



University of Baghdad college of Medicine 2022- 2023



Title: Nervous system/ Practical/ TBL 5/ Eye& Ear

Grade: Second

Module: Neuroscience

Speaker: Lecturer Dr. Firdous M Jaafar

Date: 6/10/2022

7/10/2022



objectives

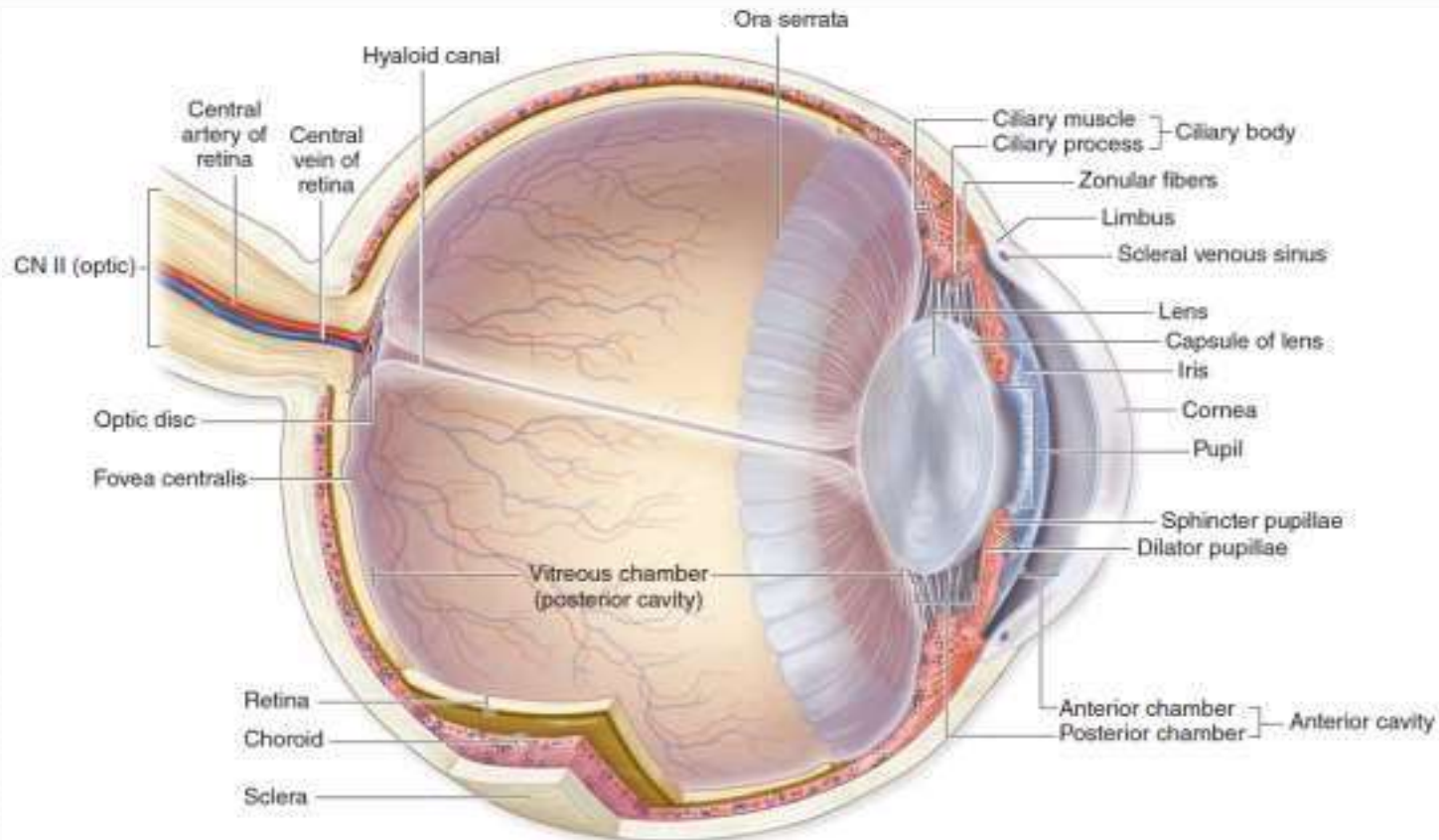
- 1- Identify the three layers of eye; fibrous, vascular , and neural.**
- 2- Describe the histological structure of cornea, and enumerate its y.**
- 3- Describe the histological structure of choroid, ciliary body, and iris.**
 - a- Notice the high vascularity of this layer.**
 - b- Identify constrictor pupillae muscle of the iris.**
- 4- Identify the layers of retina.**



Eye

The eye is composed of three concentric layers:

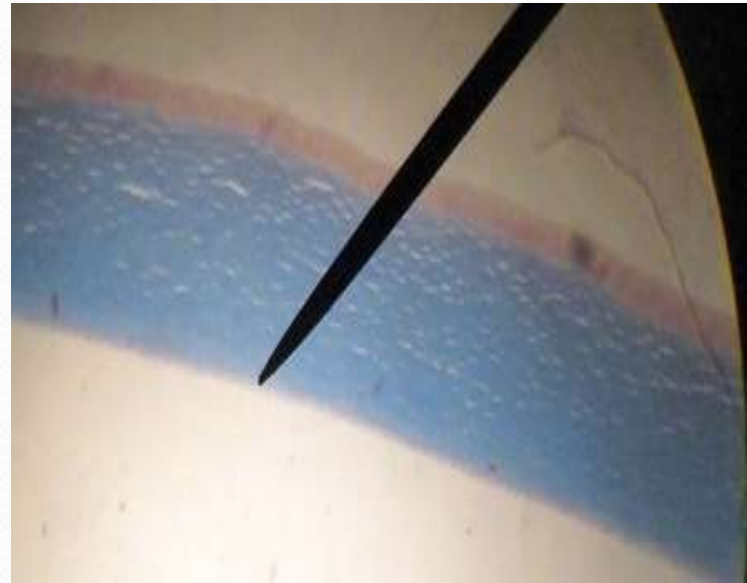
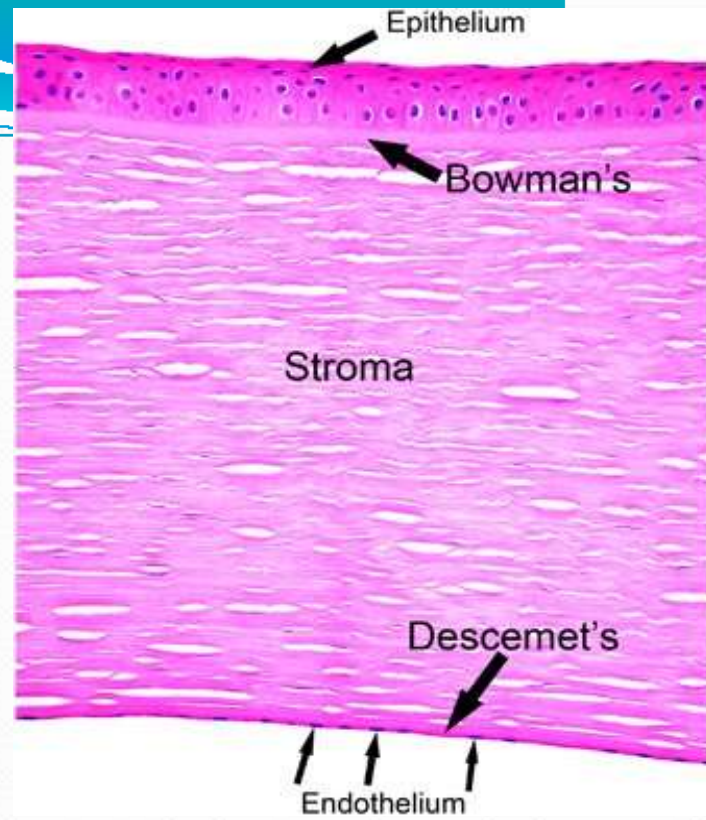
- 1- External fibrous layer; cornea and sclera.
- 2- Middle vascular layer; choroid, ciliary body, and iris.
- 3- Inner sensory layer; retina.



Cornea

Consists of five layers:

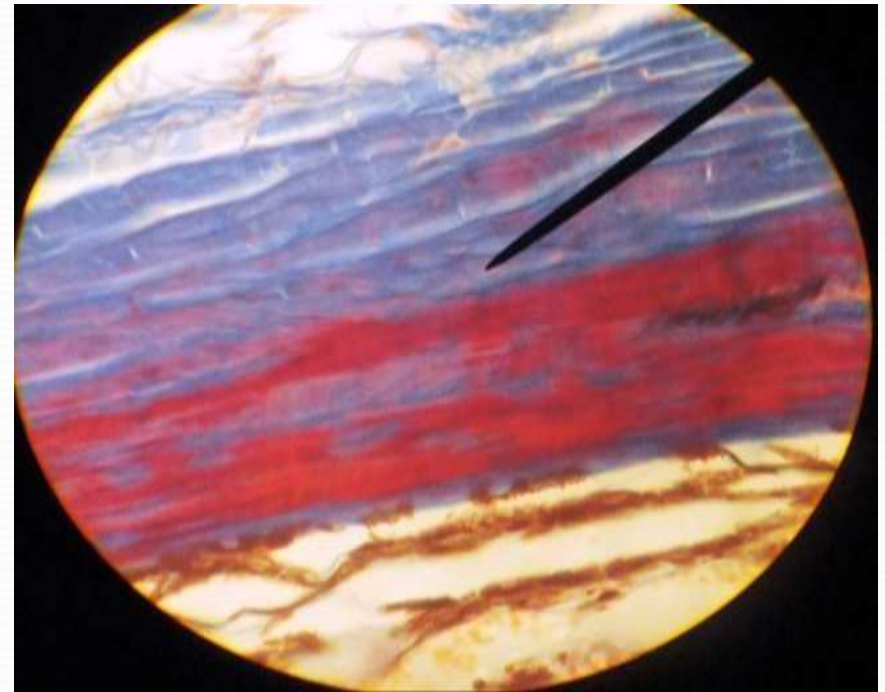
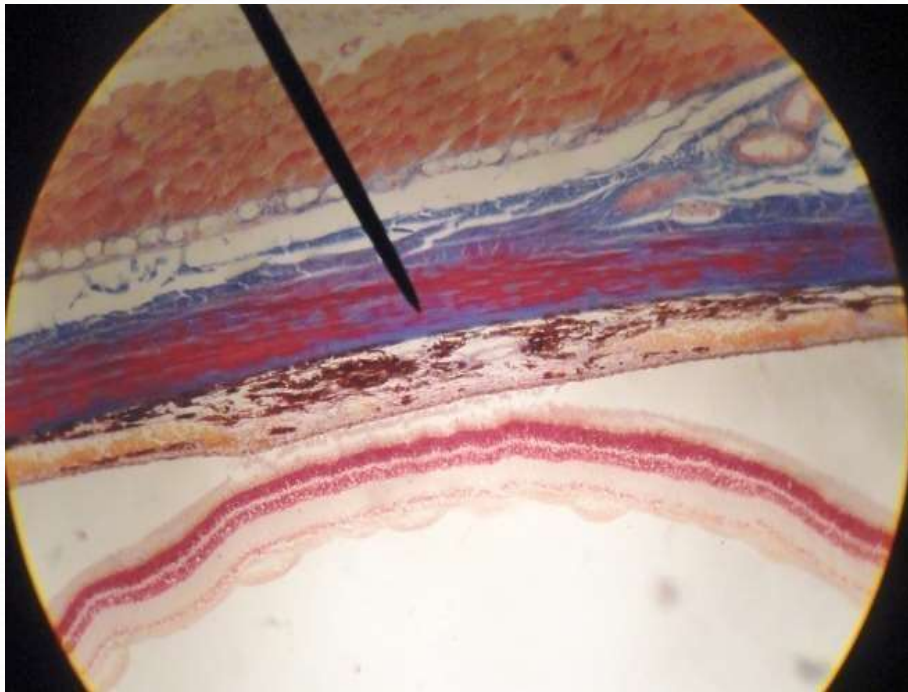
- 1- Stratified squamous non-keratinized epithelium.
- 2- Bowman's membrane (anterior limiting membrane).
- 3- Stroma (substantia propria).
- 4- Descemet's membrane (posterior limiting membrane).
- 5- Endothelium.





Sclera

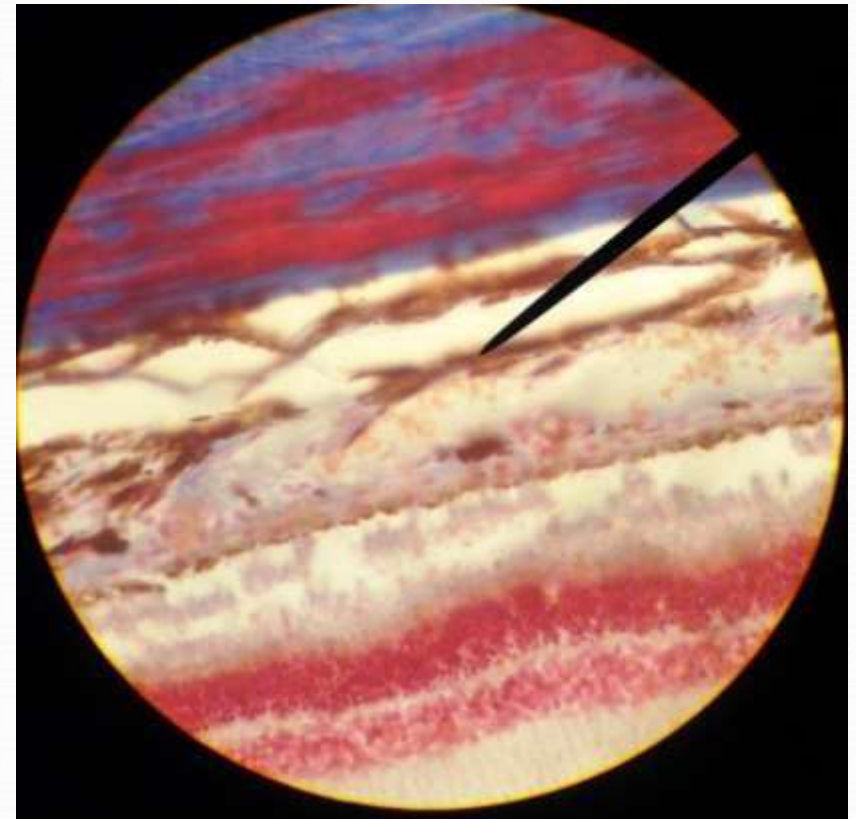
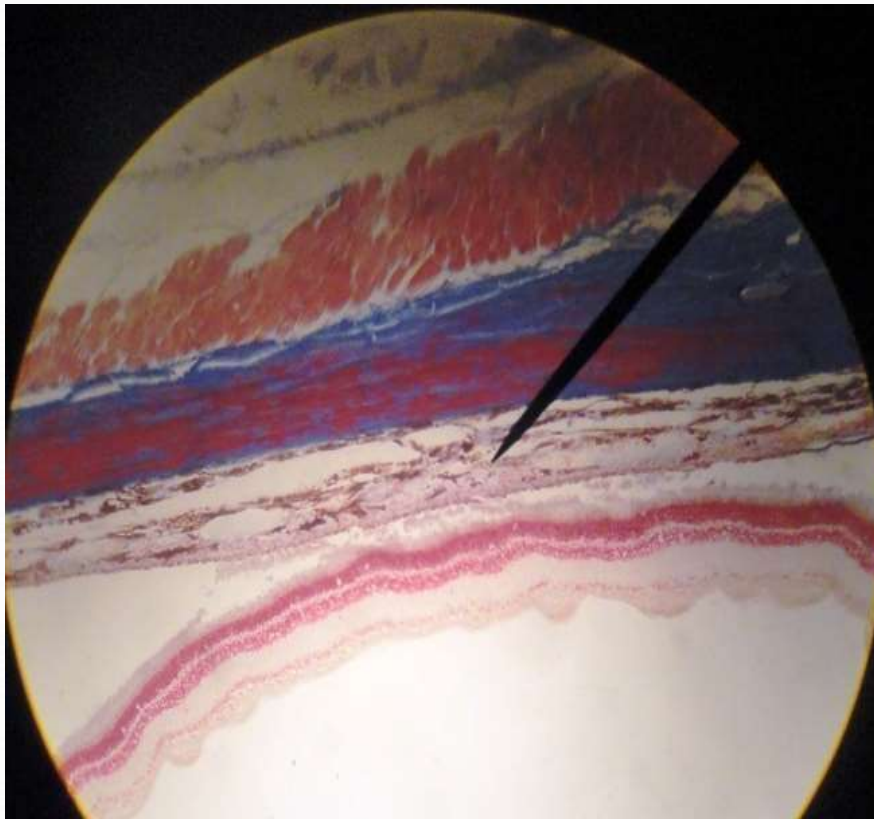
It consists of tough, dense connective tissue made up mainly of flat collagen bundles intersecting in various directions while remaining parallel to the surface of the organ.





Choroid

consists of vascularized loose connective tissue, and melanocytes.

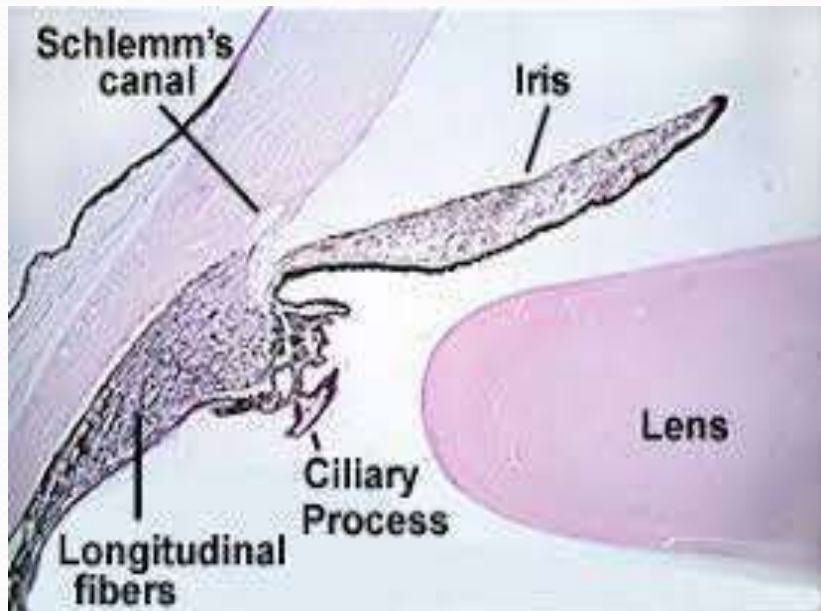




Ciliary body & processes

is the anterior continuation of choroid, consists of fibrous connective tissue, blood vessels, and ciliary muscles. It is covered by double epithelial layers; pigmented and non pigmented.

Ciliary processes are ridges arise from inner part of ciliary body.





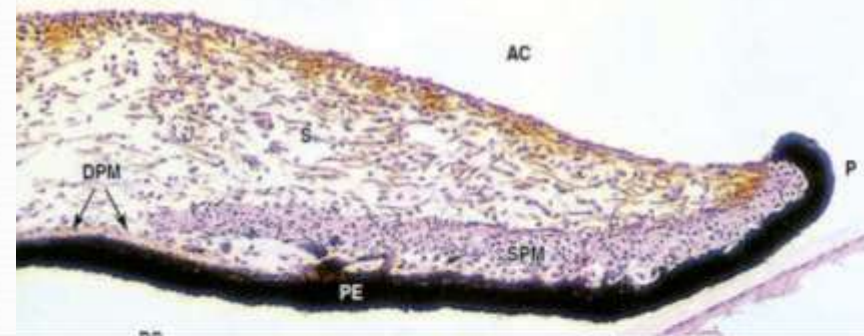
Iris

Is the most anterior extension of uvea, with a central opening; pupil.

It consists of three layers:

- 1- Anterior surface: made of dense layer of fibroblasts and melanocytes.
- 2- Stroma: loose connective tissue, melanocytes, and few blood vessels.
- 3- Epithelial surface: double layers; pigmented and non pigmented.

Notice the constrictor pupillae muscle.



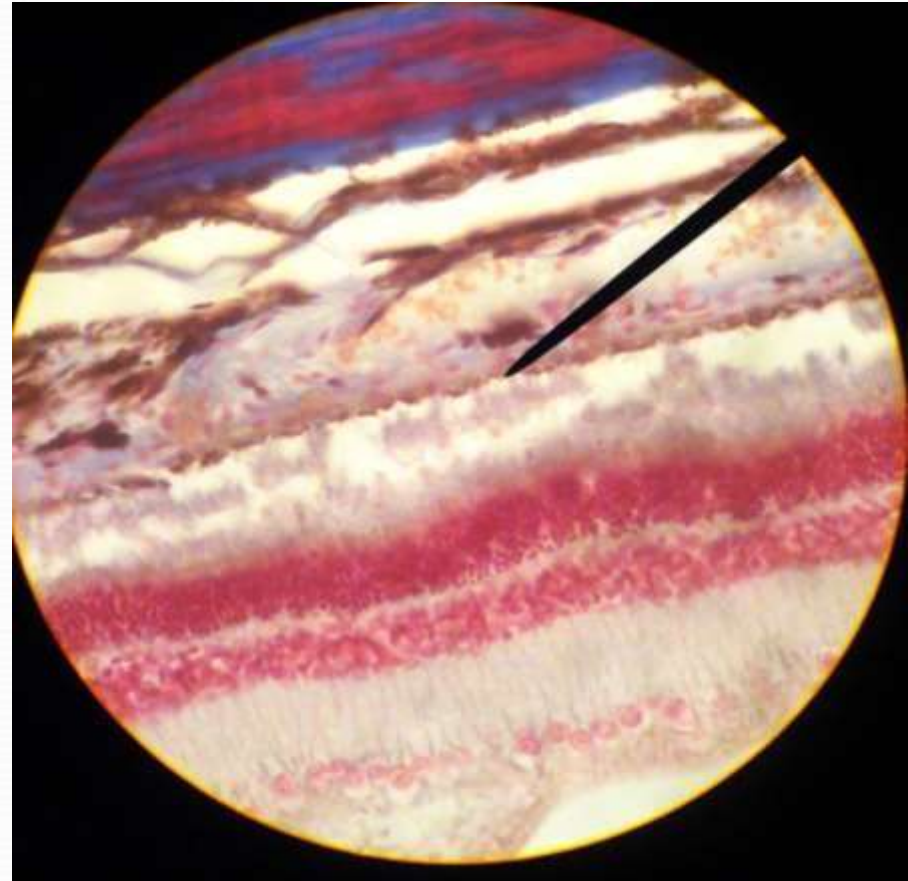


Retina

Is the innermost layer of the eye.

It consists of ten layers:

- 1- Pigment epithelial layer.
- 2- Rod and Con cells layer.
- 3- Outer limiting layer.
- 4- Outer nuclear layer.
- 5- Outer plexiform layer.
- 6- Inner nuclear layer.
- 7- Inner plexiform layer.
- 8- Ganglionic layer.
- 9- Nerve fiber layer.
- 10- Inner limiting layer.

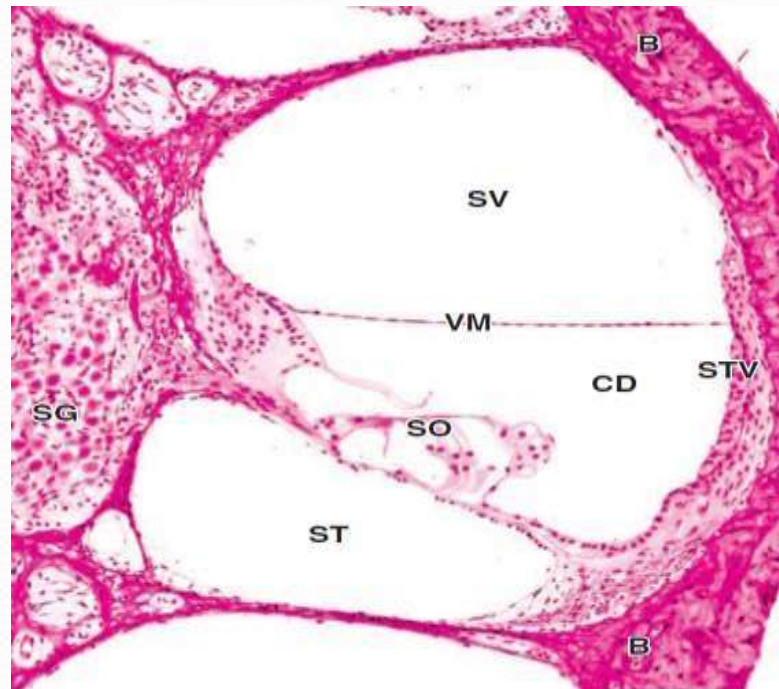




Inner ear/ cochlear duct

Spiral tube contains hair cells. It is found within boney cochlea, as one of three parallel compartments (scalae):

- 1- **Scala media:** is the cochlear duct it self
- 2- **scala vestibulae:** is the upper compartment.
- 3- **scala tympani:** the lower compartment





Inner ear/ cochlear duct

