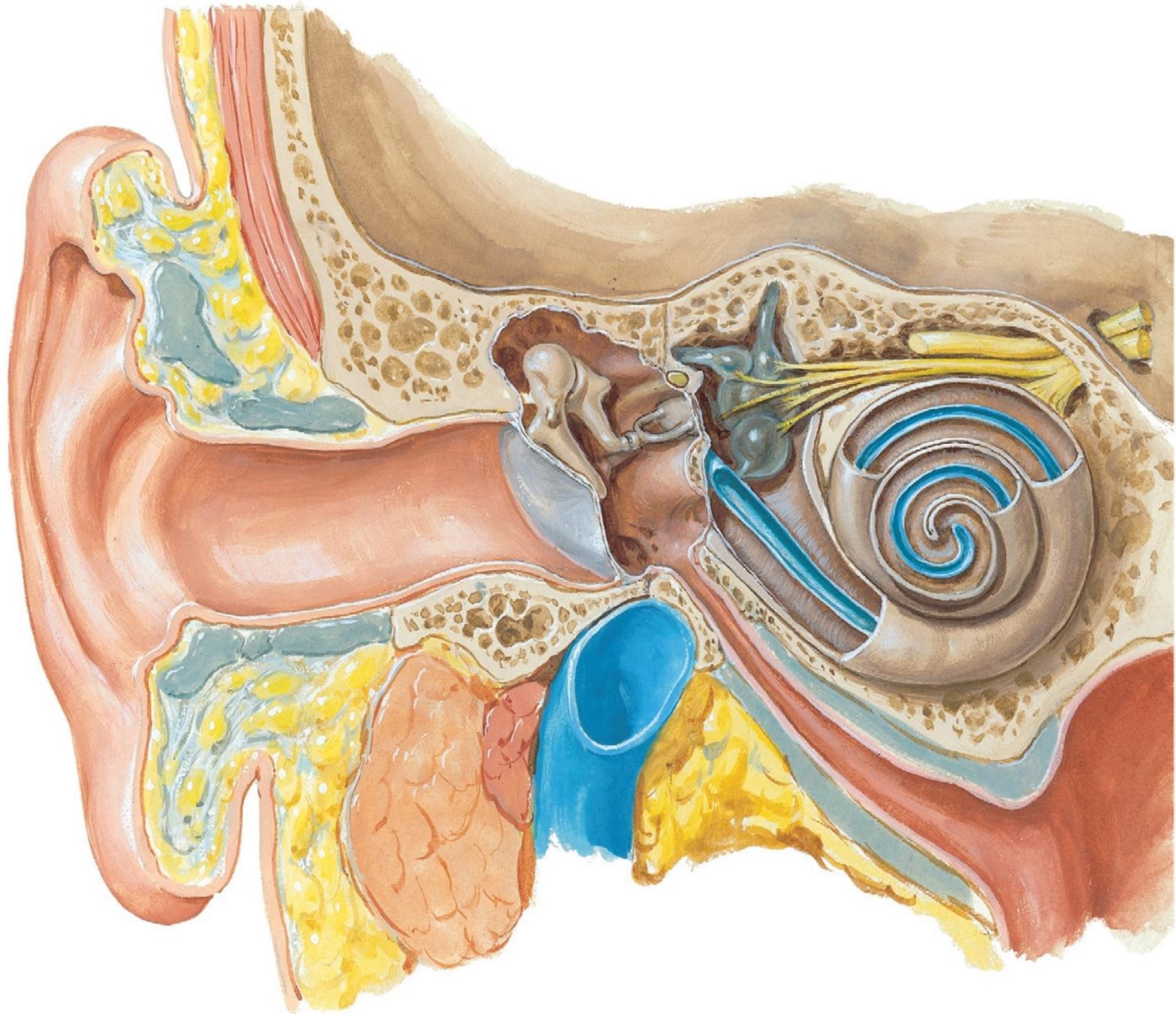
Macula lutea

pale yellowish area in the exact center of the posterior portion of the retina, at the visual axis of the eye

Optic disc

site where the optic (II) nerve exits the eyeball



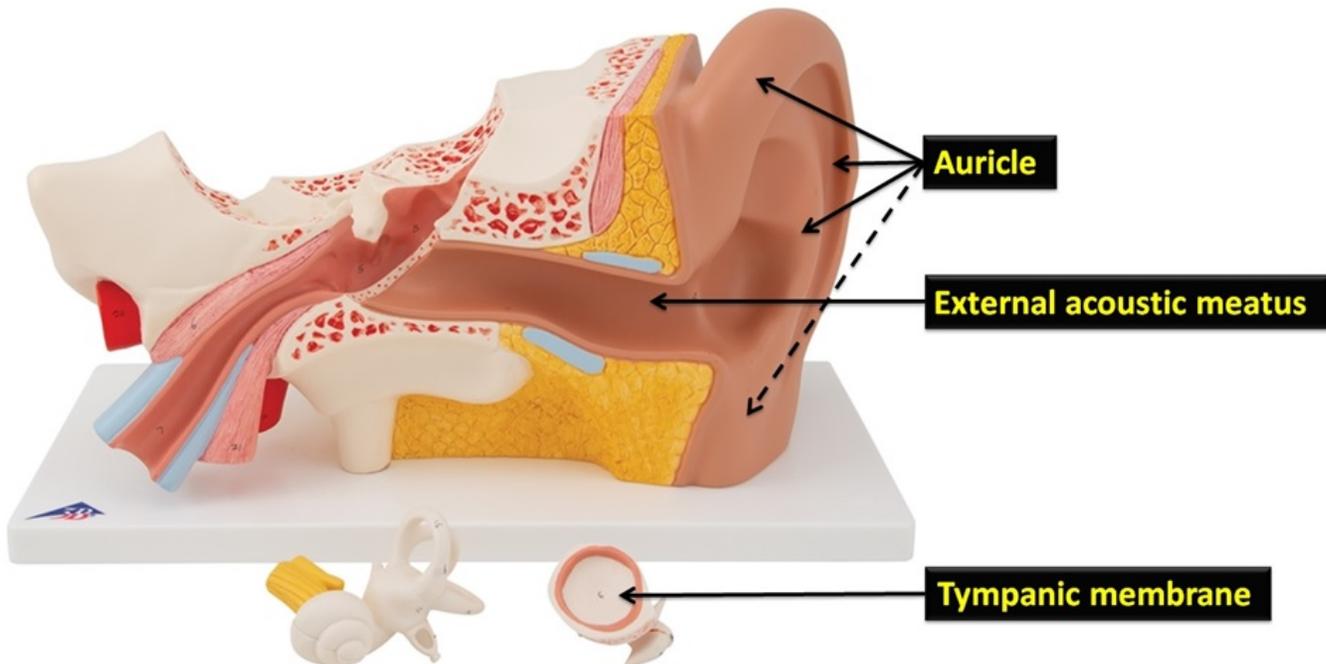


External Ear

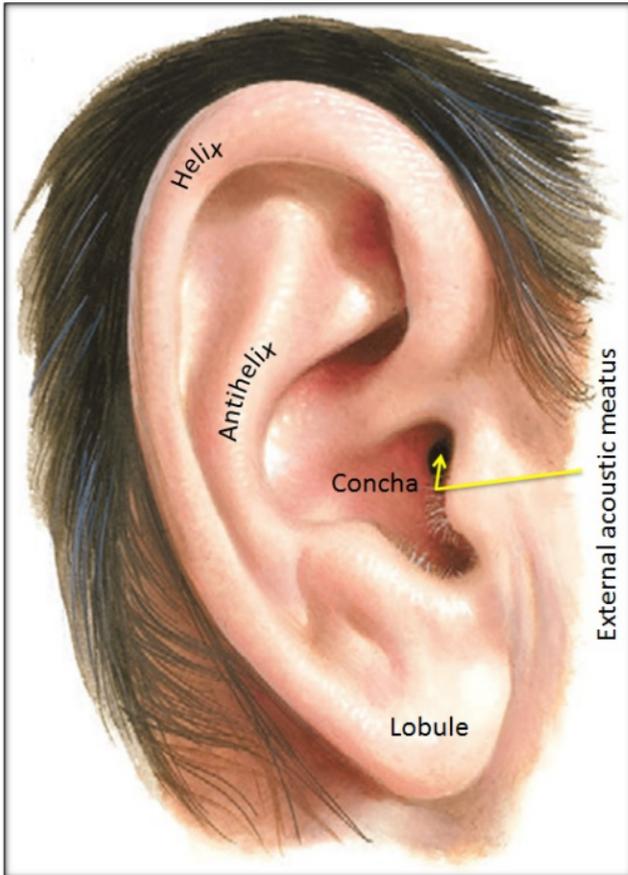
Auricle

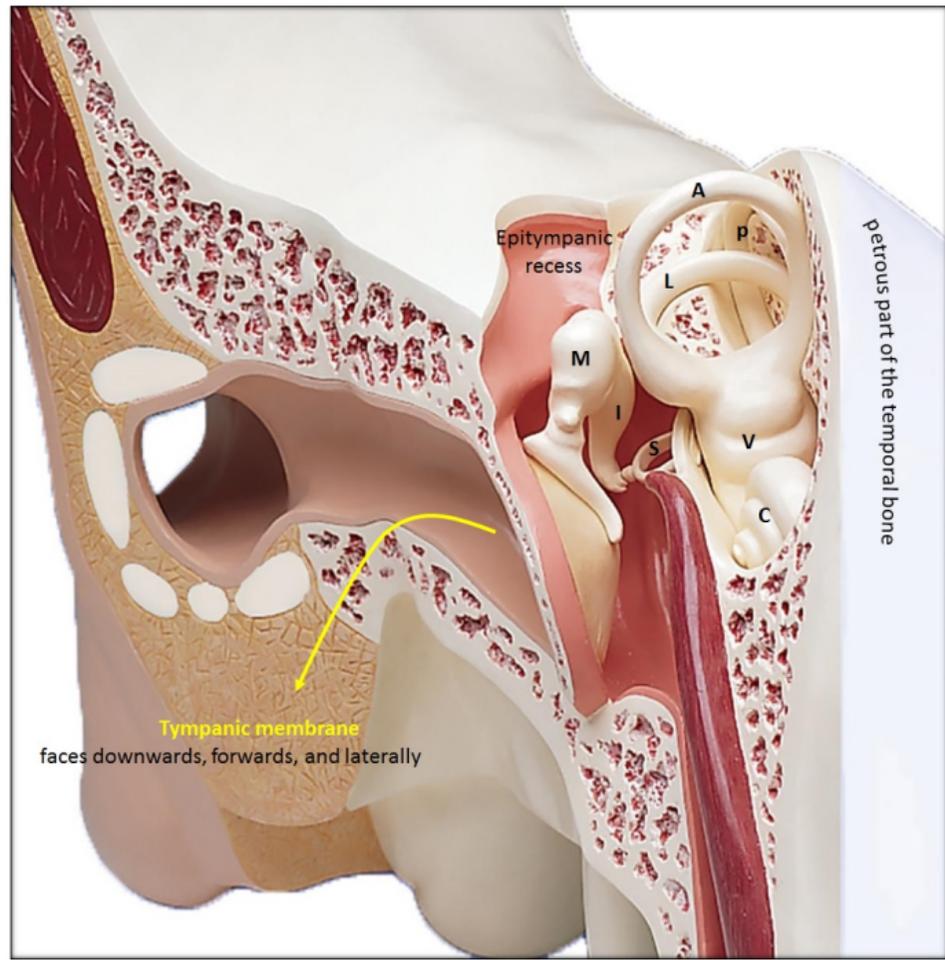
External acoustic meatus

Tympanic membrane (eardrum) :



Right auricle (pinna)





Examination of tympanic membrane

Umbo (1) : the point of maximum concavity

Handle of Malleus (2) : as a yellow streak extending from umbo upwards and forwards

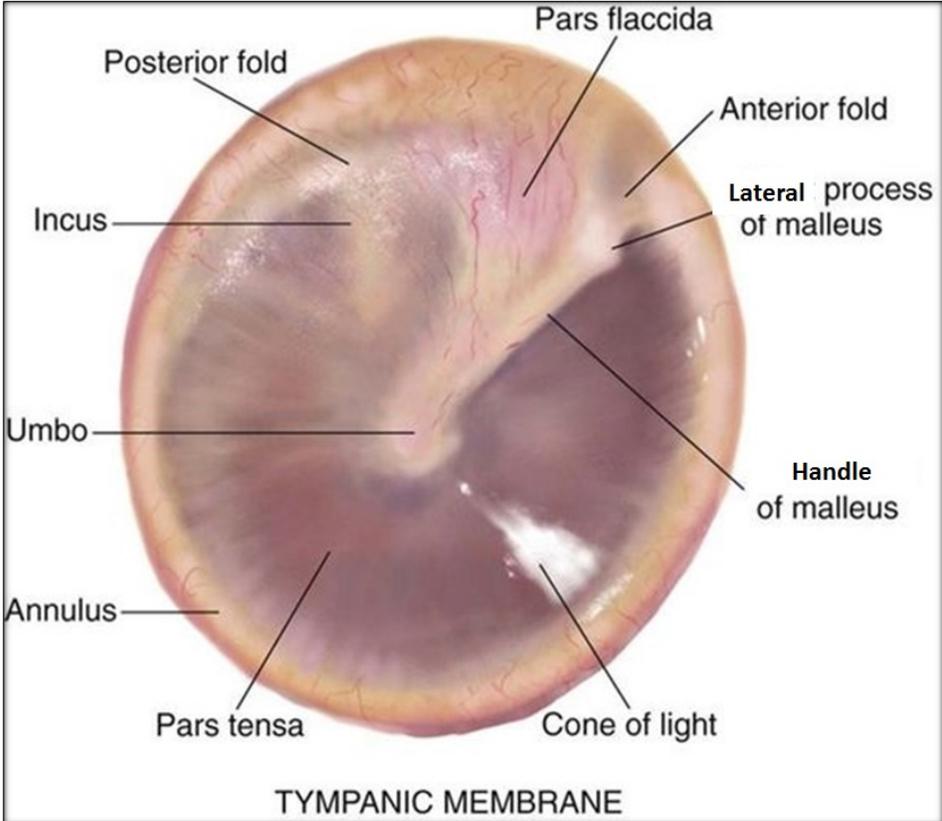
Lateral process of malleus (3) : as a white prominence in the upper part of the streak of handle of malleus

Long processes of incus(4) : as white streaks behind and parallel to the upper part of the handle of malleus

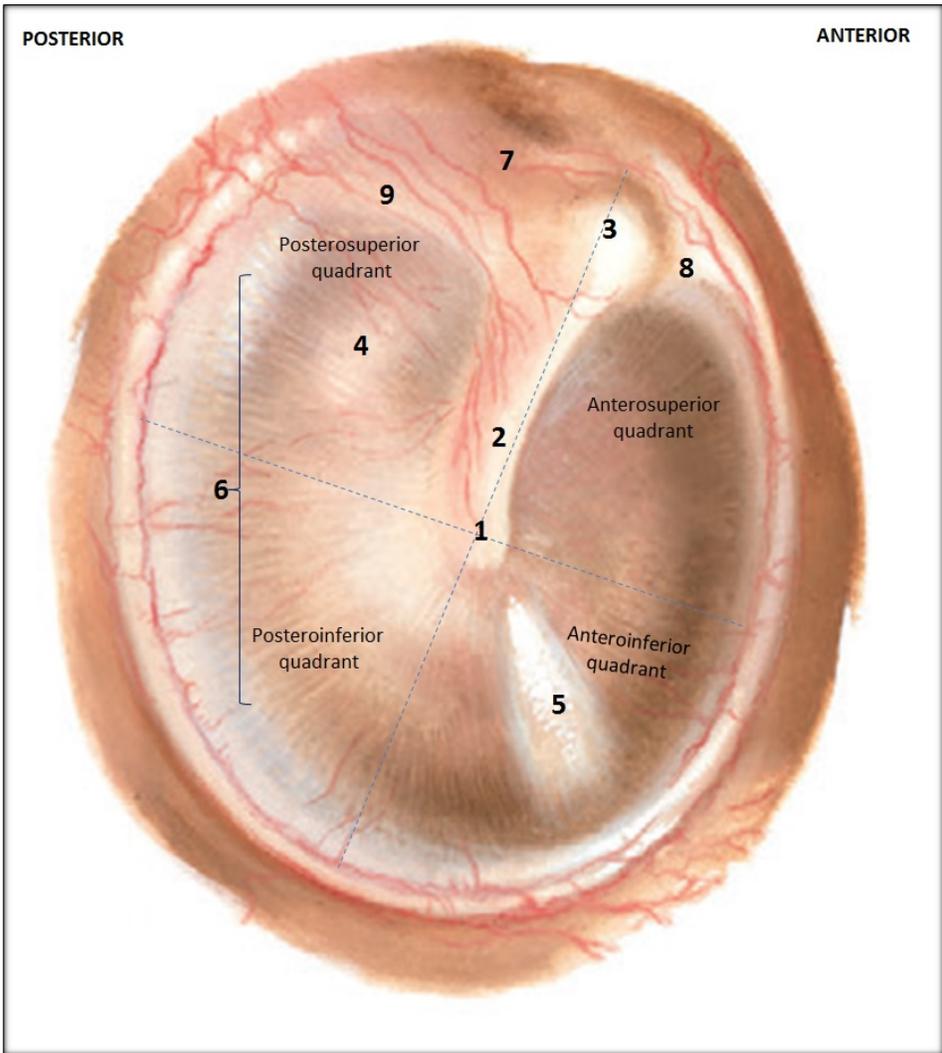
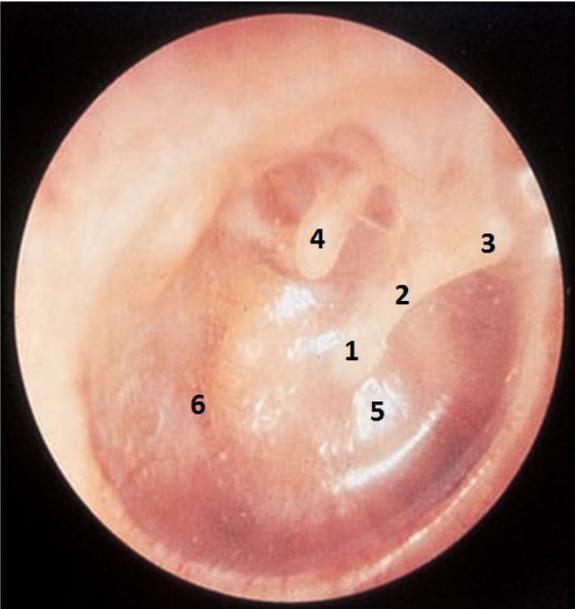
Cone of light (5) : at 5 o'clock position in anteroinferior quadrant

Pars tensa (6) : forms most of the tympanic membrane

Pars flaccida (7) : is a small triangular area above the lateral process of malleus between anterior(8) and posterior(9) malleolar folds



Otoscopic (Lateral) View



Middle ear

Tympanic cavity

Pharyngotympanic tube

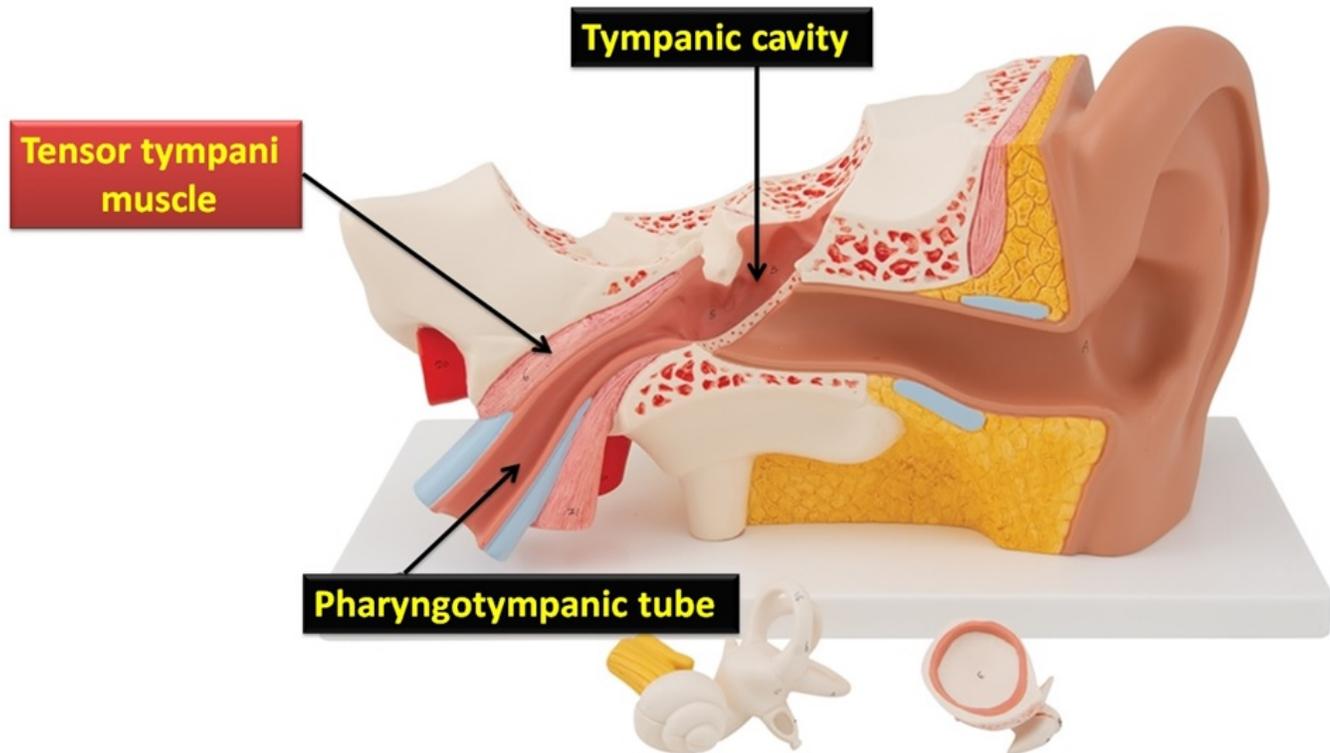
Auditory ossicles :

➤ Malleus

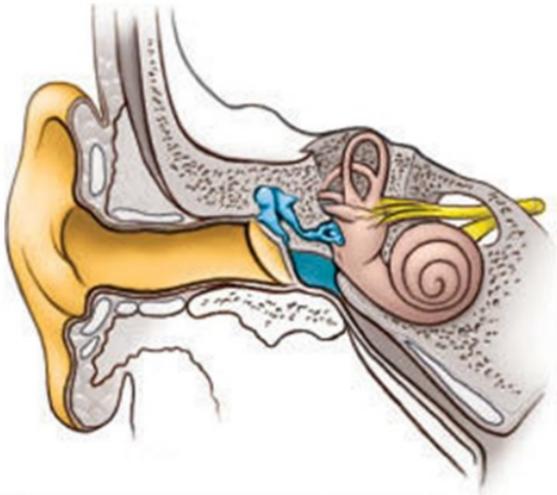
➤ Incus

➤ Stapes

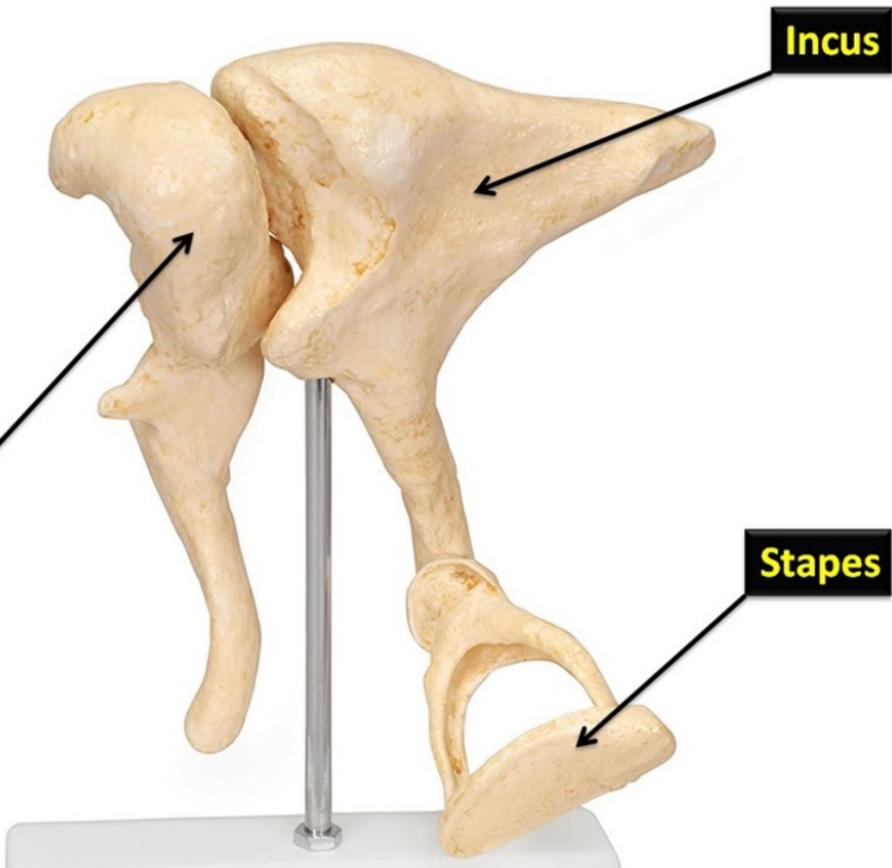
Tensor tympani muscle



Auditory ossicles



Malleus



Incus

Stapes

Internal ear

Semicircular canals :

- Lateral semicircular canal
- Posterior semicircular canal
- Anterior semicircular canal

Vestibule

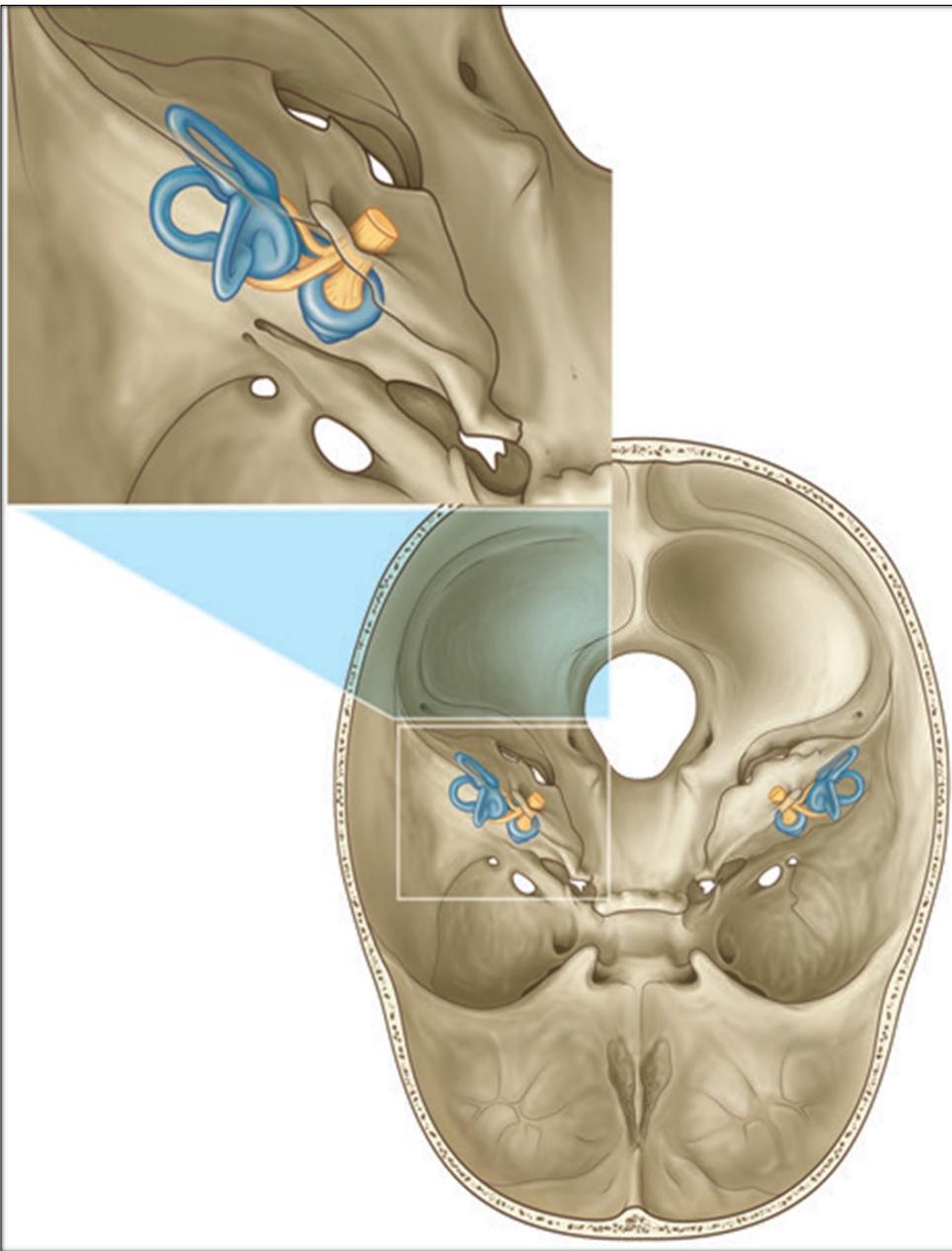
Oval window

Round window

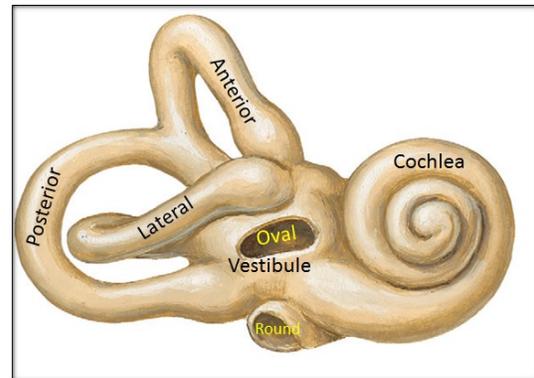
Cochlea

Vestibulocochlear nerve

Location of the internal ear in temporal bone



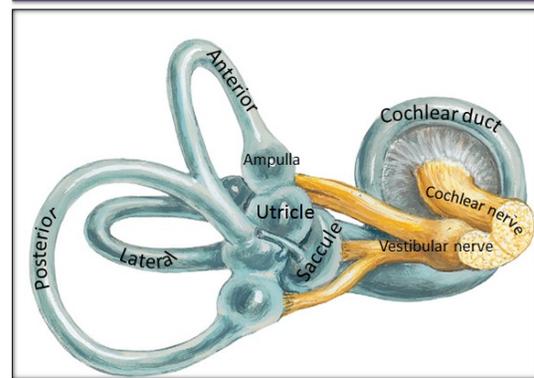
Right bony labyrinth : anterolateral view

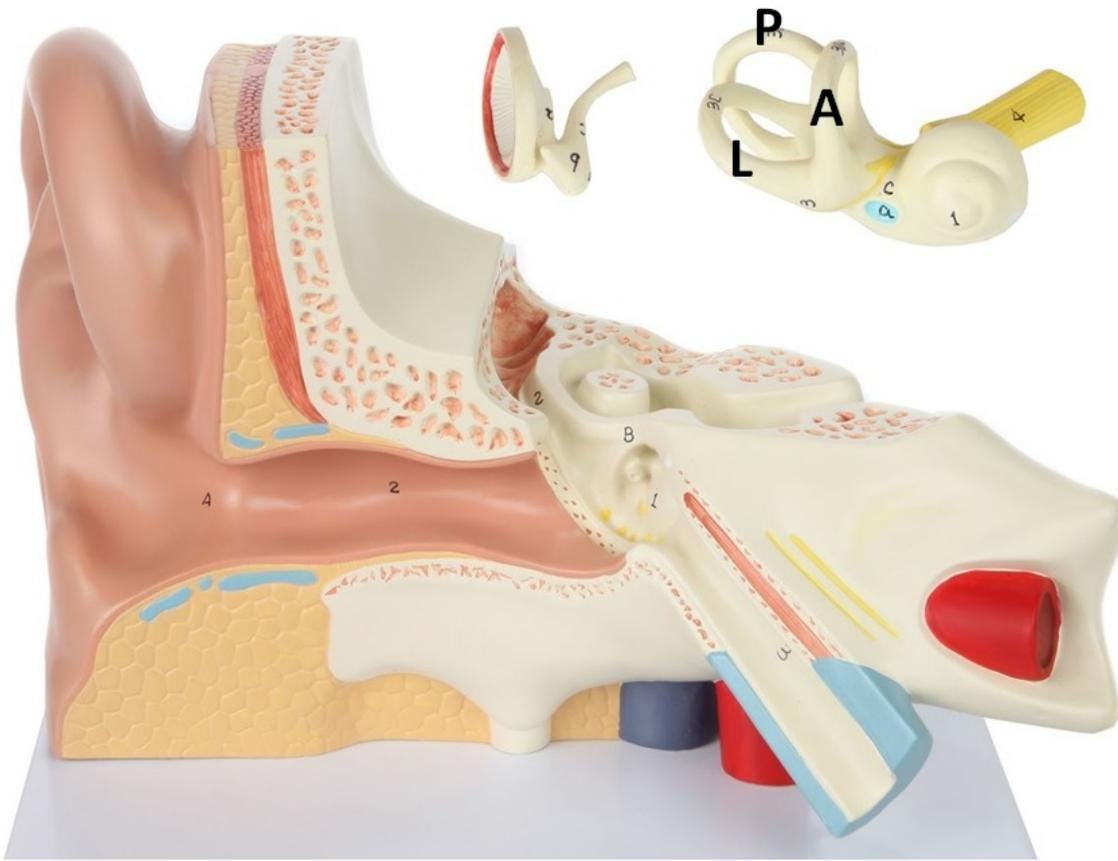


Dissected right bony membranous labyrinth removed



Right membranous labyrinth with nerves: medial view





Anterior semicircular canal

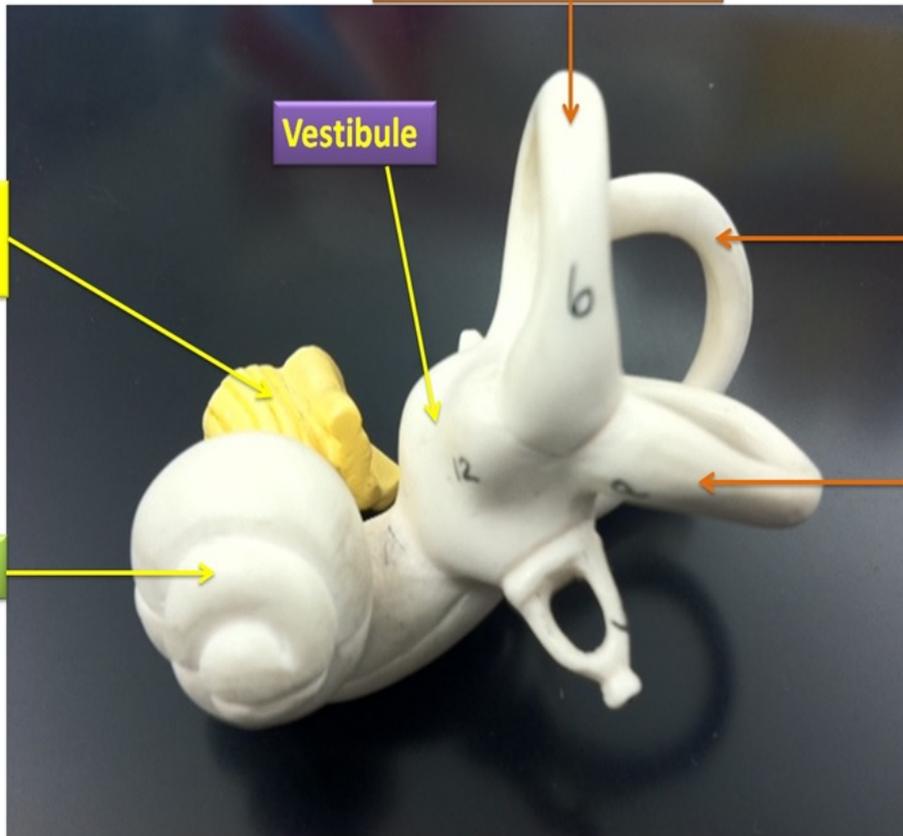
Vestibulocochlear nerve

Vestibule

Posterior semicircular canal

Cochlea

Lateral semicircular canal



Section through one turn of the cochlea

Scala vestibuli

Scala tympani

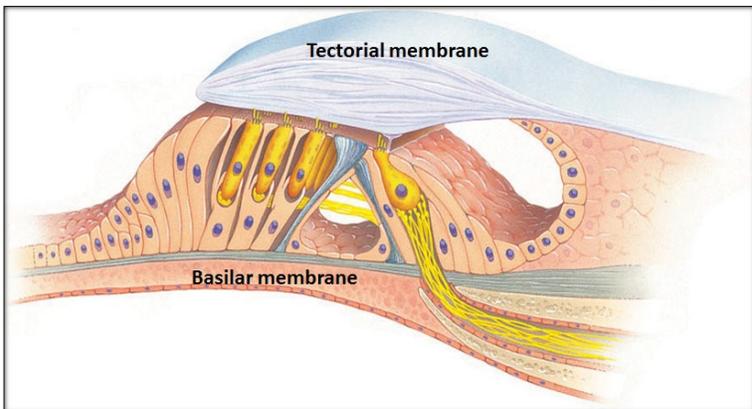
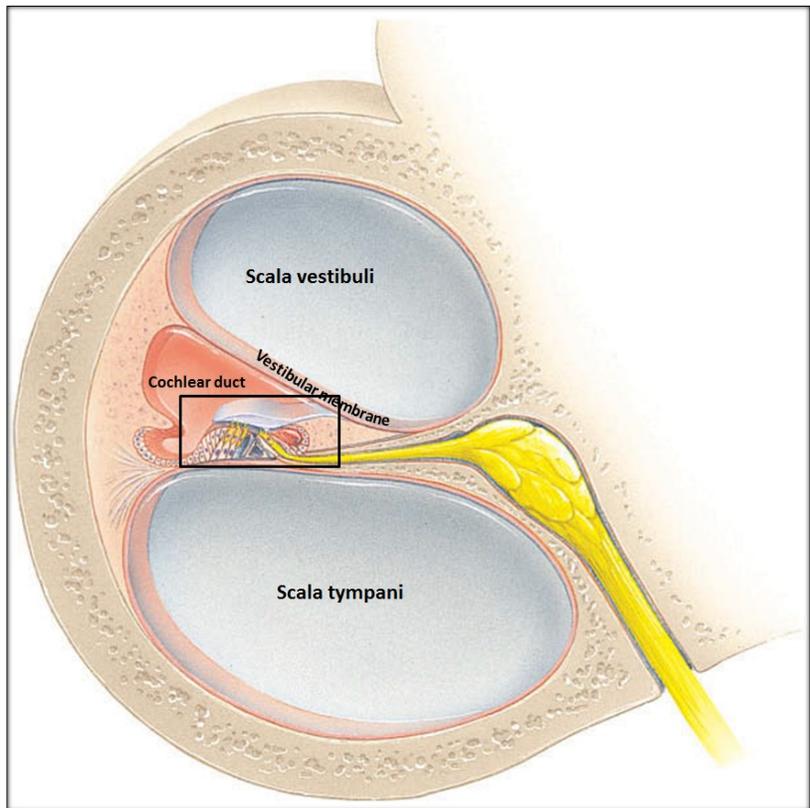
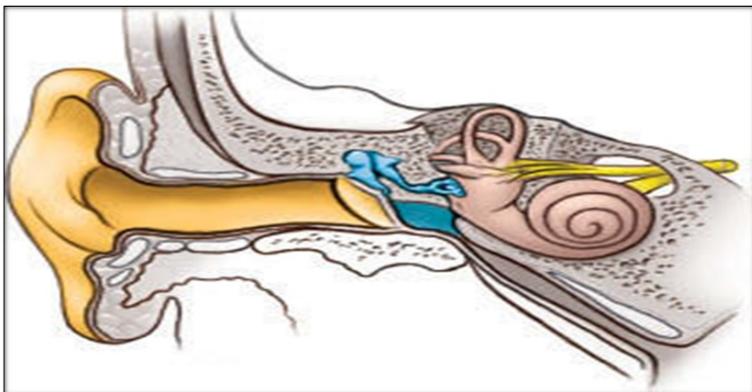
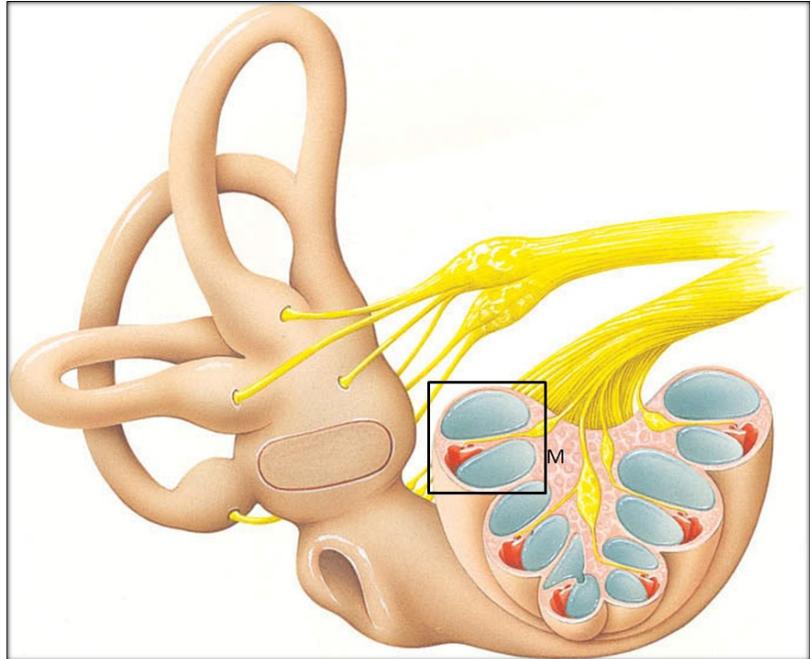
Cochlear duct

Vestibular membrane

Basilar membrane

Tectorial membrane

Spiral organ (organ of Corti)



Enlargement of spiral organ (organ of Corti)

Section through one turn of the cochlea

