



المرحلة الاولى ٢٠٢٣-٢٠٢٤

Anatomy of the eye

11th Lecture : **The Ciliary body-Anatomical structures of ciliary body**

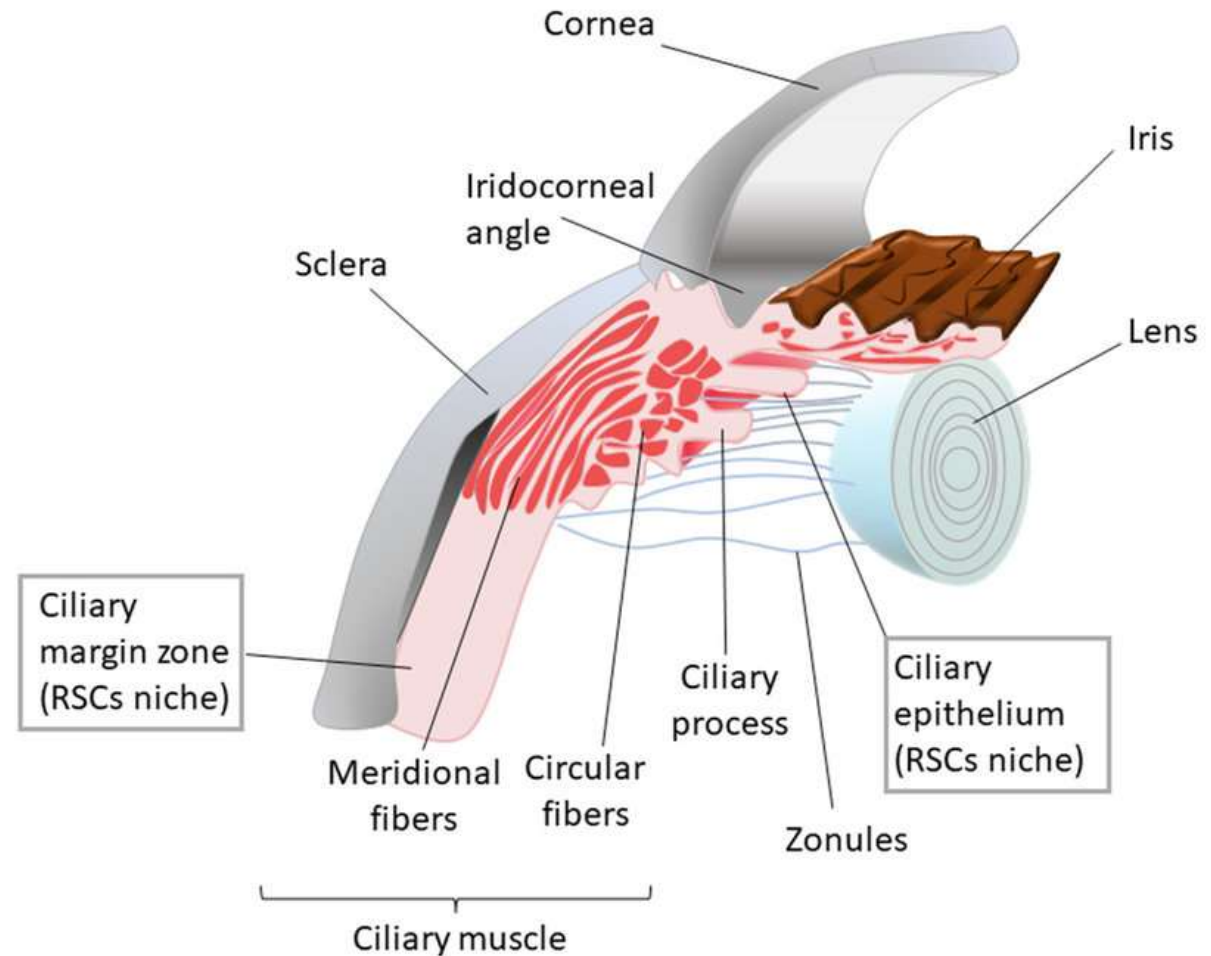
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The ciliary body is 6–7 mm wide and consists of 2 parts: the pars plana and the pars plicata. The pars plana is a relatively avascular, smooth, pigmented zone that is 4 mm wide and extends from the ora serrata to the ciliary processes.

The ciliary body is an inner eye structure, located at the border between the choroid and the iris. It is composed of several unique structures that give the ciliary body its unique shape and function. These structures include the ciliary muscle, ciliary processes, ciliary vessels and ciliary epithelia.

The position of the ciliary body within the eye, located between the iris and the choroid



- UVEA constitutes- middle vascular coat
- 3 parts- a)iris
b)ciliary body
c)choroid

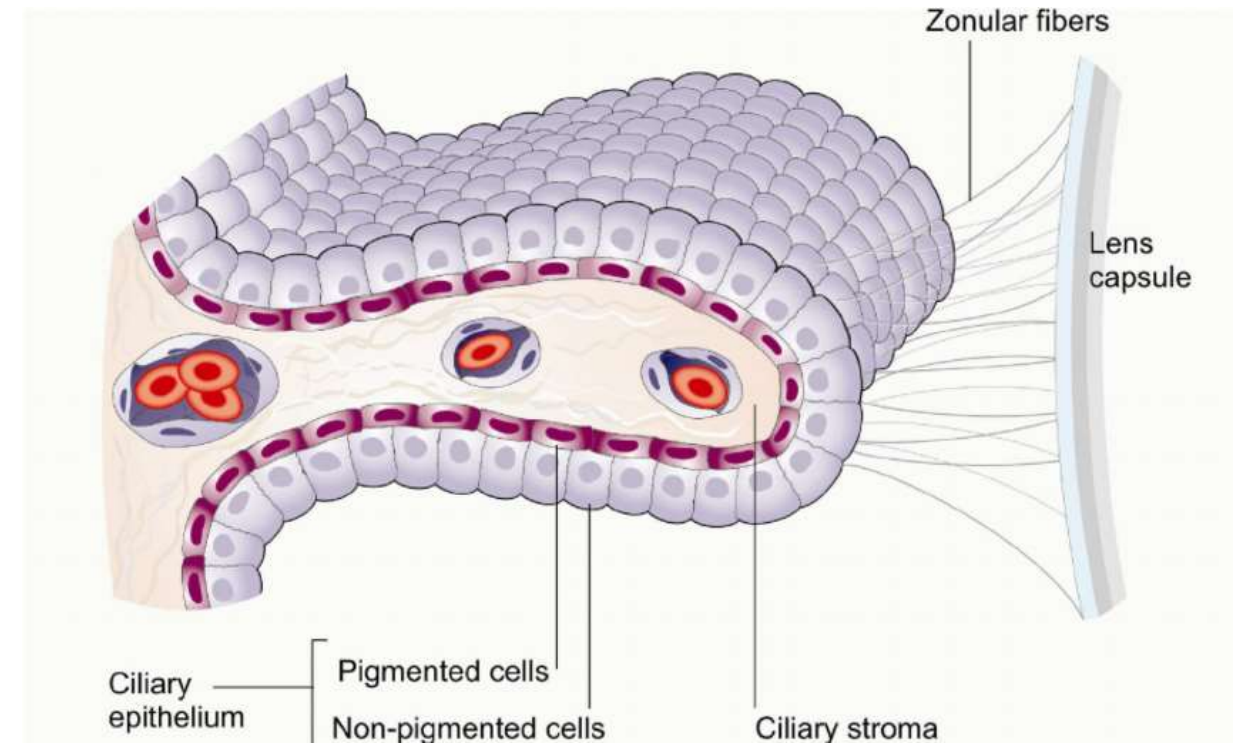
The ciliary body is situated between the iris, which is the colored part of the eye, and the choroid, which is the vascular layer located beneath the retina. It extends from the anterior (front) region to the posterior (back) region of the eye.

Now, let's dive into the anatomical structures of the ciliary body: vessels and capillaries that supply nutrients and oxygen to the eye.

1-Ciliary Processes:

1. The ciliary processes are finger-like projections or folds present on the inner surface of the ciliary body.
2. They are arranged in a circular pattern and extend towards the lens of the eye.

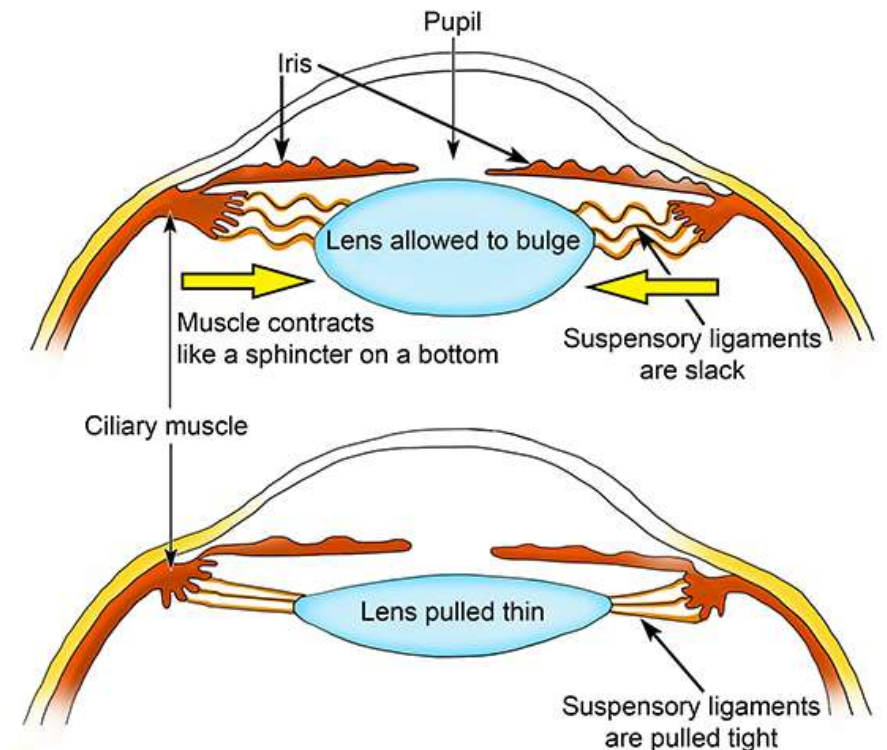
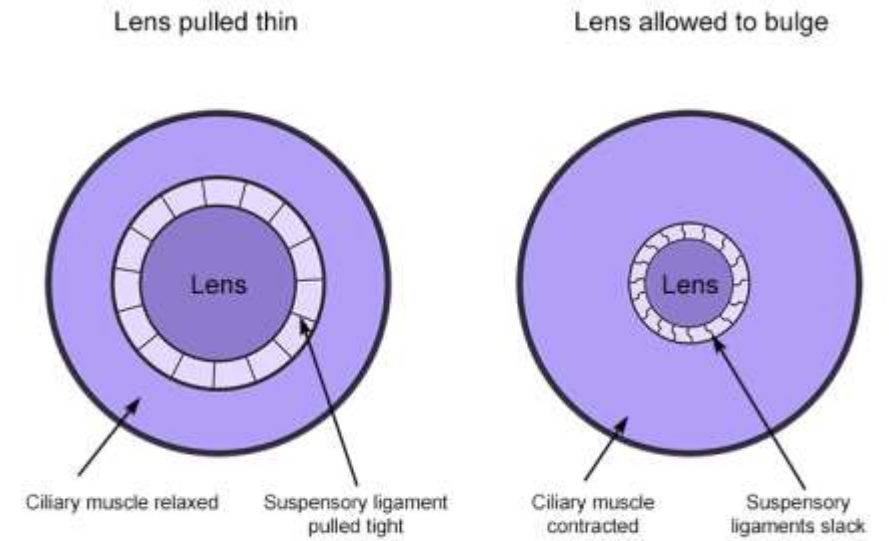
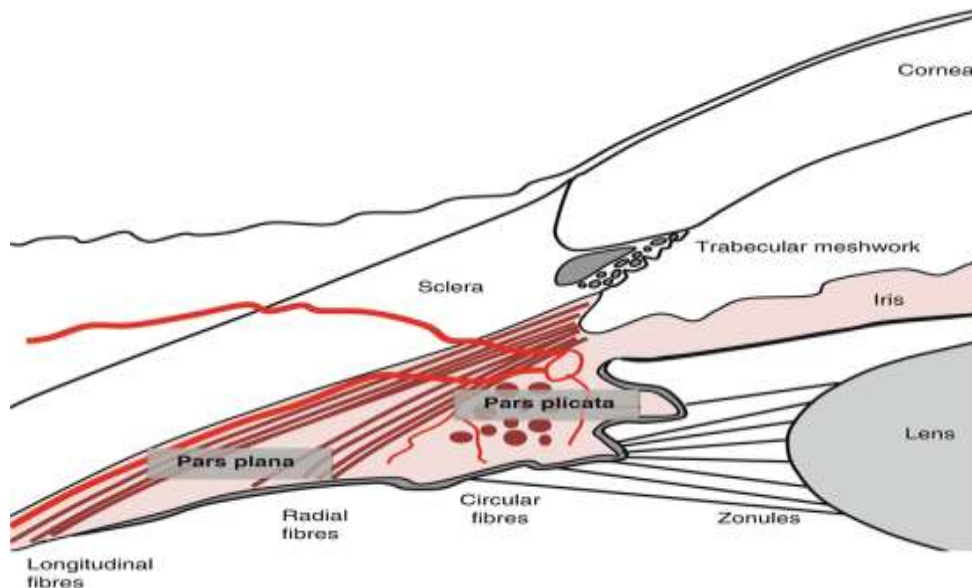
3-The ciliary processes contain numerous blood , and are responsible for the production of aqueous humor, a fluid that fills the front portion of the eye.



2-Ciliary Muscles:

1. The ciliary muscles are smooth muscles located within the ciliary body.
2. They consist of circular and radial fibers that encircle the lens.
3. The ciliary muscles are connected to the lens by a series of thin fibers called zonules or suspensory ligaments.

Ciliary muscles and suspensory ligaments work together to change the shape of the lens, and thus enable objects near, far and in between to be focused on the retina for sharp vision. This ability is known as accommodation.



3-Ciliary Epithelium:

1. The ciliary epithelium is a layer of specialized cells covering the inner surface of the ciliary body.
2. It is divided into two regions: the non-pigmented ciliary epithelium (NPE) and the pigmented ciliary epithelium (PE).
3. The NPE is responsible for the production of aqueous humor, a clear fluid that nourishes the front of the eye.
4. The PE layer contains pigmented cells that help regulate the amount of light entering the eye by absorbing excess light.

Aqueous Humor Production

Role of ciliary processes in producing aqueous humor
Continuous flow into the anterior chamber of the eye
Maintenance of intraocular pressure and nutrient supply

Now, let's understand the significance of these anatomical structures and their functions within the ciliary body:

Ciliary processes and their rich blood supply are essential for the production of **aqueous humor**.

The aqueous humor is continuously **produced** by the ciliary processes and **flows** into the anterior chamber of the eye, maintaining intraocular pressure (**IOP**) and providing **nutrients** to the surrounding structures.

Ciliary muscles play a crucial role in **accommodation**, which is the ability of the eye to focus on objects at varying distances. When the ciliary muscles contract, they release tension on the zonules, allowing the lens to thicken and increase its refractive power for near vision.

When the ciliary **muscles relax**, the zonules pull on the lens, making it thinner for distant vision.

The ciliary epithelium, particularly the pigmented layer, helps regulate the amount of light that enters the eye by absorbing excess light and reducing glare.

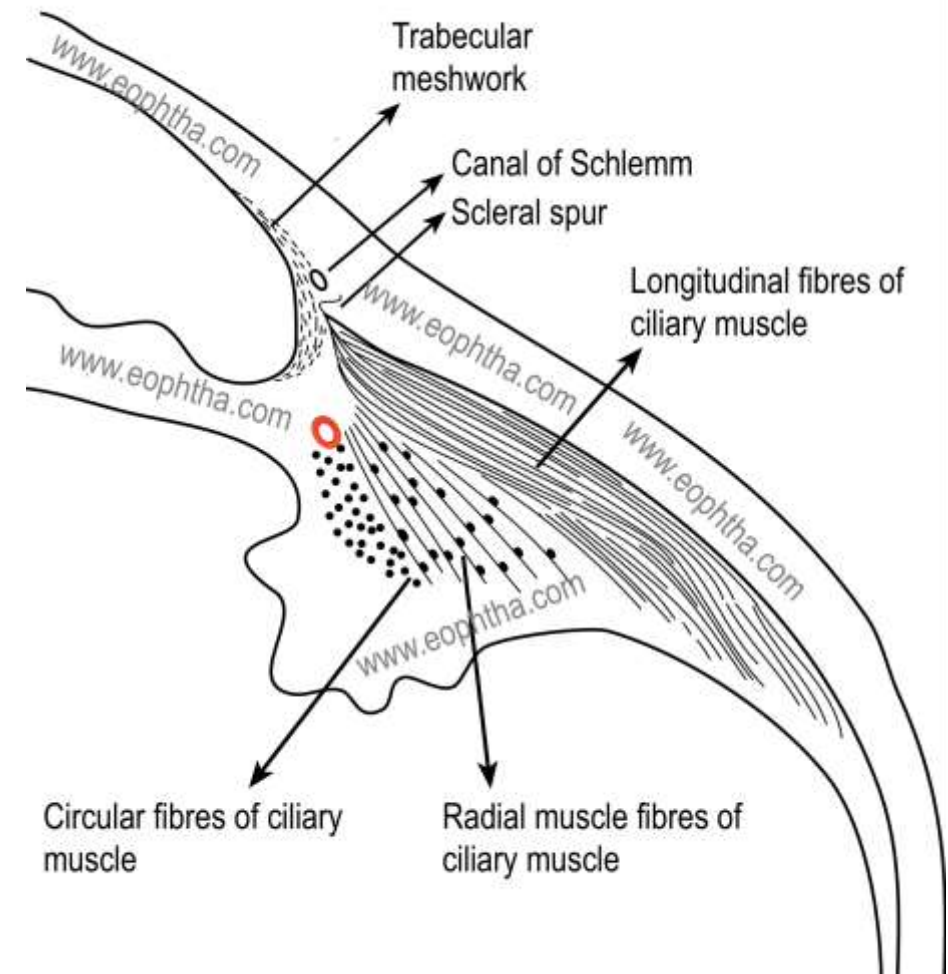
Accommodation and Ciliary Muscles

Function of ciliary muscles in accommodation
Contraction and relaxation for near and distant vision
Influence on the shape and refractive power of the lens

Light Regulation and Pigmented Ciliary Epithelium

Role of pigmented ciliary epithelium in light regulation
Absorption of excess light and reduction of glare
Enhancement of visual clarity

the ciliary body is a complex structure with several anatomical components that contribute to the overall functioning of the eye. The ciliary processes are responsible for the production of aqueous humor, the ciliary muscles control accommodation, and the ciliary epithelium aids in light regulation.



**THANKS SEE YOU IN NEXT
LECTURE**