



المرحلة الاولى ٢٠٢٣-٢٠٢٤

Anatomy of the eye

4th Lecture : **Muscles - Blood and nerve supply to the orbit**

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Muscles of the Orbit in Human Anatomy

In human anatomy, the **muscles of the orbit** are crucial for controlling eye movements and eyelid elevation. There are six extraocular muscles in the orbit that play a significant role in moving the eyes in different directions.

Types of Orbital Muscles

- The muscles of the orbit can be broadly classified into two main types: extrinsic and intrinsic muscles.

1-Extrinsic Muscles: also known as extraocular muscles, are responsible for eye movements.

- There are six extrinsic muscles in each eye, arranged in three pairs:

- a. Medial Rectus Muscle: The medial rectus muscle allows inward (adduction) movement of the eye.

- b. Lateral Rectus Muscle: The lateral rectus muscle enables outward (abduction) movement of the eye.

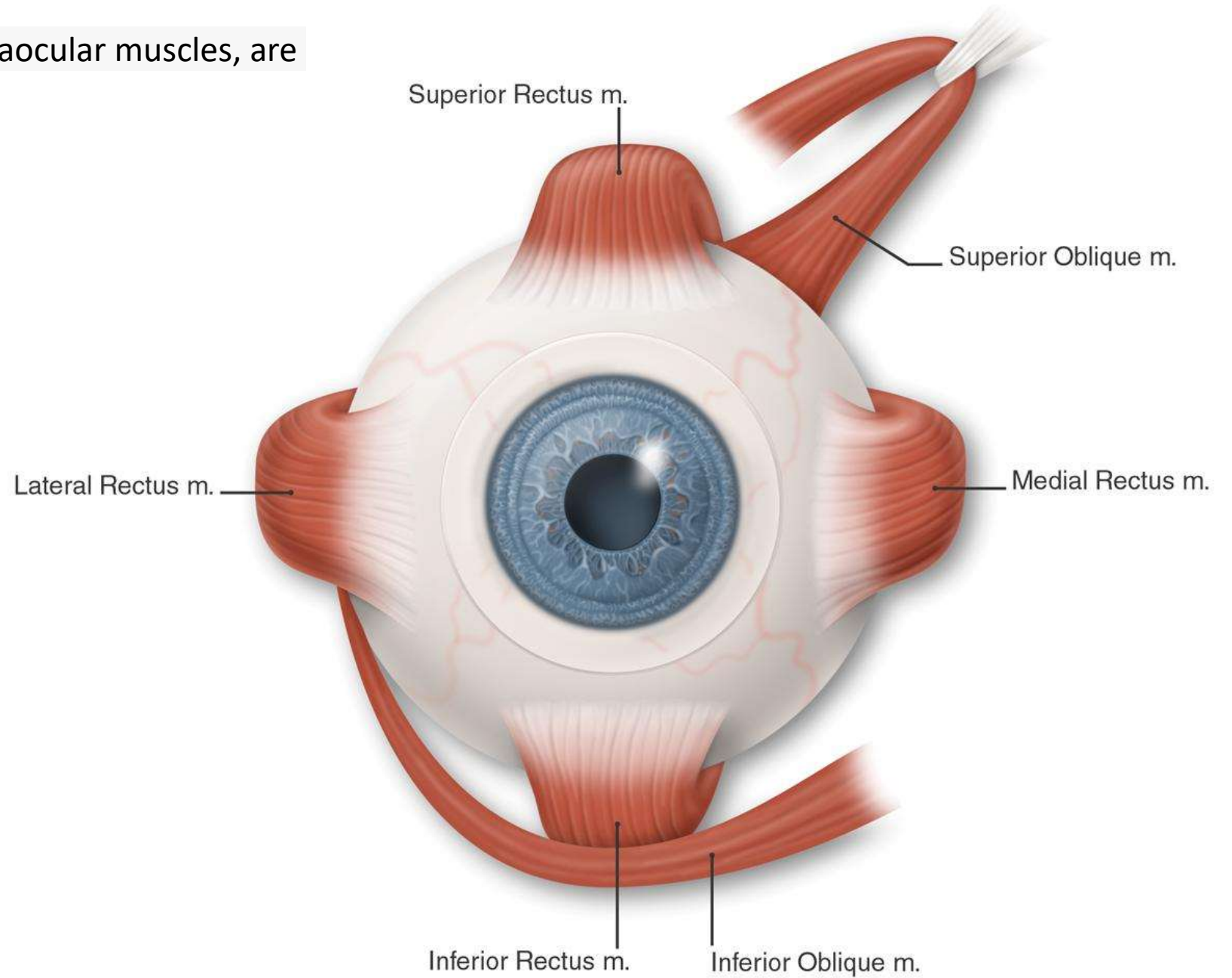
- c. Superior Rectus Muscle: The superior rectus muscle elevates and inwardly rotates the eye.

- d. Inferior Rectus Muscle: The inferior rectus muscle depresses and inwardly rotates the eye.

- e. Superior Oblique Muscle: The superior oblique muscle depresses and outwardly rotates the eye.

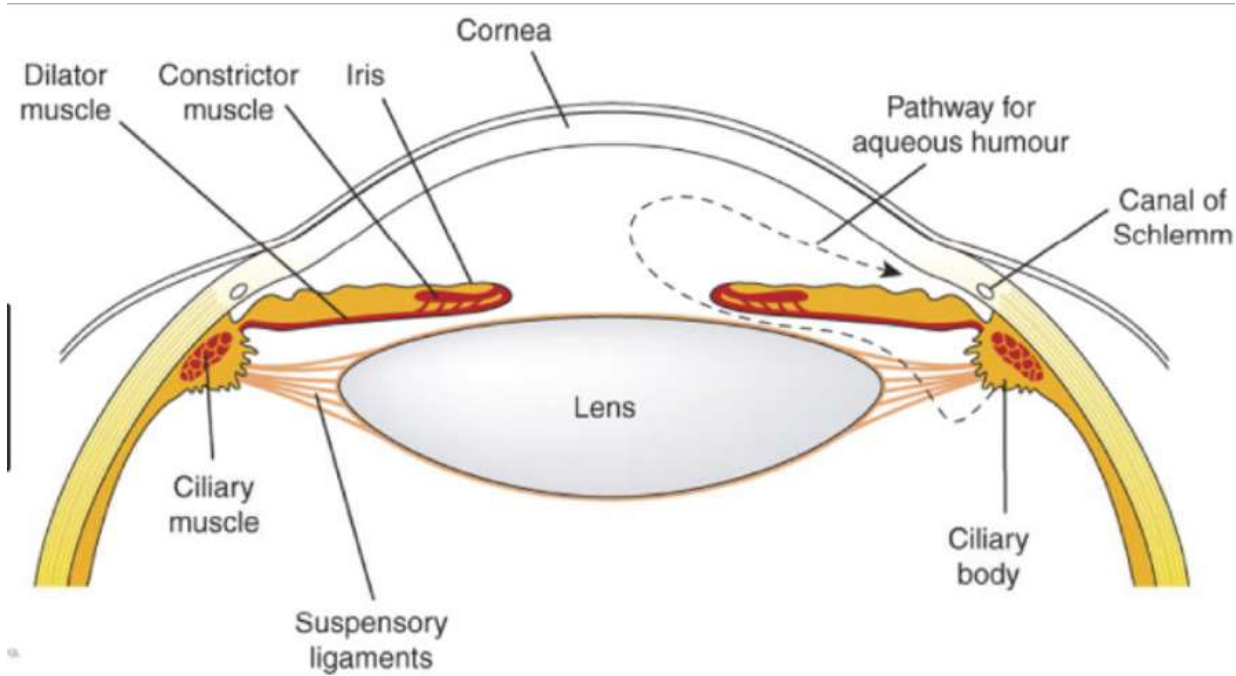
- f. Inferior Oblique Muscle: The inferior oblique muscle elevates and outwardly rotates the eye. Intrinsic Muscles:

1-Extrinsic Muscles: also known as extraocular muscles, are responsible for eye movements



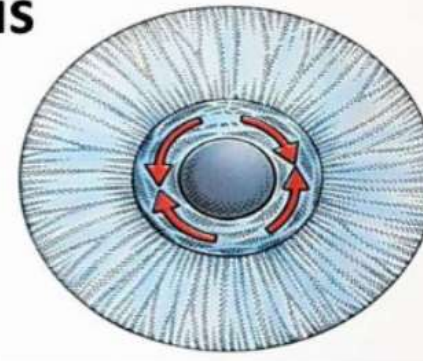
2-Intrinsic muscles are responsible for controlling the size of the pupil and lens shape, contributing to the process of accommodation (focusing).

- The intrinsic muscles include the sphincter pupillae muscle and the ciliary muscle.

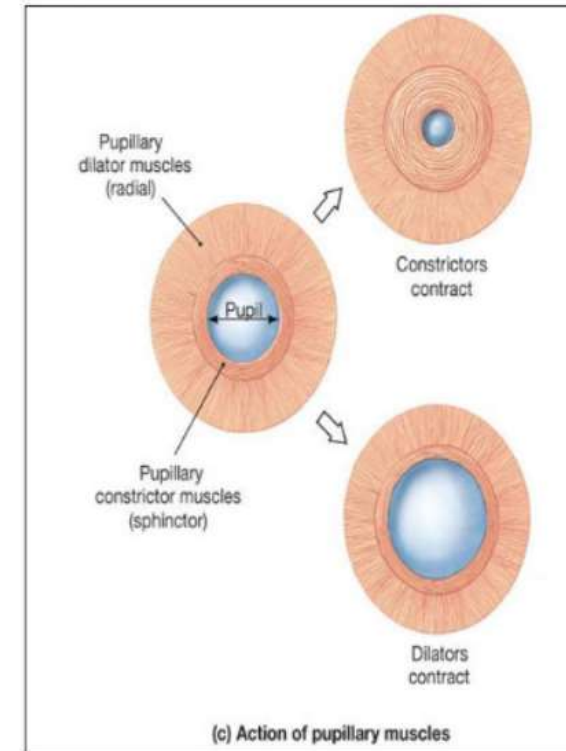
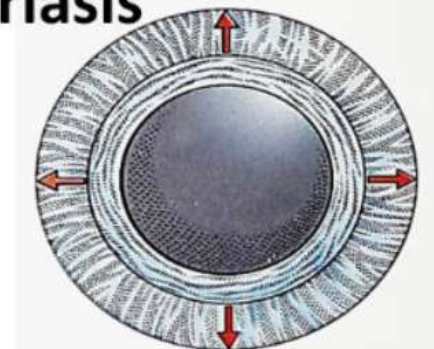


Pupillary Muscles

Miosis



Mydriasis



Blood Supply to the Orbit

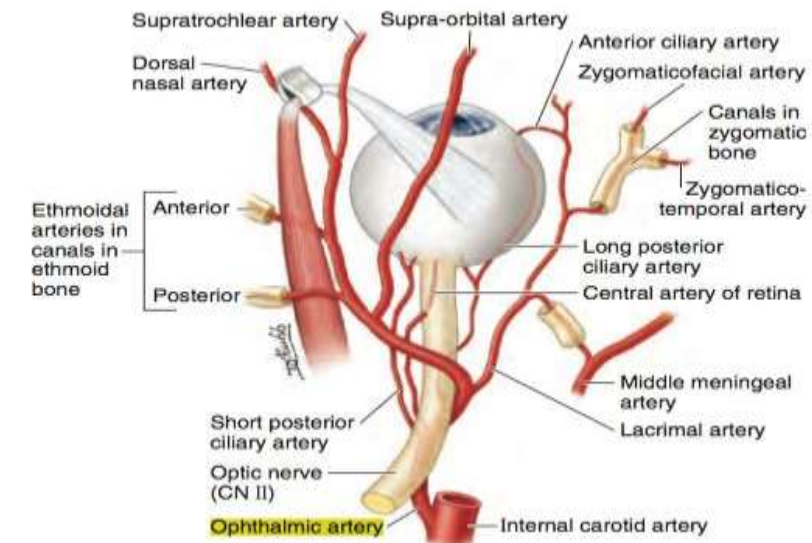
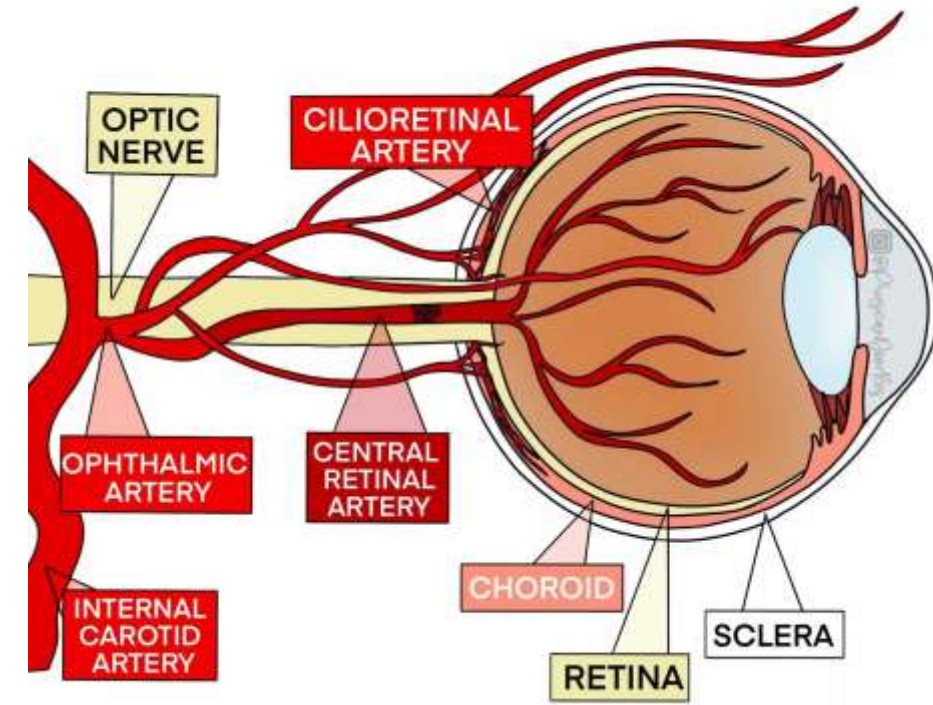
- The orbit receives its blood supply from various arteries, ensuring proper oxygenation and nutrient delivery to the eye and its surrounding structures.

1.Ophthalmic Artery:

- The ophthalmic artery is the main arterial supply to the orbit.
- It arises from the internal carotid artery and enters the orbit through the optic canal.
- The ophthalmic artery gives rise to several branches that supply different structures within the orbit.

2.Central Retinal Artery:

- The central retinal artery is a branch of the ophthalmic artery that supplies the retina, providing essential oxygen and nutrients to the inner layers of the eye.



Nerve Supply to the Orbit

- The orbit receives its nerve supply from various cranial nerves, ensuring proper innervation and control of eye movements.

1-Oculomotor Nerve (Cranial Nerve III):

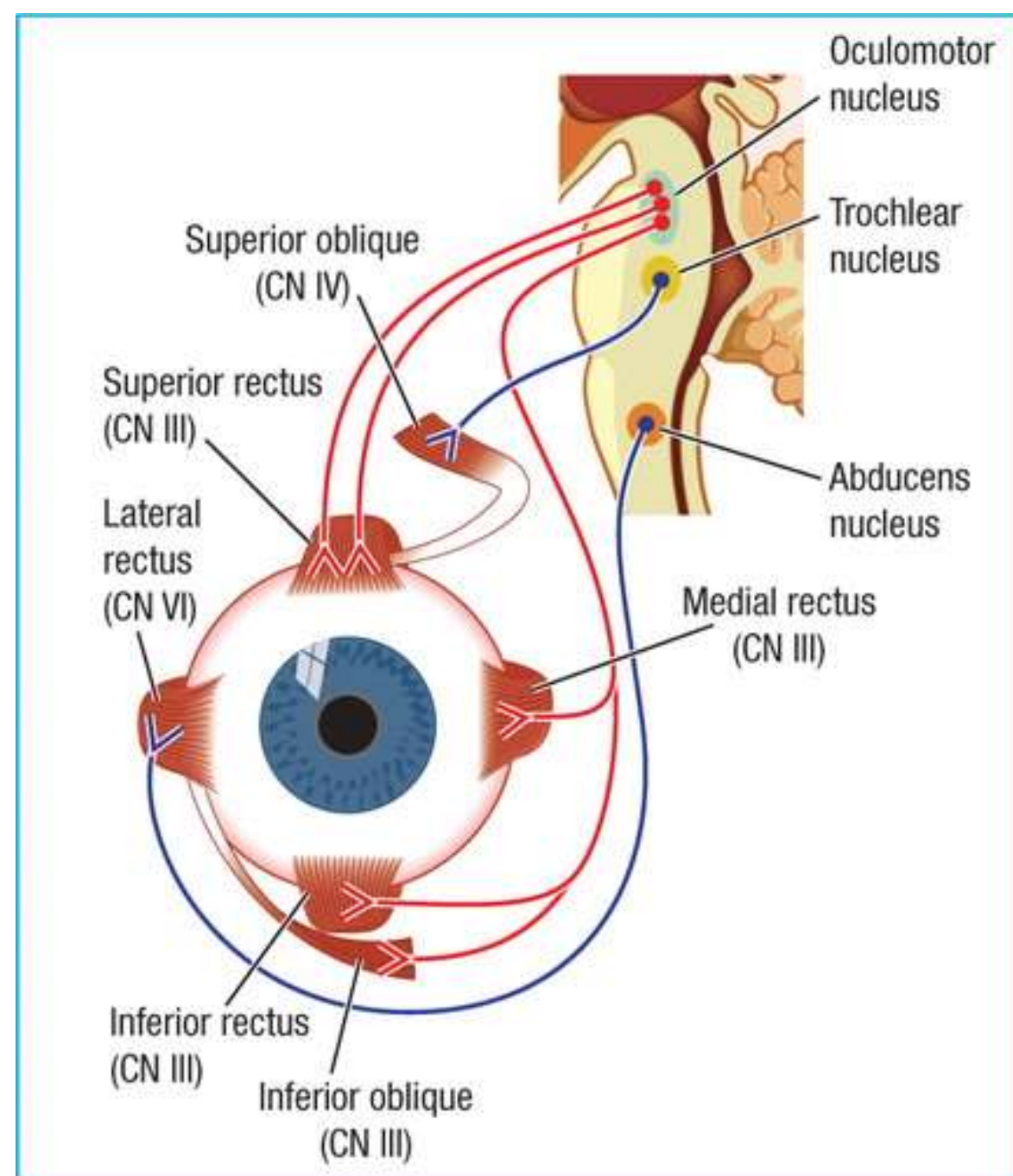
- The oculomotor nerve supplies four of the extrinsic muscles of the orbit: the superior rectus, inferior rectus, medial rectus, and inferior oblique muscles.
- It also innervates the intrinsic muscles, including the sphincter pupillae and ciliary muscles.

2-Trochlear Nerve (Cranial Nerve IV):

- The trochlear nerve supplies the superior oblique muscle, which plays a role in downward and outward eye movement.

3-Abducens Nerve (Cranial Nerve VI):

- The abducens nerve innervates the lateral rectus muscle, responsible for outward (abduction) eye movement.



Summary

The orbit contains extrinsic and intrinsic muscles that contribute to eye movement and focusing.

Extrinsic muscles, including the medial rectus, lateral rectus, superior rectus, inferior rectus, superior oblique, and inferior oblique muscles, control eye movements in different directions.

Intrinsic muscles, such as the sphincter pupillae and ciliary muscles, play a role in pupil constriction and lens accommodation.

The orbit receives its blood supply from the ophthalmic artery and its branches, ensuring proper oxygenation and nutrient delivery.

Nerve supply to the orbit is provided by cranial nerves III, IV, and VI, which innervate the extrinsic and intrinsic muscles.

**THANKS SEE YOU IN NEXT
LECTURE**