



المرحلة الاولى ٢٠٢٣-٢٠٢٤

# Anatomy of the eye

## 10<sup>th</sup> Lecture : **The Uveal tracts: -Iris -Pupil**

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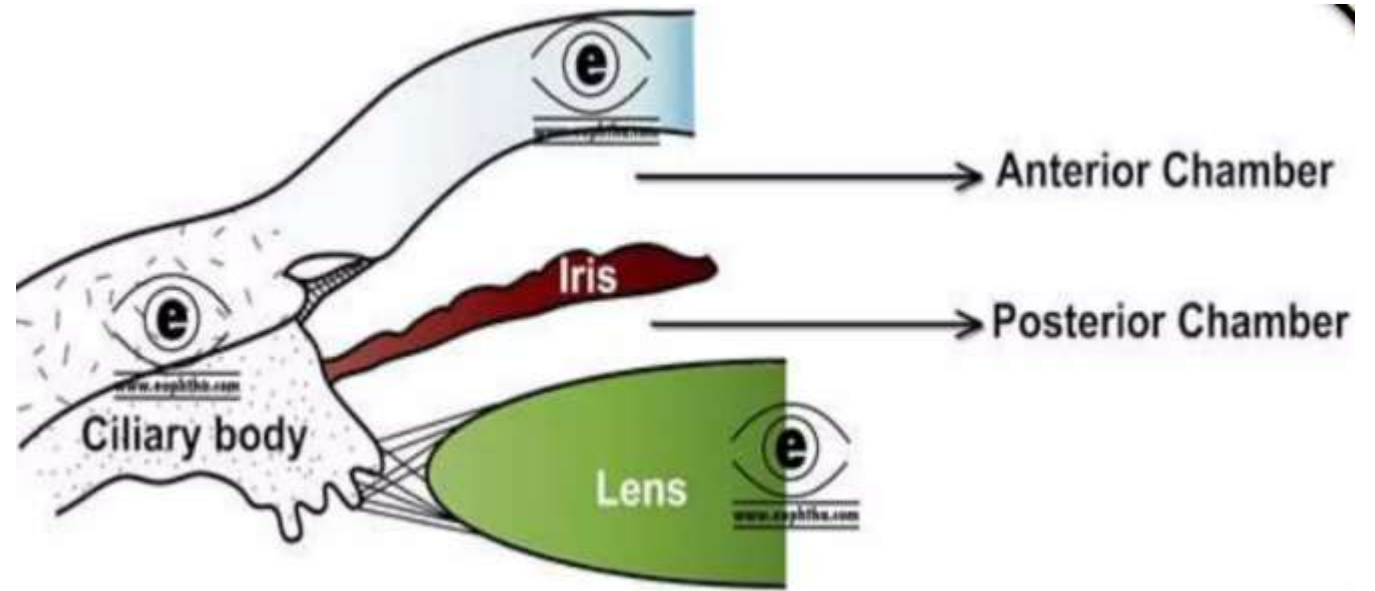
# The uveal tract

is the middle layer of the eye, divided into the anterior uvea (iris, ciliary body) and posterior uvea (choroid). The uvea is sandwiched between an outer layer (sclera) and an inner layer (retina).

The uveal tract is a pigmented layer of the eye that consists of three components: the iris, ciliary body, and choroid.

The uveal tract has 3 main parts:

- (1) the choroid (the tissue layer filled with blood vessels);
- (2) the ciliary body (the ring of tissue that contains muscles that change the shape of the lens and makes the clear fluid that fills the space between the cornea and the iris; and
- (3) the iris (the colored part of the eye).



# Anatomy of the Iris

The iris is a thin, circular structure located between the cornea and the lens.

It contains pigmented cells that give the iris its characteristic color, which can range from blue and green to brown and black.

The iris has two layers: the anterior and the posterior layers.

## Anterior Layer of the Iris

The anterior layer of the iris is located on the front side and is visible from the outside.

It consists of a dense network of connective tissue and smooth muscle fibers.

The muscle fibers within the anterior layer are arranged in two sets: the sphincter pupillae and the dilator pupillae.

## Sphincter Pupillae Muscle

The sphincter pupillae muscle is a circular arrangement of smooth muscle fibers within the anterior layer of the iris.

When it contracts, the muscle constricts the pupil, making it smaller in size.

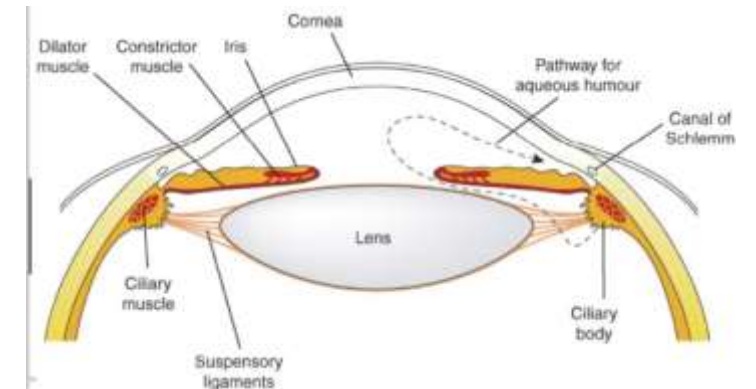
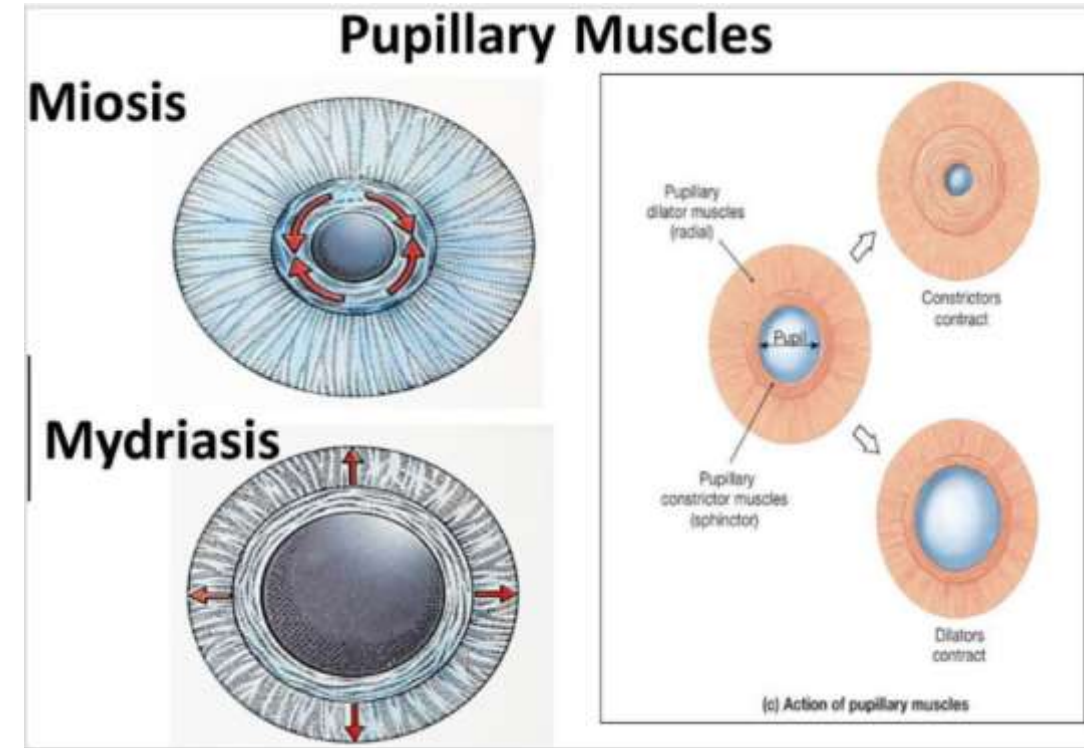
This constriction of the pupil is called miosis and is controlled by the parasympathetic nervous system.

## Dilator Pupillae Muscle

The dilator pupillae muscle is a radial arrangement of smooth muscle fibers within the anterior layer of the iris.

When it contracts, the muscle dilates the pupil, making it larger in size.

This dilation of the pupil is called mydriasis and is controlled by the sympathetic nervous system.



## Posterior Layer of the Iris

The posterior layer of the iris lies on the inner side, facing the vitreous humor.

It is heavily pigmented and helps to prevent the passage of light through the iris, except for the central aperture known as the pupil.

## The Pupil

The pupil is the central aperture within the iris.

It appears as a black circular opening due to the absence of pigmented cells in this region.

The size of the pupil is controlled by the contraction and relaxation of the muscles within the iris.



## Pupillary Light Reflex

The size of the pupil undergoes changes in response to varying light conditions.

When exposed to bright light, the sphincter pupillae muscle contracts, causing the pupil to constrict or become smaller, thereby reducing the amount of light entering the eye.

In dim light, the dilator pupillae muscle contracts, causing the pupil to dilate or become larger, allowing more light to enter the eye.

## Summary

The iris and the pupil are integral components of the uveal tract.

The iris consists of two layers, the anterior and the posterior layers, with smooth muscle fibers responsible for regulating the size of the pupil.

The pupil is the central aperture within the iris, which adjusts its size to control the amount of light entering the eye.

**THANKS SEE YOU IN NEXT  
LECTURE**