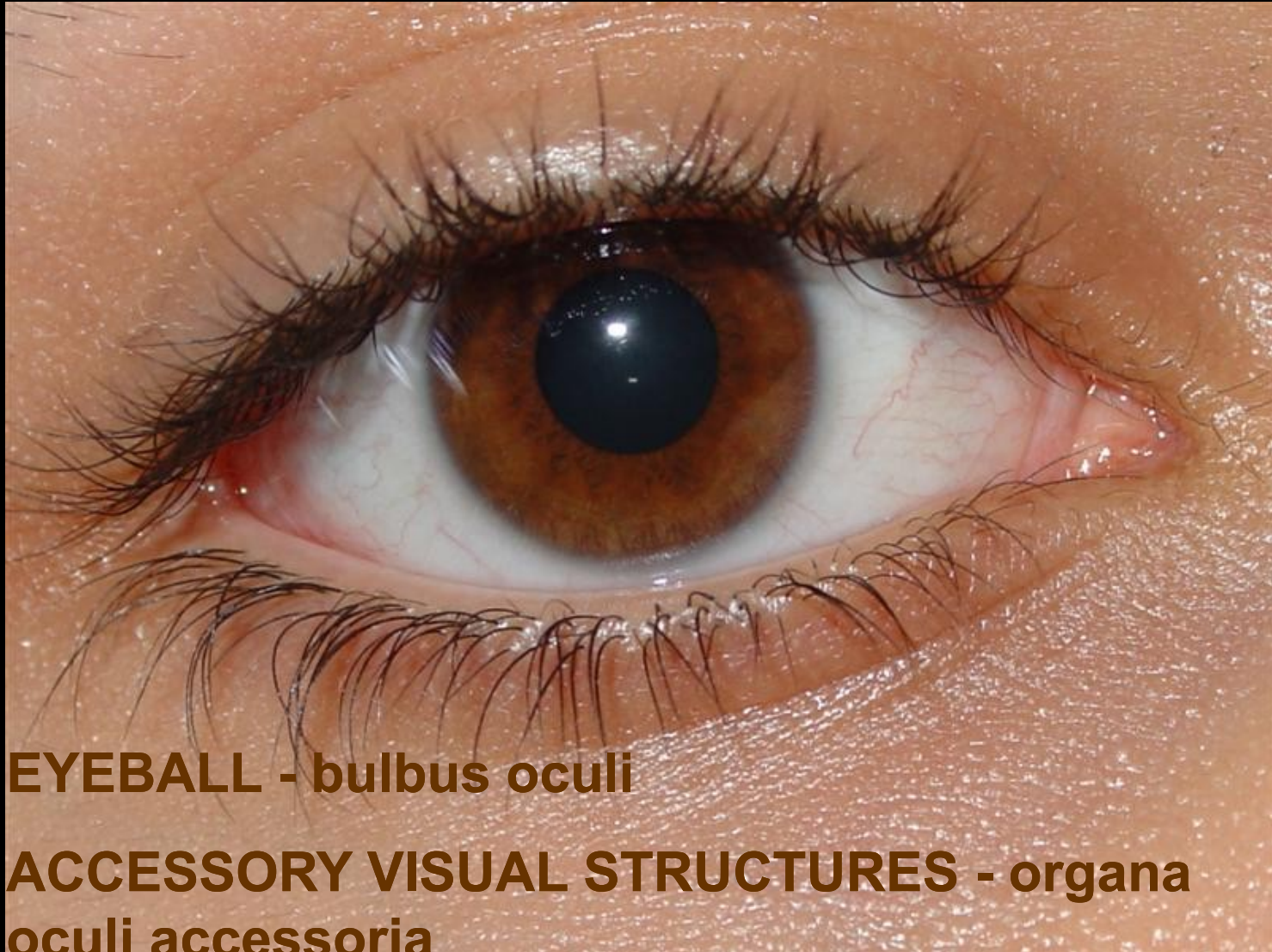


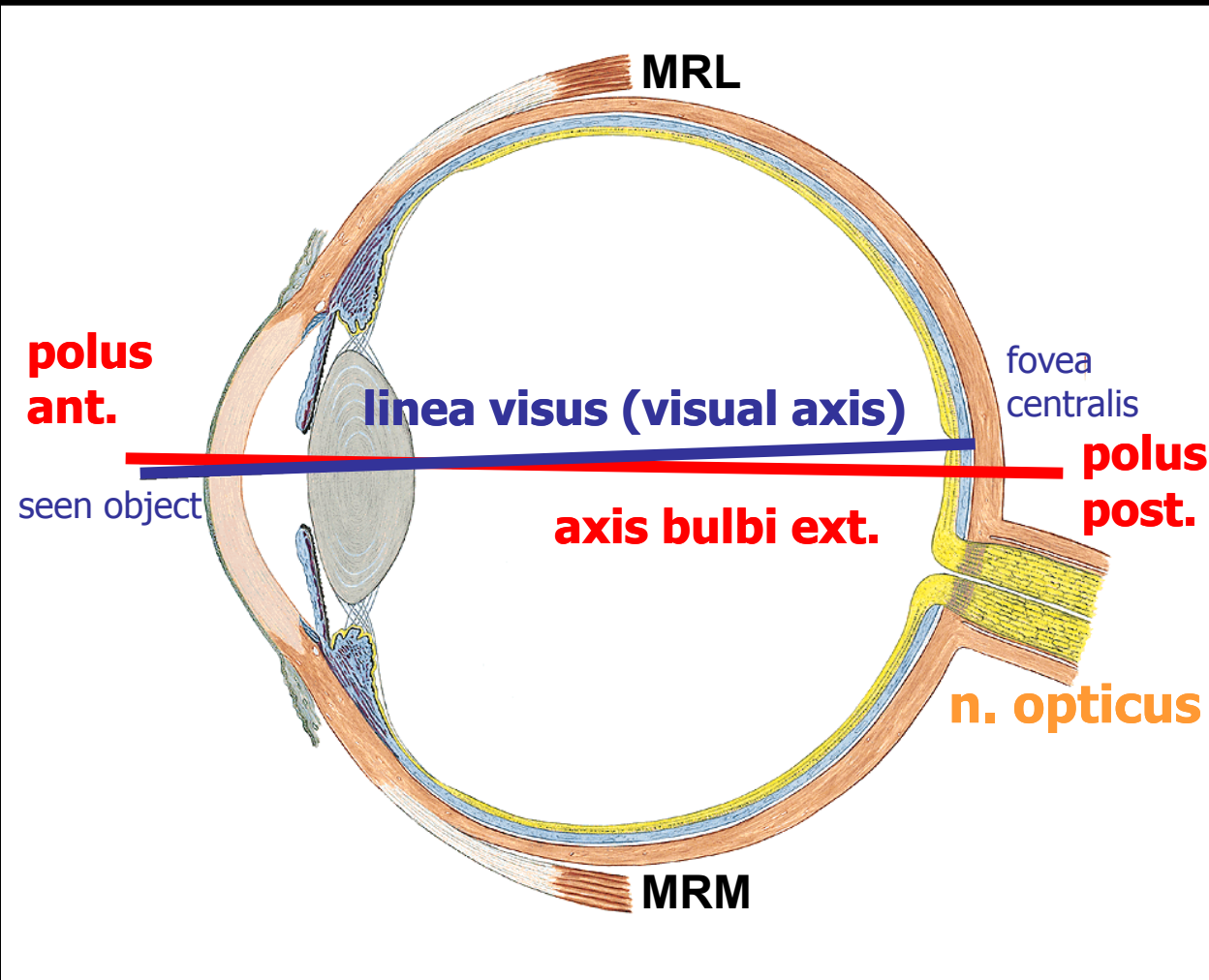
VISUAL APPARATUS



EYEBALL - bulbus oculi

**ACCESSORY VISUAL STRUCTURES - organa
oculi accessoria**

Eyeball (AP diameter 24 - 26 mm)

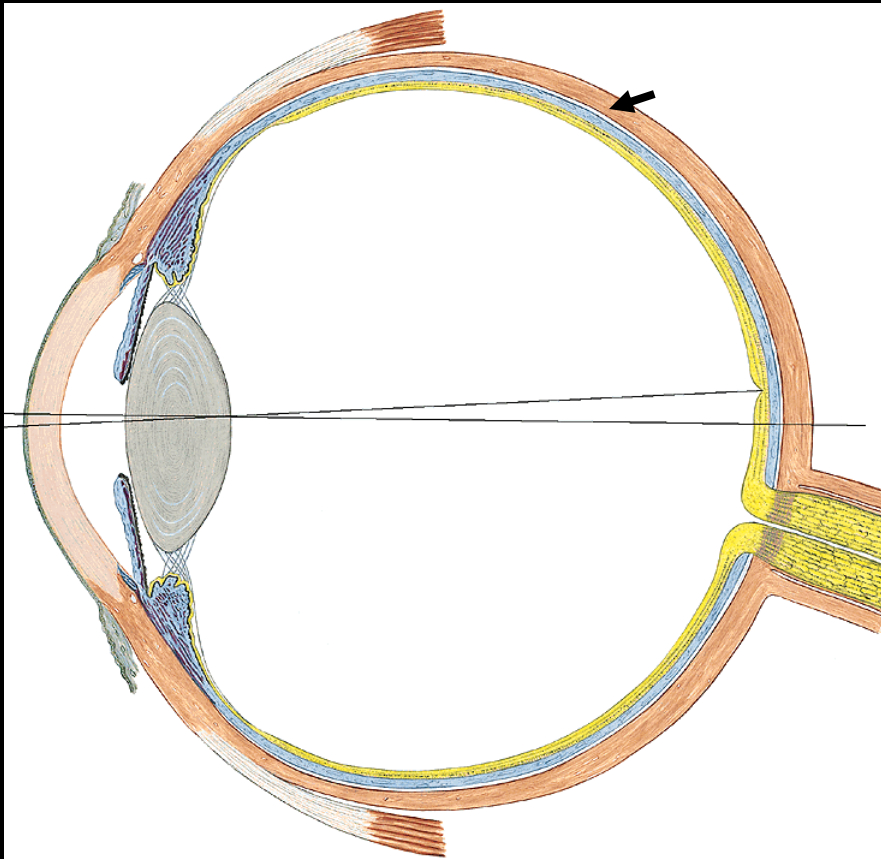


Layers:

- 1. tunica fibrosa**
- 2. t. vasculosa**
- 3. t. interna**

1. tunica fibrosa

fibrous skeleton of the eyeball
attachment of muscles



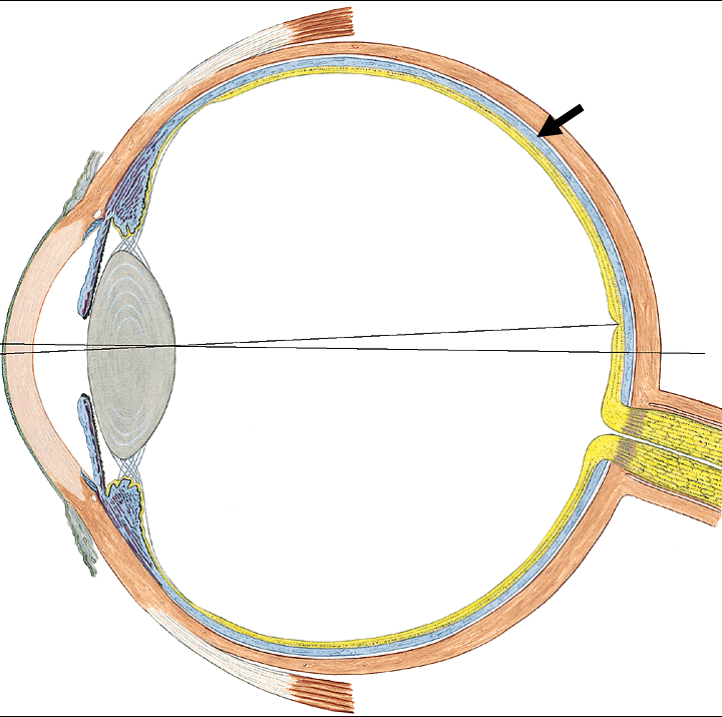
Sclera - post. 5/6

- limbus sclerae
- sulcus sclerae
- sinus ven. sclerae
- l. cribrosa sclerae

Cornea - ant. 1/6

- limbus corneae
- facies ant. et post.

2. tunica vasculosa



Choroid (2/3)

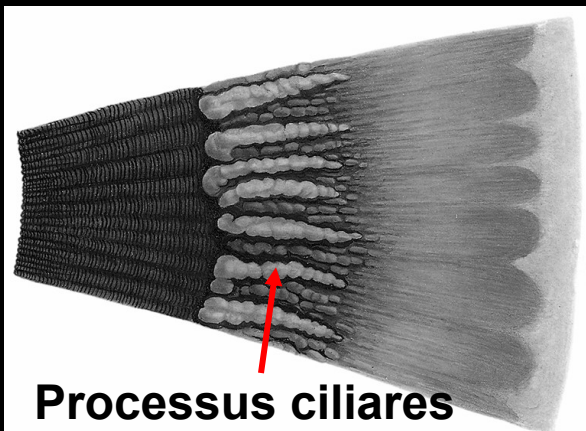
- ✓ supplies the retina
- ✓ pigmented – light-absorbing
- ✓ vascular

Corpus ciliare

- ✓ attachment for the lens
- ✓ controls thickness of the lens
- ✓ secretion of aqueous humor

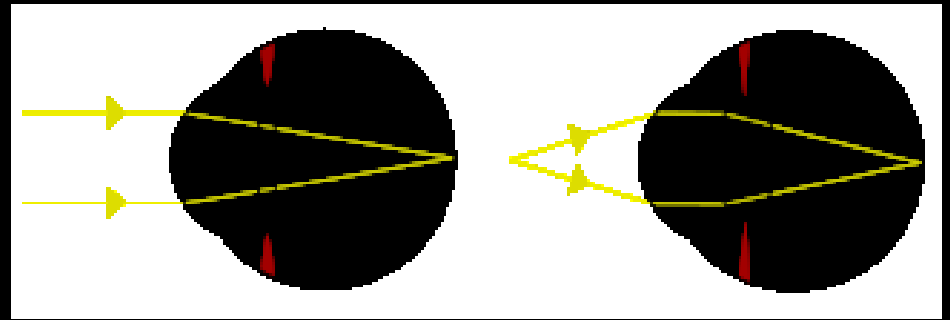
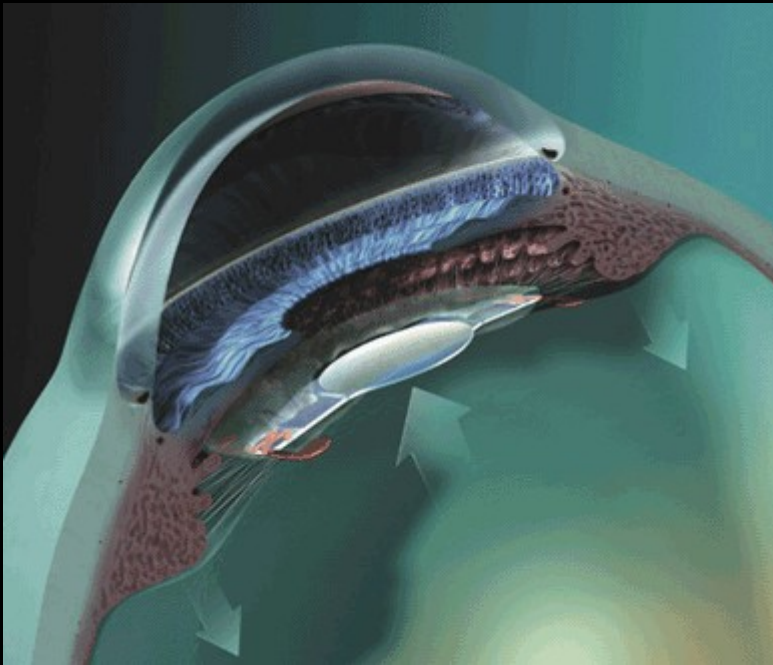
Iris

- ✓ contractile diaphragm with a central aperture – pupil
 - facies ant. et post.
 - sphincter, dilator



M. ciliaris

Accommodation of the lens

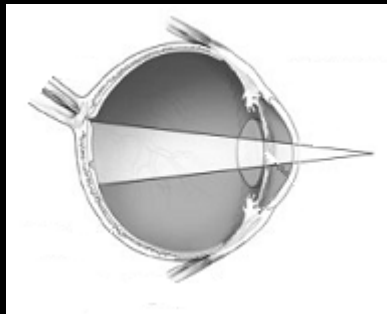


increased convexity of the
lens – refraction suitable
for near vision

Innervation: **E-W ncl. CN III**

M. sphincter pupillae

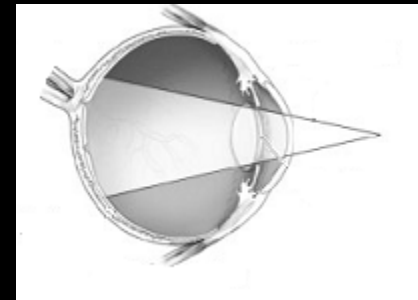
Miosis



E-W ncl. CN III

M. dilatator pupillae

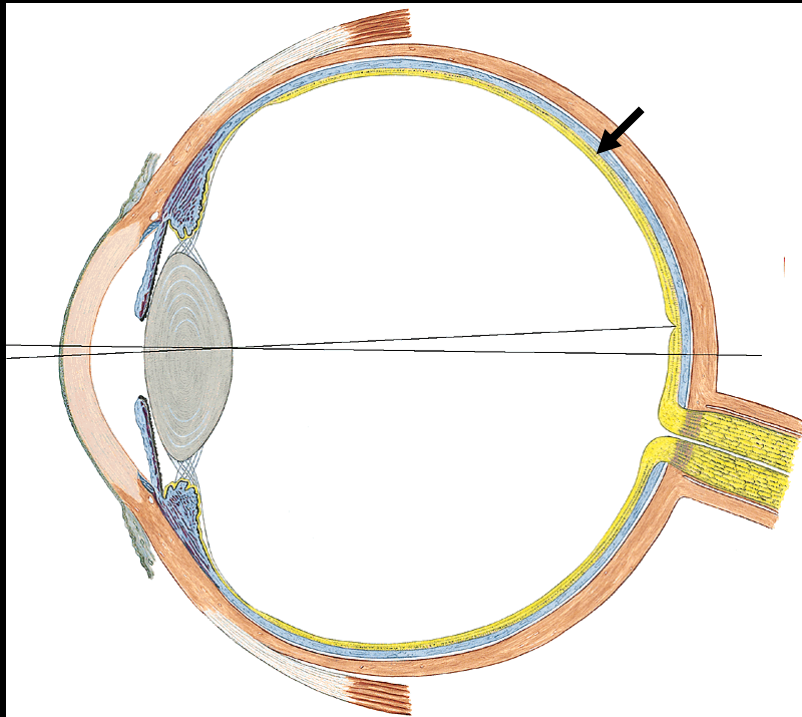
Mydriasis



Symp.ncl.

3. tunica interna

Retina



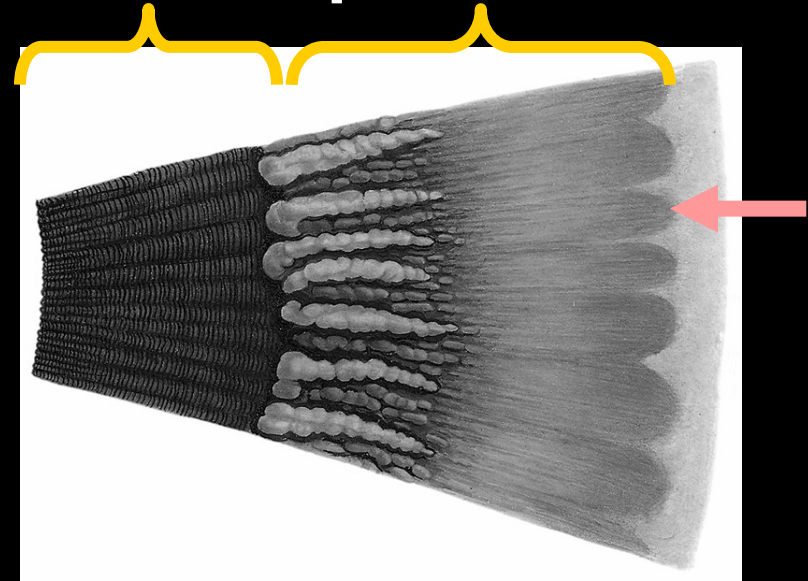
- pars optica
(rods, cones)

ora serrata

- pars caeca:

p. iridica

p. ciliaris



Layers of the retina

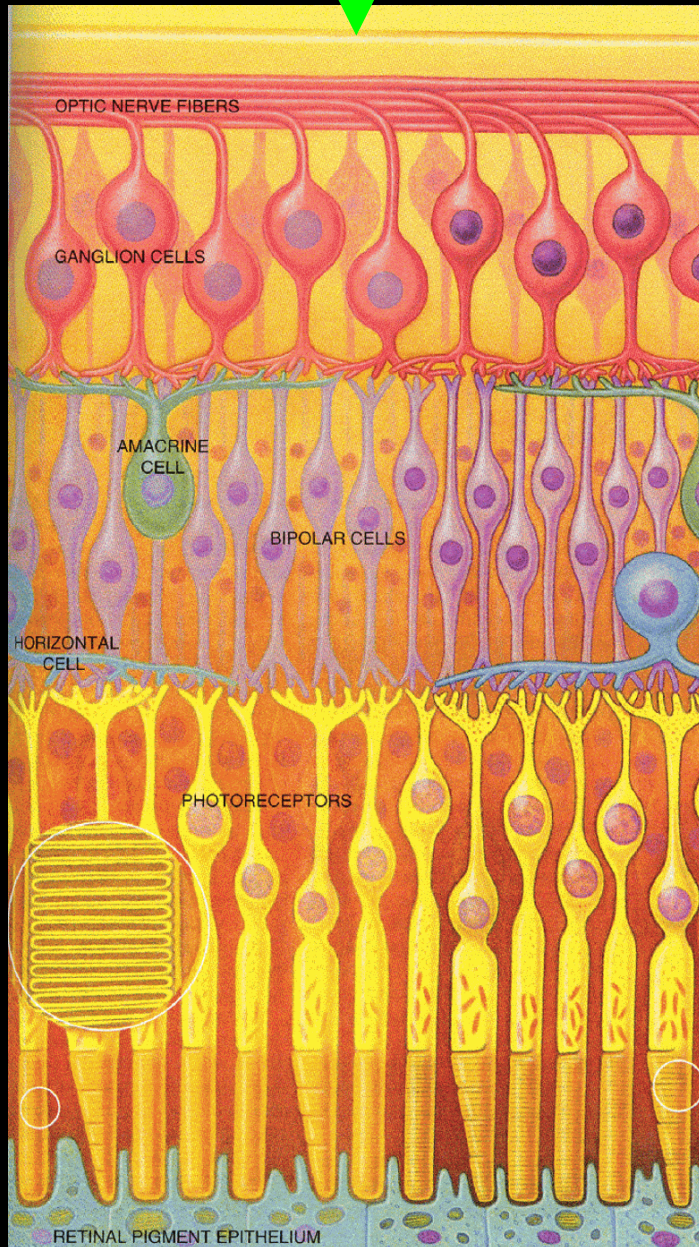
N. opticus

str. ganglionare n. optici

str. ganglionare retinae

str. neuroepitheliale

str. pigmentosum



Photoreceptors:

Rods

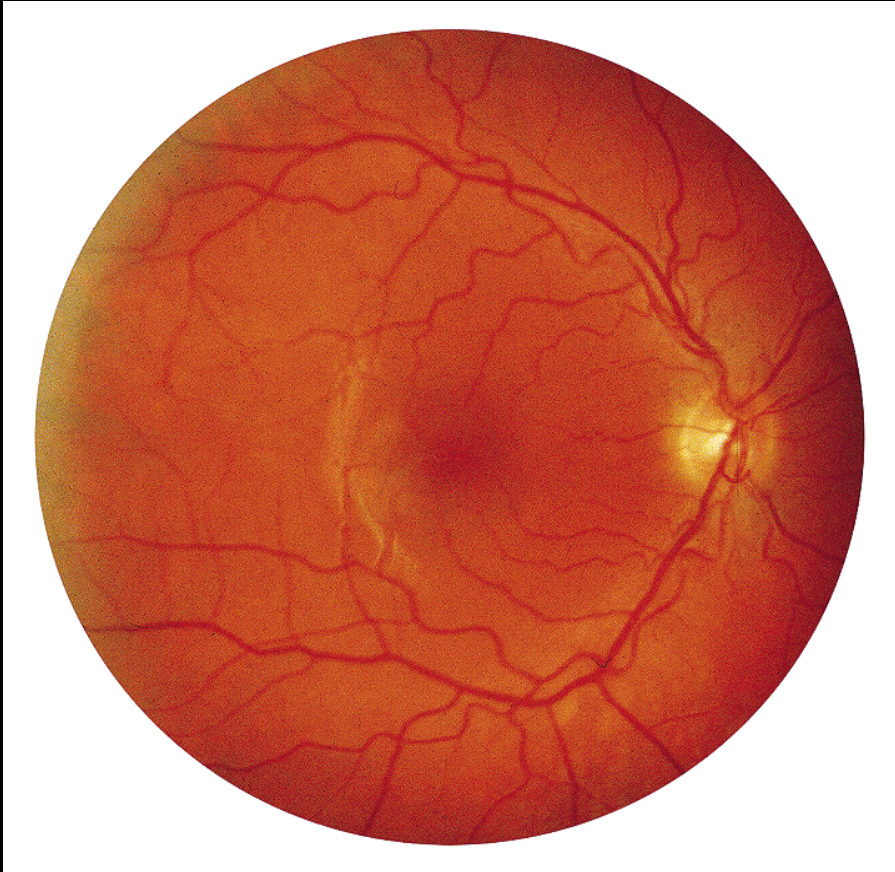
- ✓ 120 million
- ✓ primary source of visual information at night
- ✓ used in peripheral vision

Cones

- ✓ 7 million
- ✓ detection of color
- ✓ central fovea – responsible for central vision

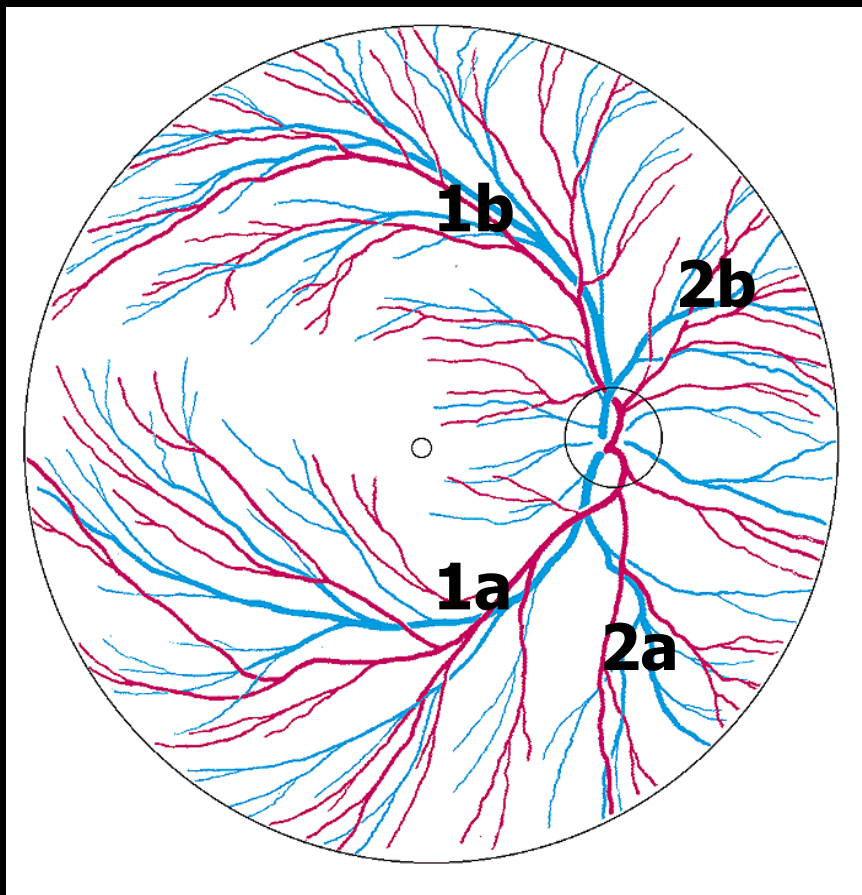
Ophthalmoscopy

Fundus - OCULA DEXTRA (OD)



**Discus (papilla) n.
optici**

Macula lutea + fovea centralis
- the area of most acute vision

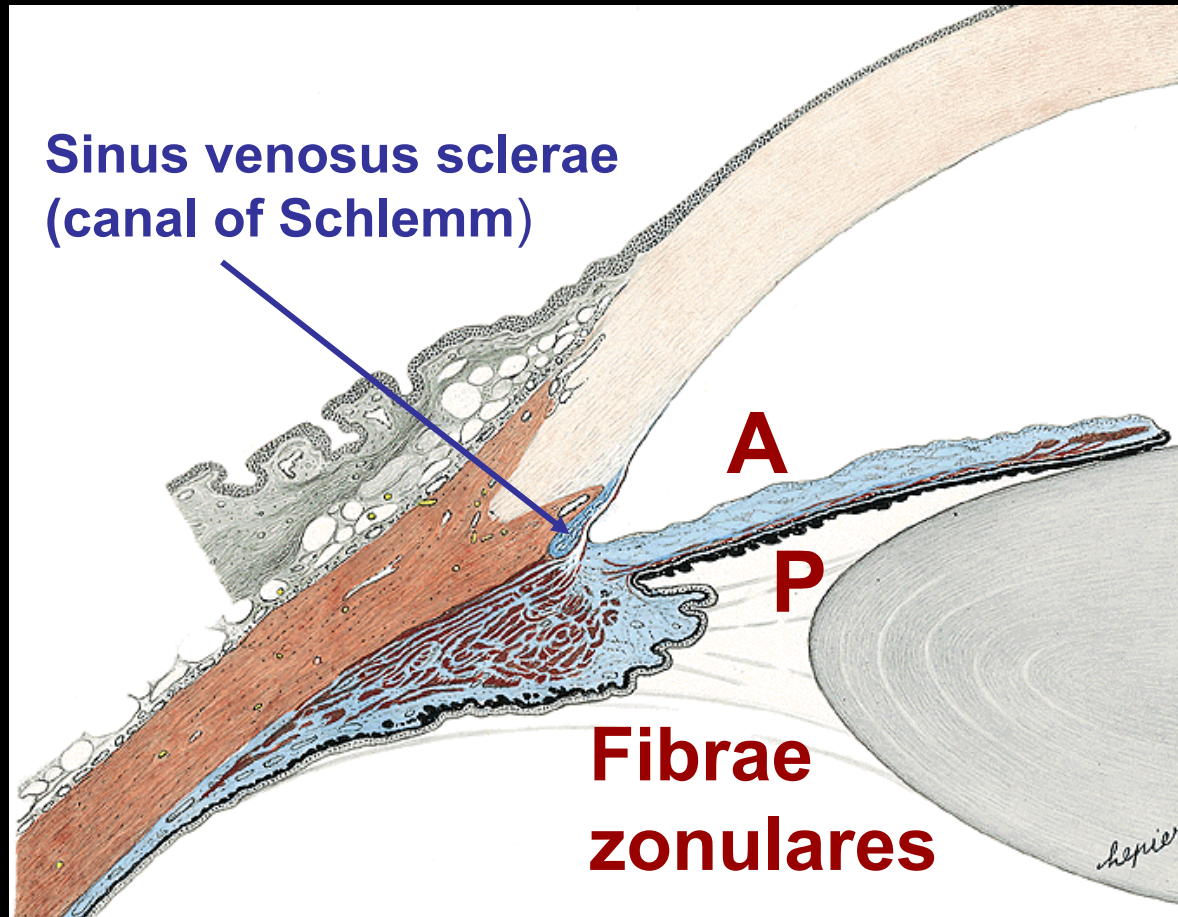


A. et v. centralis retinae

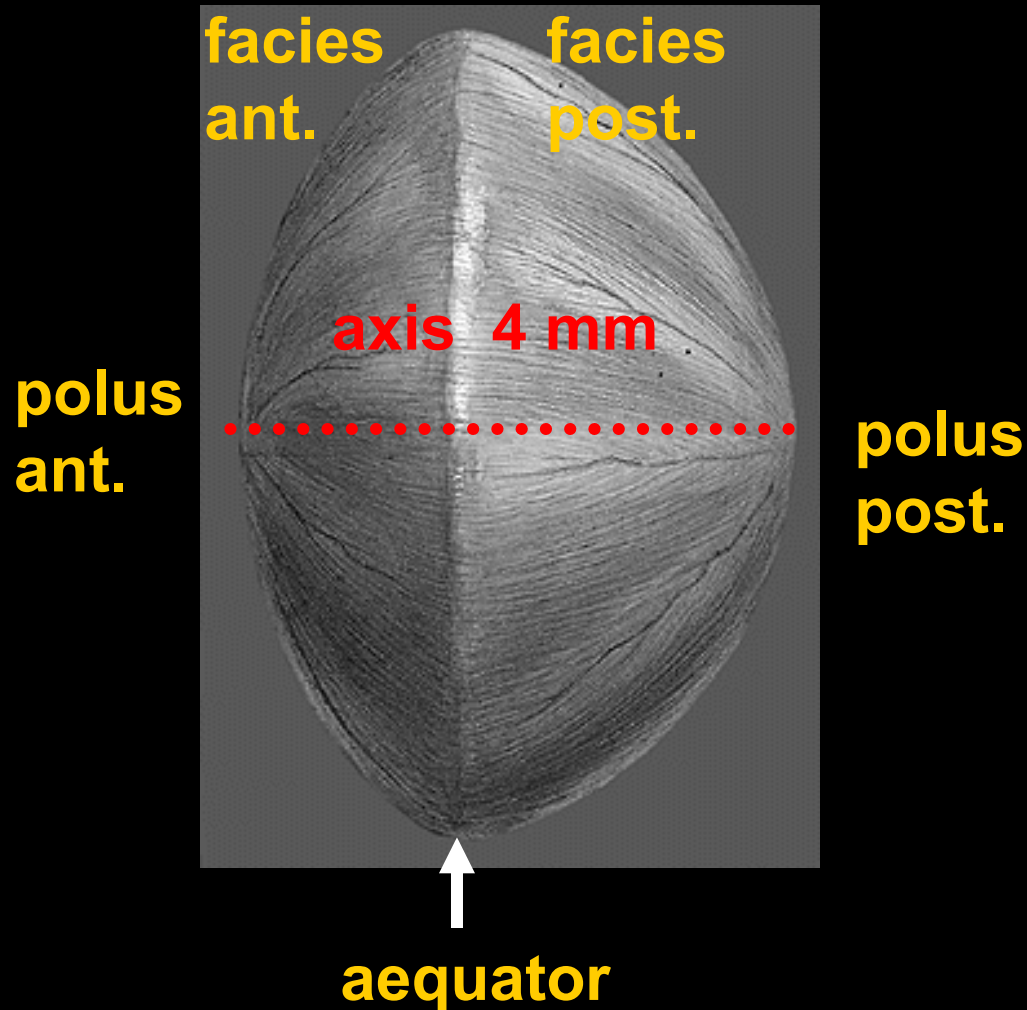
1a,b a. et v. temporales

2a,b a. et v. nasales

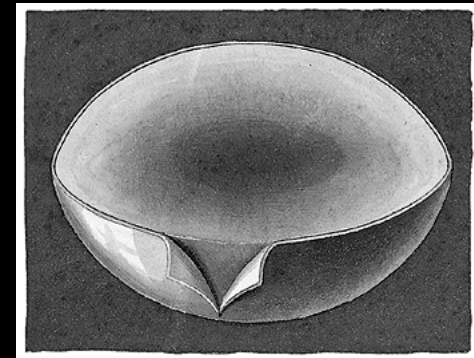
Chambers - camera bulbi ant. et post.
Aqueous humor - humor aquosus



Lens



Optical power
+ 10 - 17 dioptries



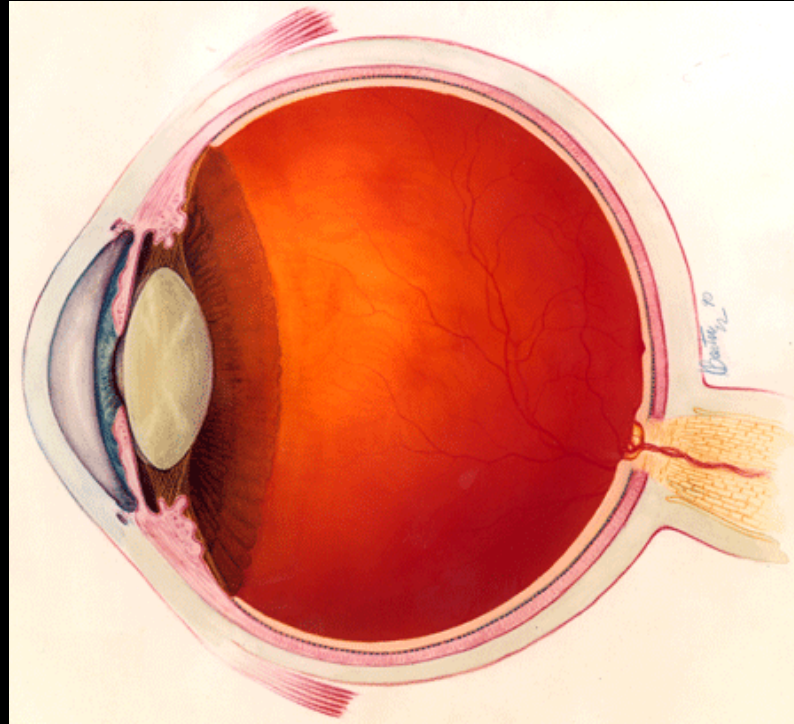
- capsula lentis
- cortex lentis
- nucleus lentis

Cataracts



- ✓ loss of transparency
- ✓ cloudiness
- ✓ ageing process

Vitreous chamber: **vitreous humor, vitreous body**

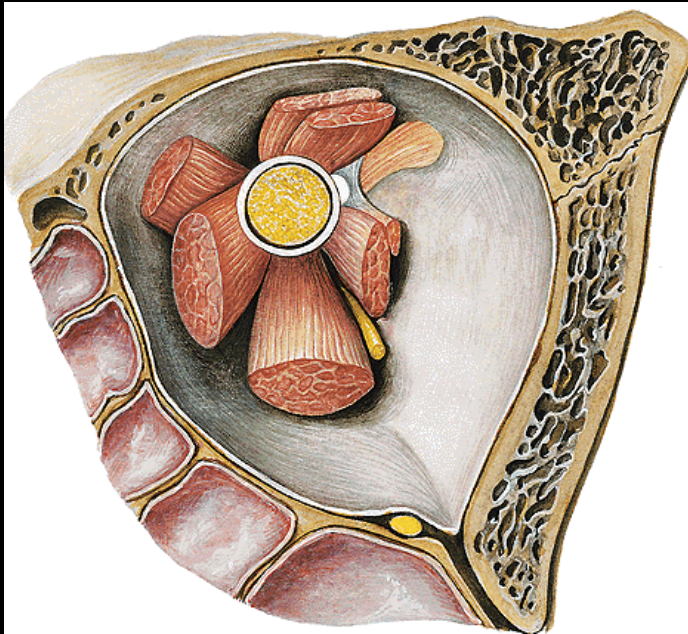


- ✓ **jelly-like substance with watery fluid**
- ✓ **holds the retina in place**
- ✓ **supports the lens**

Extraocular muscles

Smooth

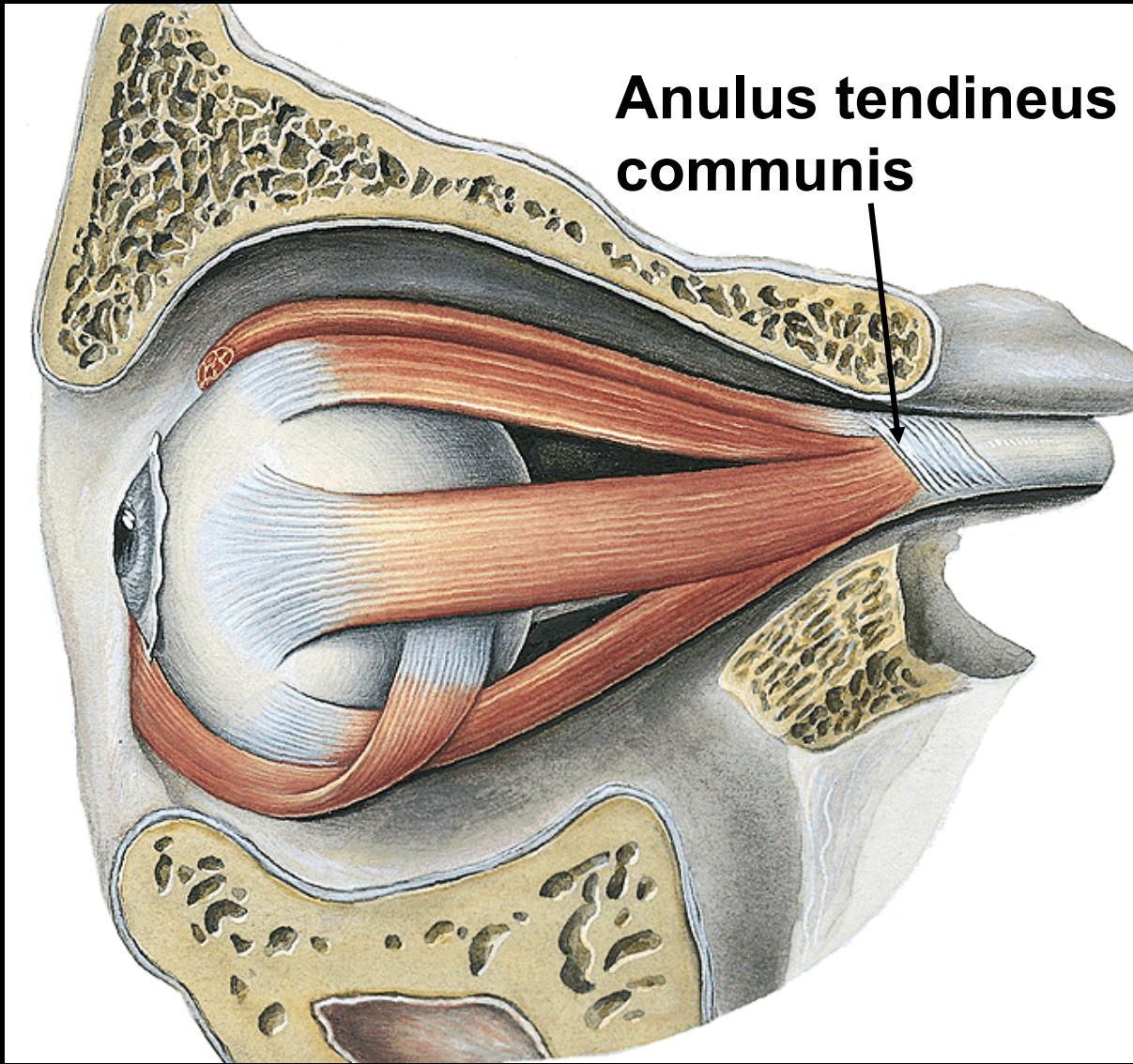
- m. orbitalis (**symp.**) Palsy = **Enophthalmus**
- mm. tarsales (**symp.**) = **Ptosis**

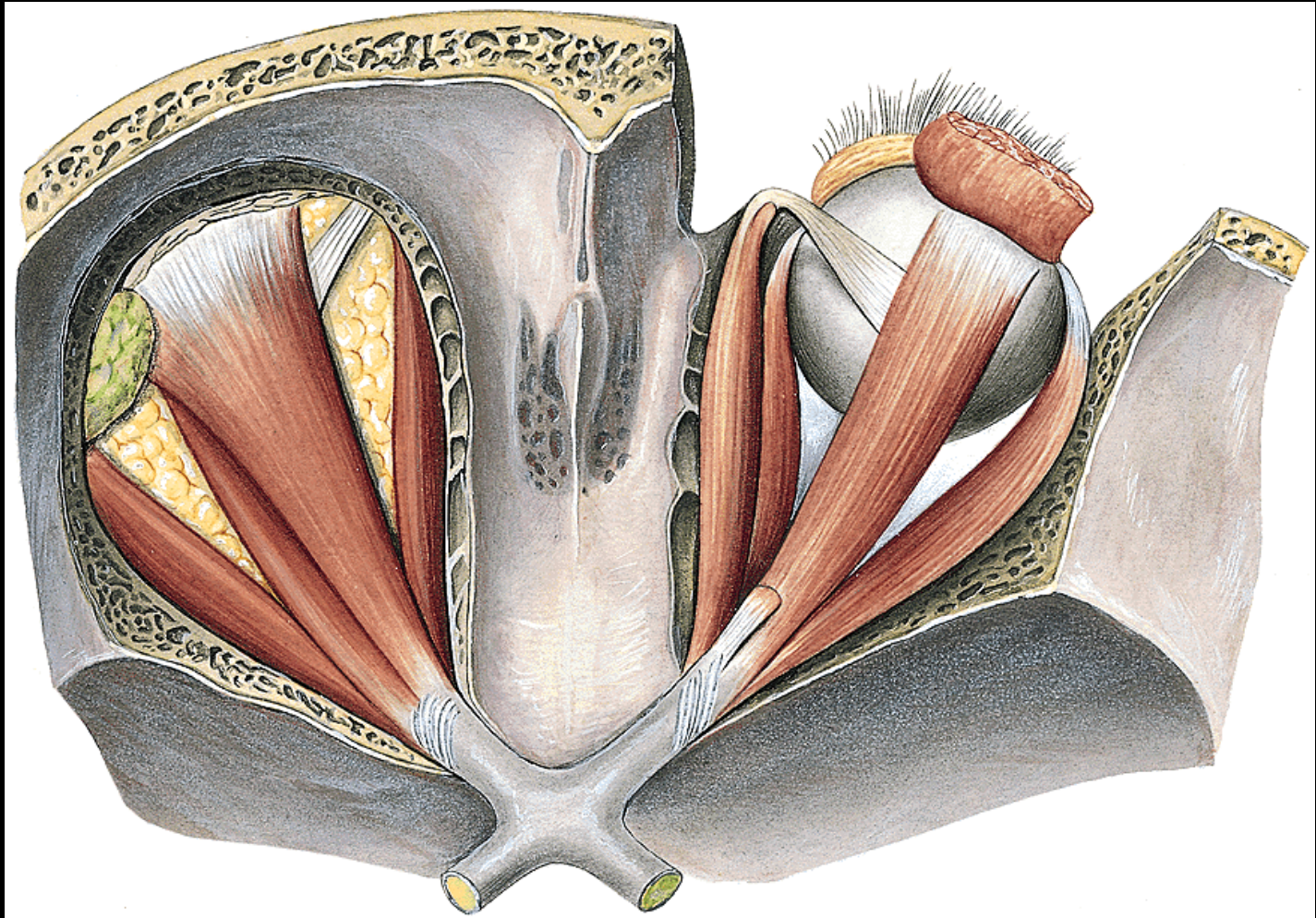


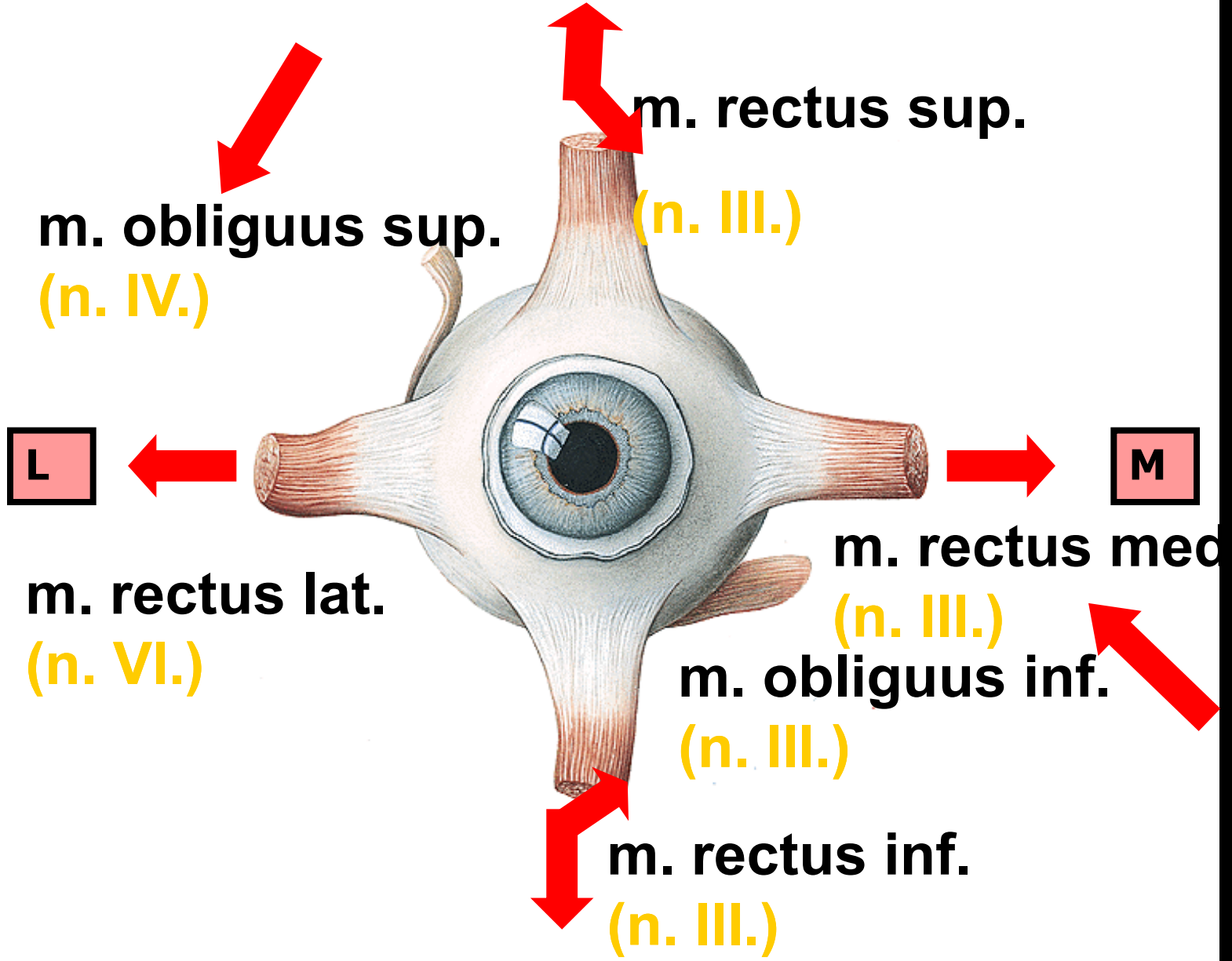
Skeletal

- m. rectus bulbi sup., inf., med., lat.
- m. obliquus sup., inf.
- m. levator palp. sup.

**Anulus tendineus
communis**







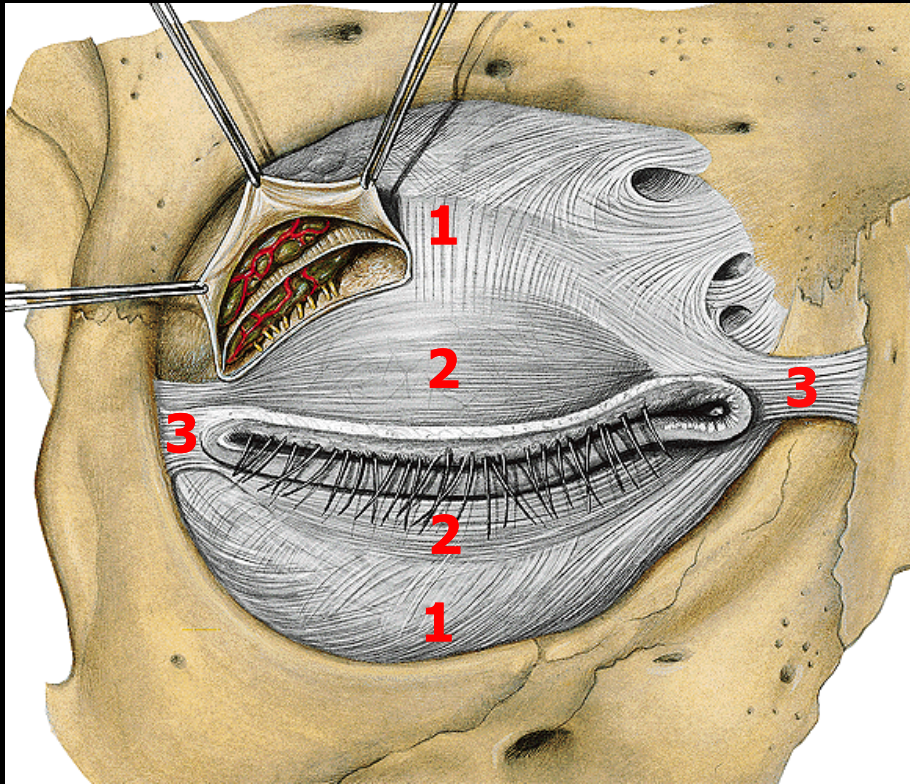
Eyelids - palpebrae

Conjunctiva



- palpebra sup. et inf.
- commisurae palpebr.
- rima palpebrarum
- angulus oculi med. et lat.
- facies ant. et post.

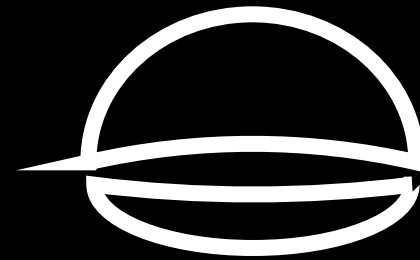
Structure of the eyelid

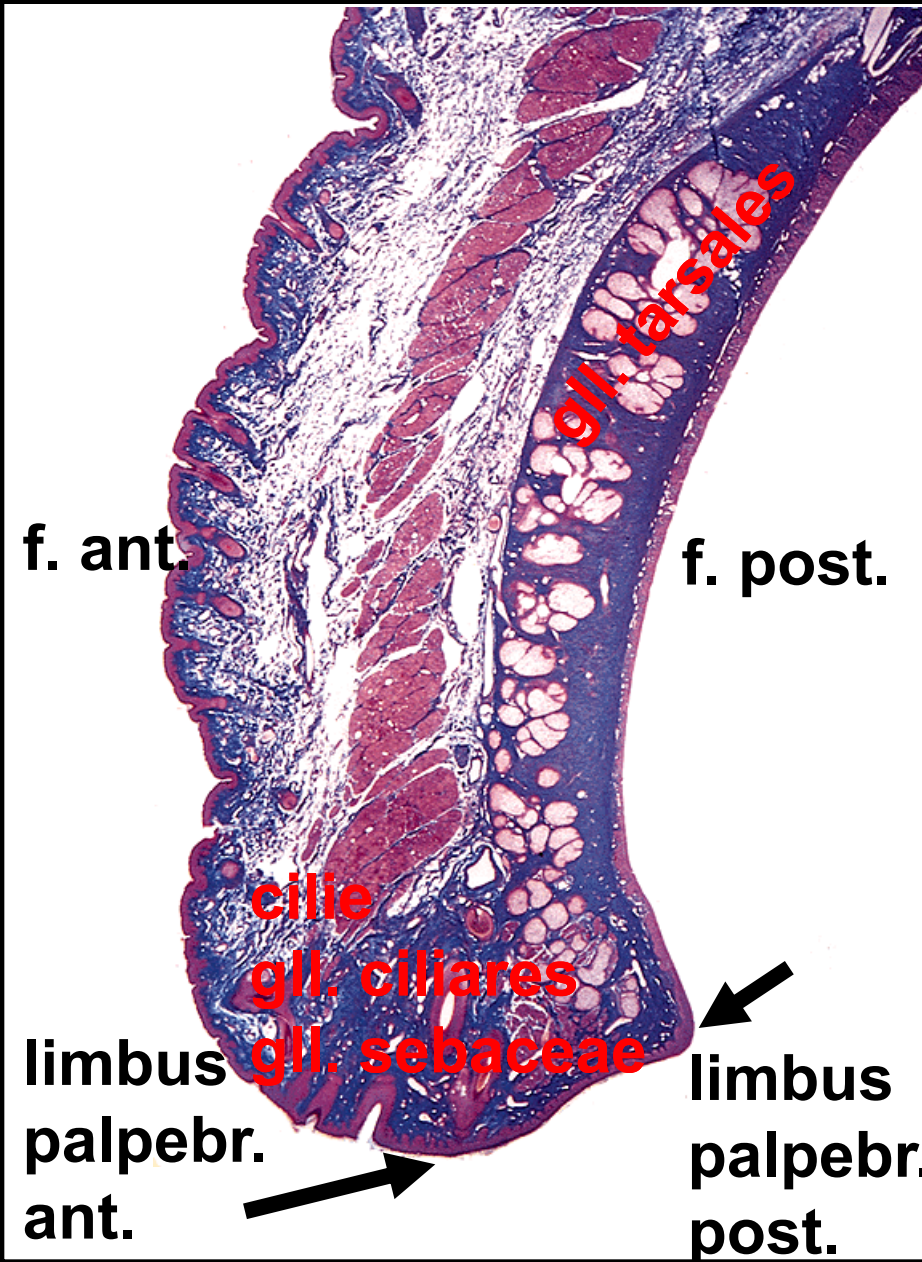


1 **septum orbitale**

2 **tarsus sup. et inf.**

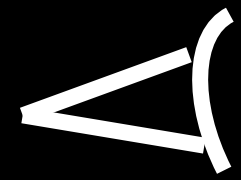
3 **lig. palp. med. et lat.**





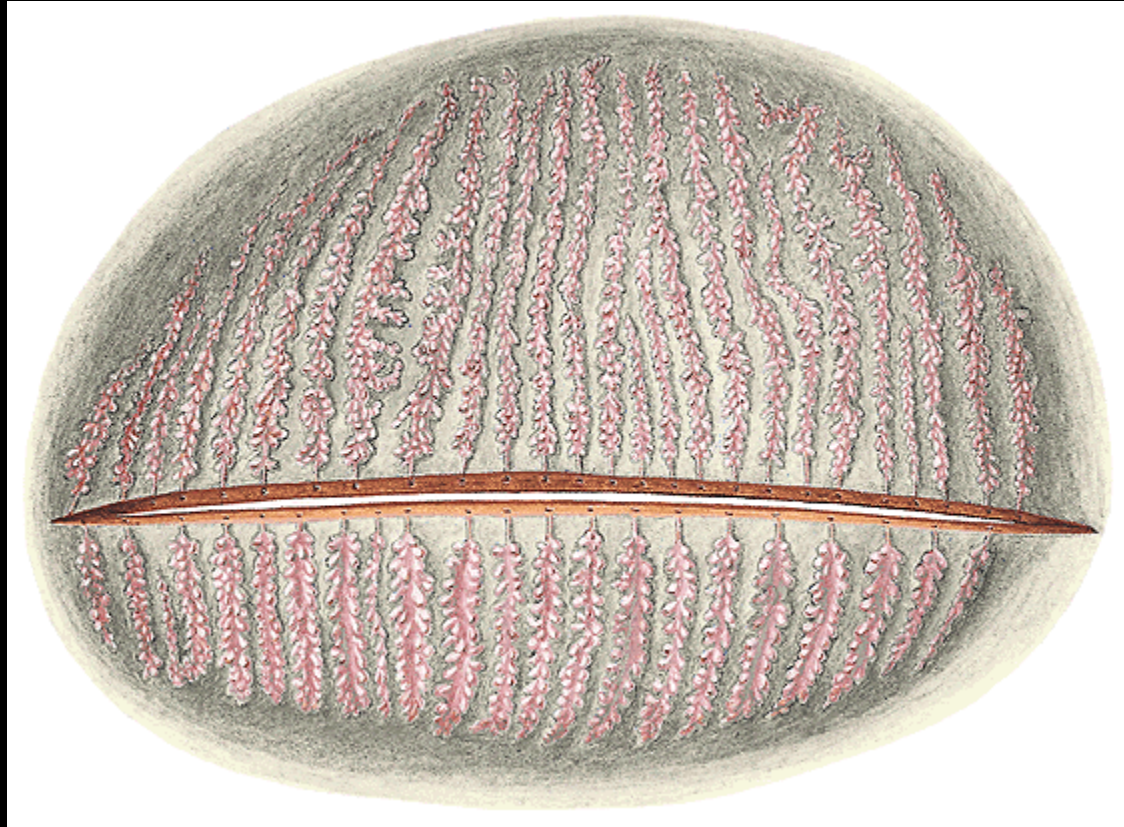
skin

- m. orbicularis oculi
- septum orbitale + tarsi
- conjunctiva

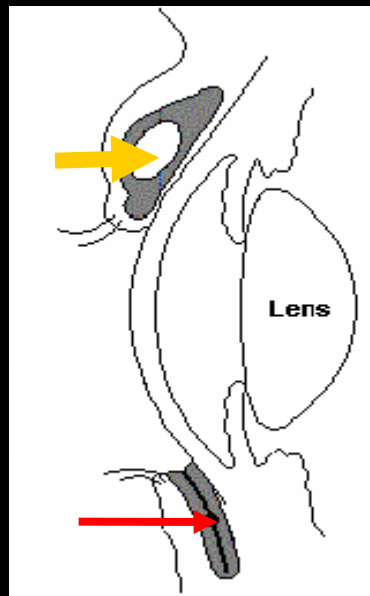


Rivus lacrimalis

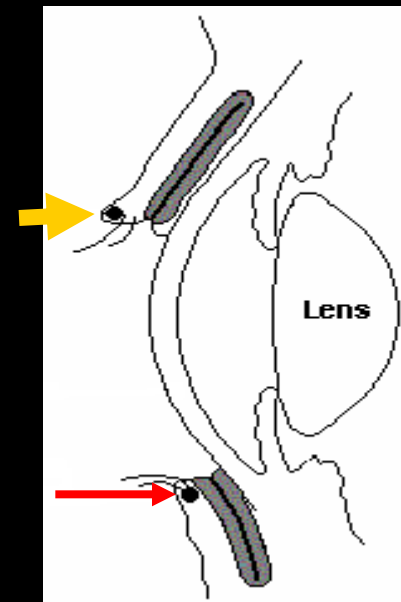
GII. tarsales

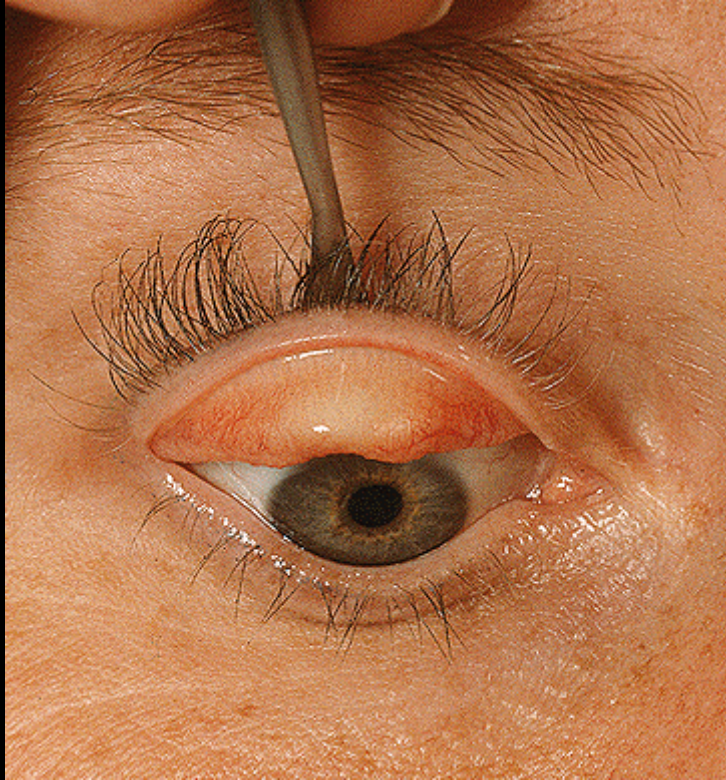


Chalazion (tarsal chalazion)



Hordeolum (sty)



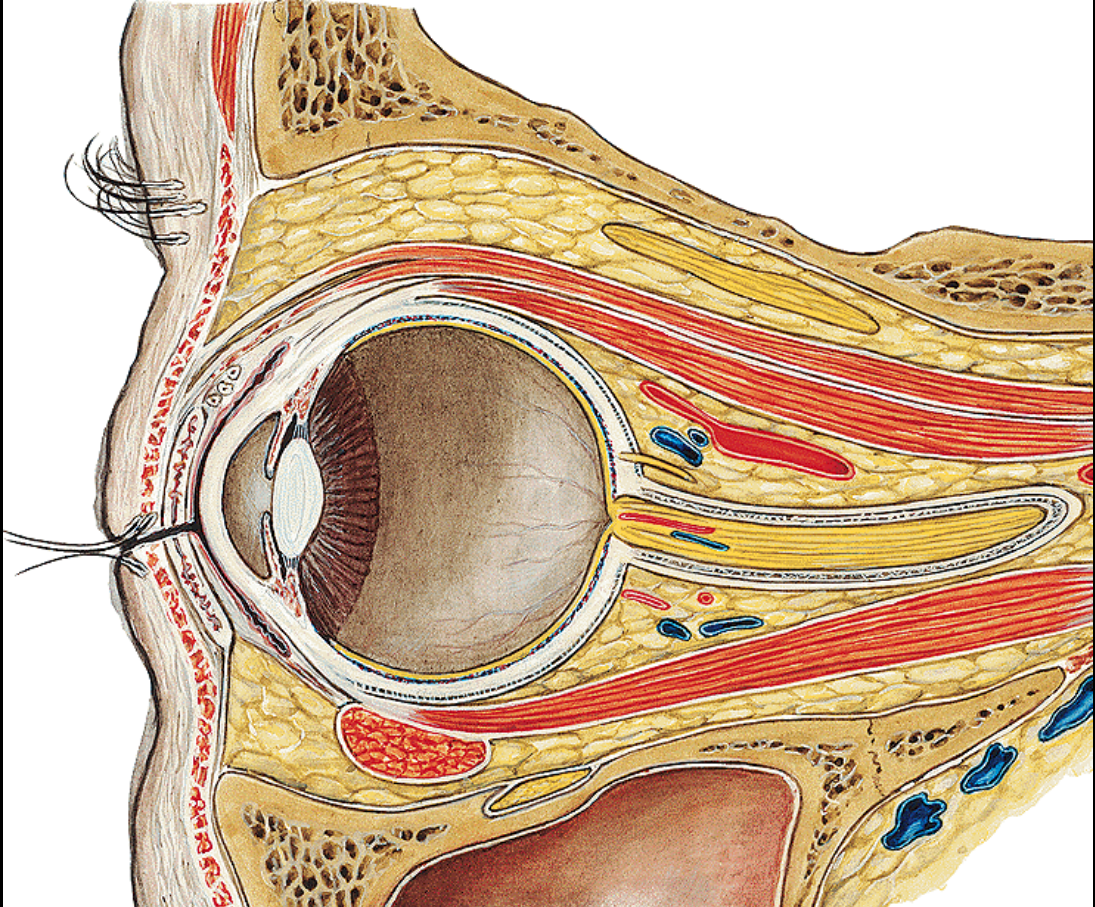


Tunica conjunctiva

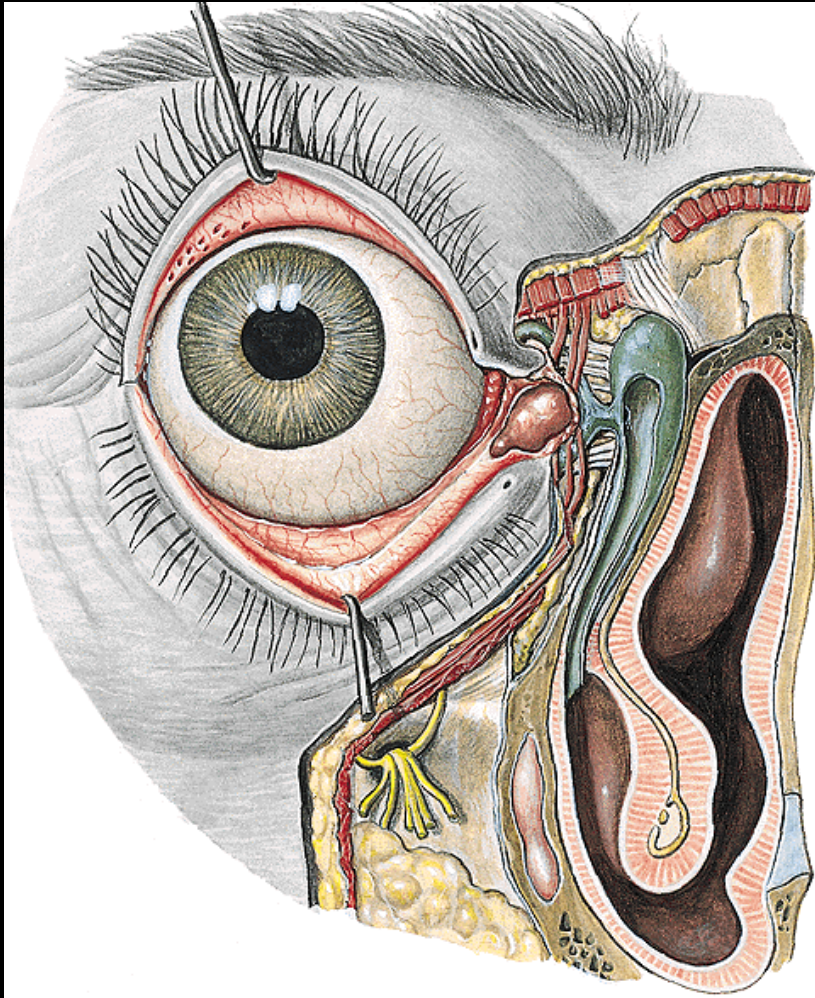
tun. conj. palpebrarum

fornix conjunct. sup. et inf.

■ **tun. conj. bulbi**



Apparatus lacrimalis



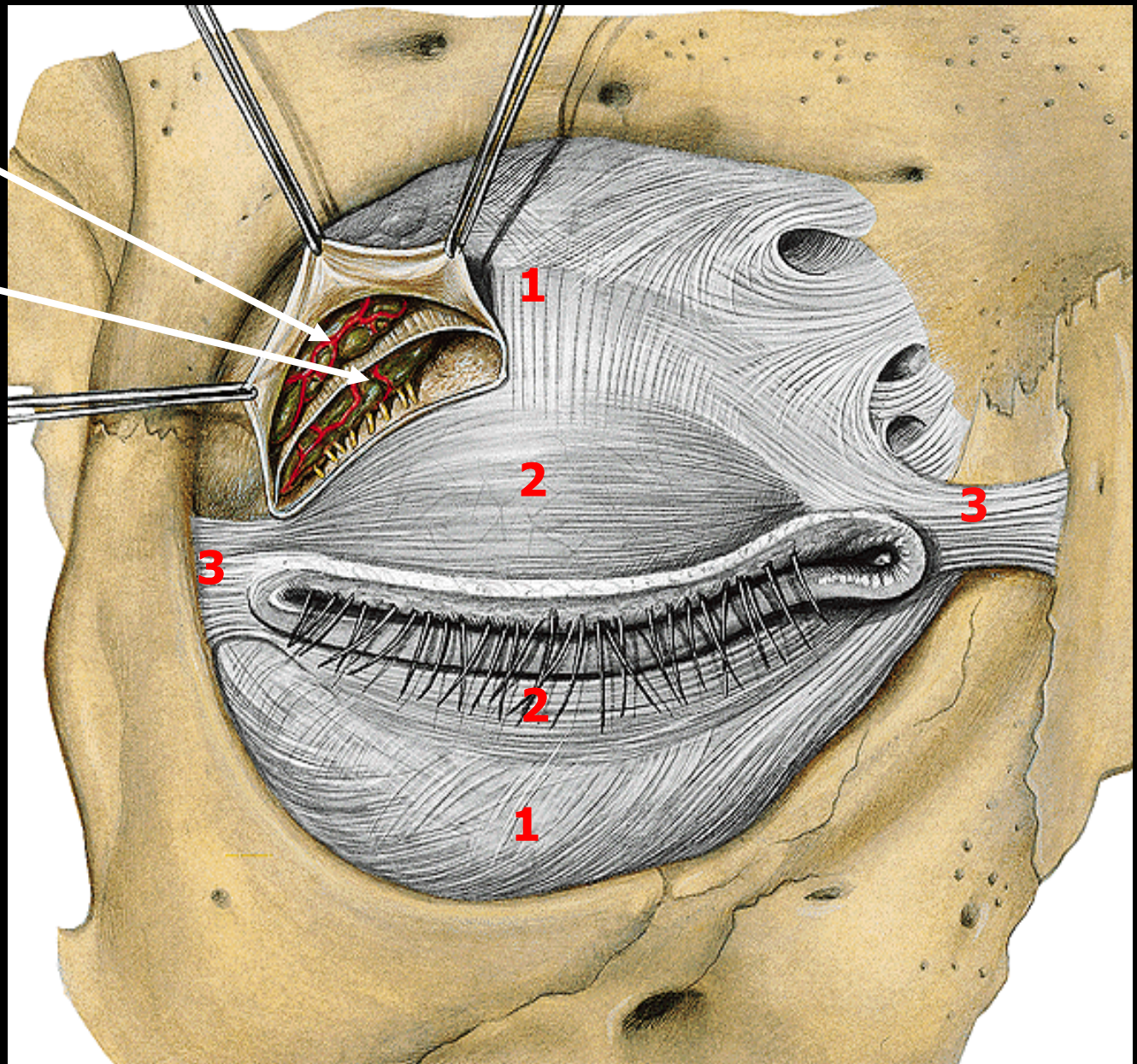
Glandula lacrimalis

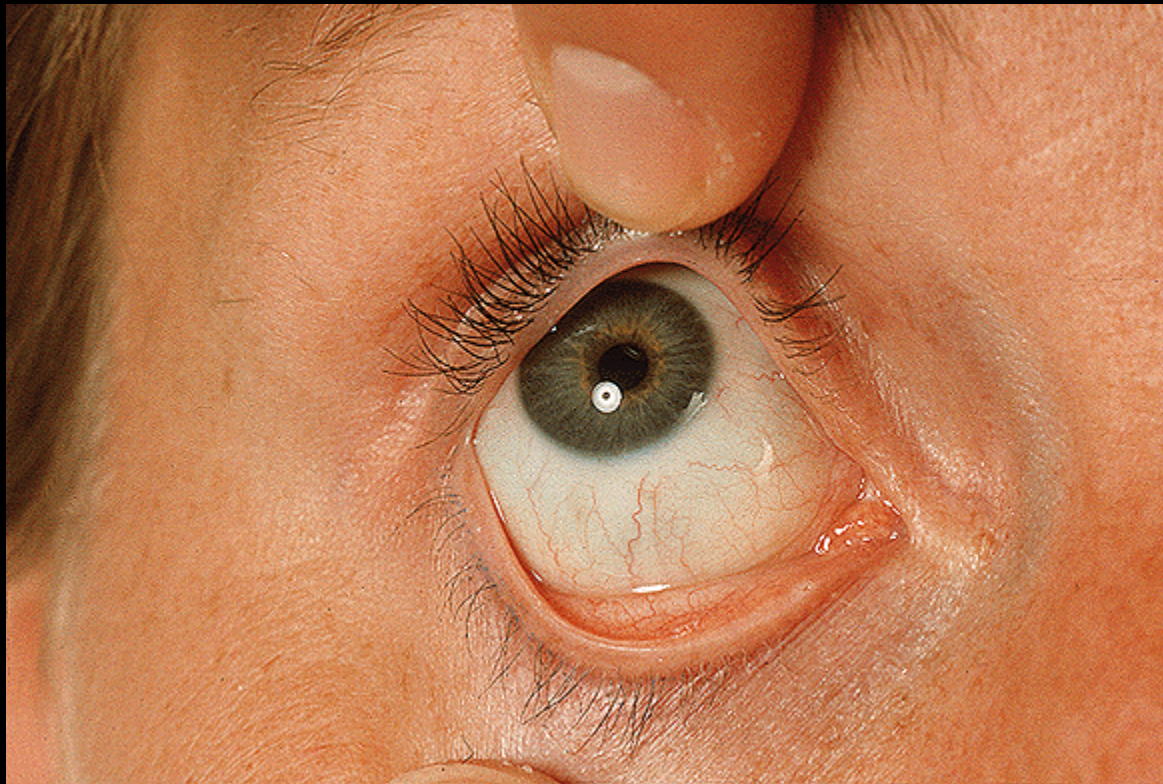
- > ductuli excretorii
- > lacus lacrimalis

- papillae lacrimales
- puncta lacrimalia
- canaliculi lacrimales
- saccus lacrimalis
- ductus nasolacrimalis

Pars orbitalis

Pars palpebralis



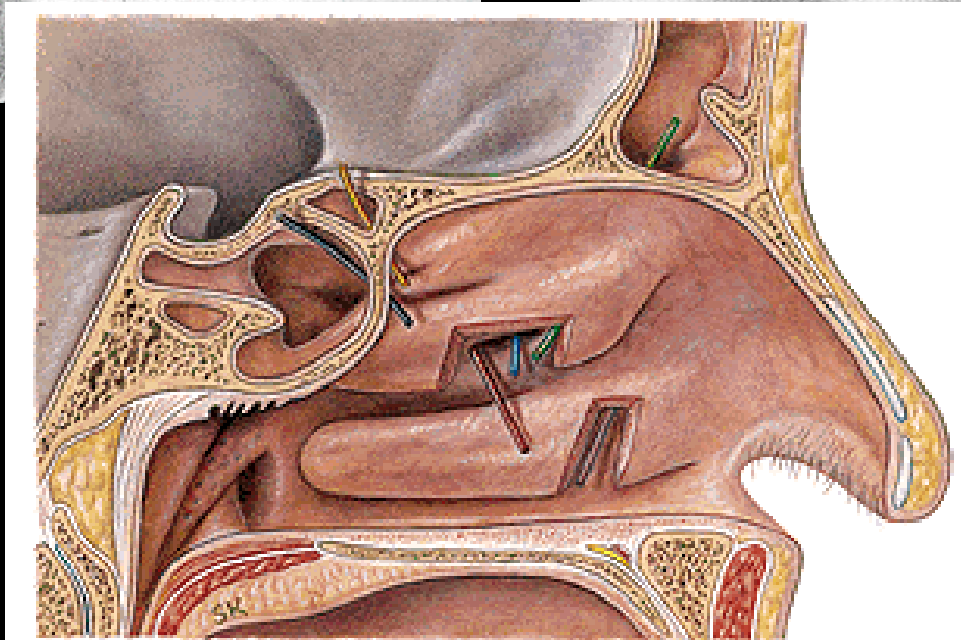
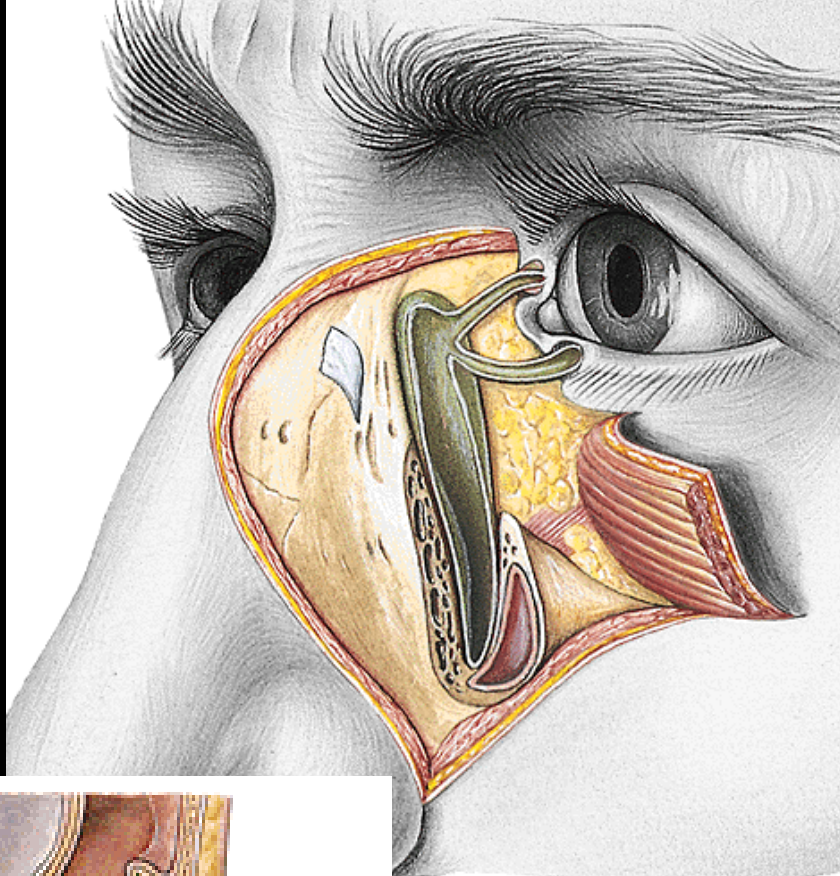
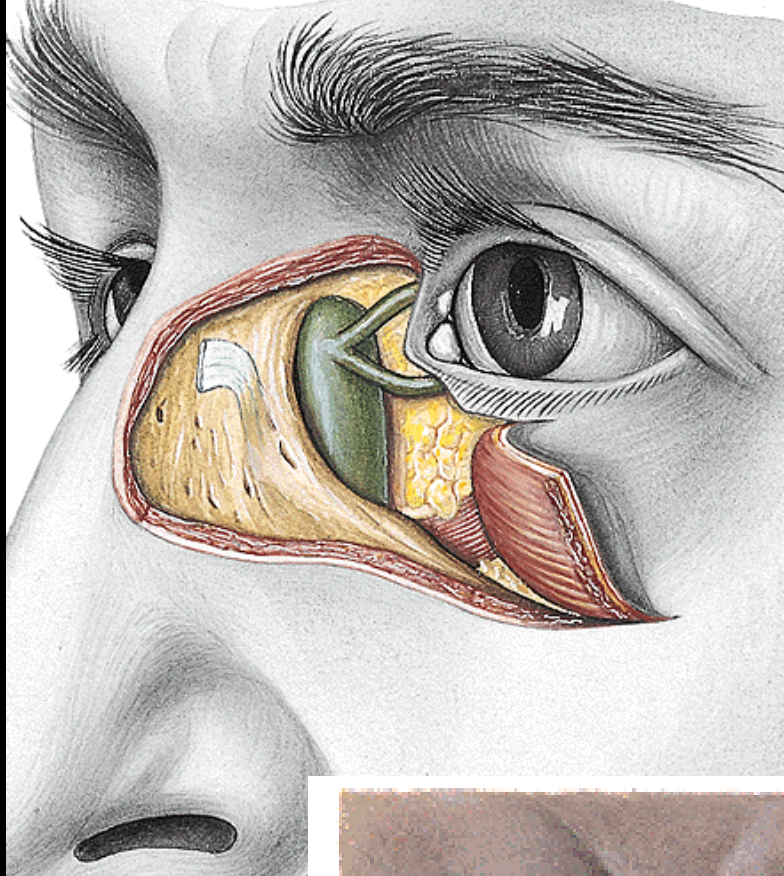


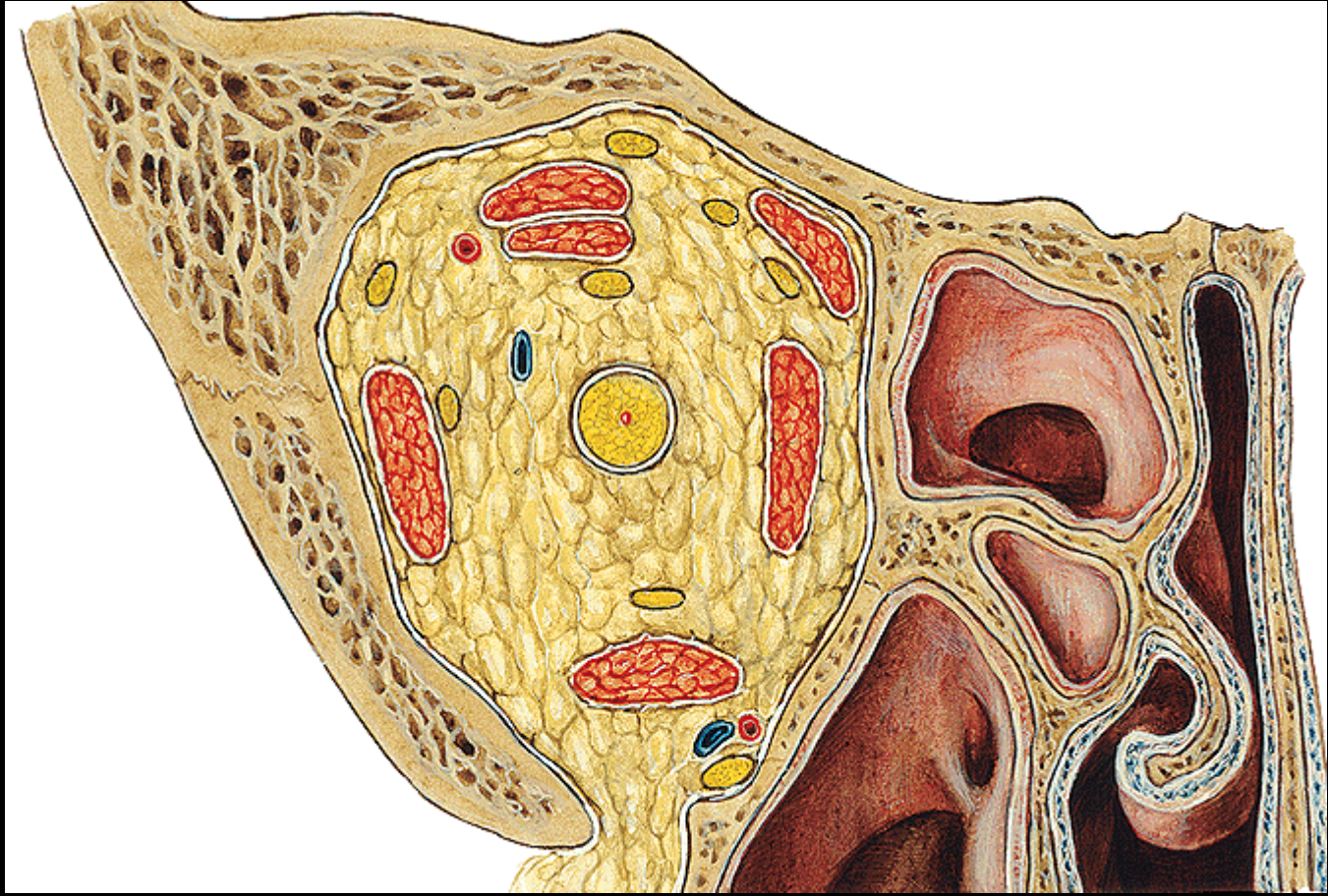
Angulus medialis:

lacus lacrimalis

■ **caruncula lacrimalis**

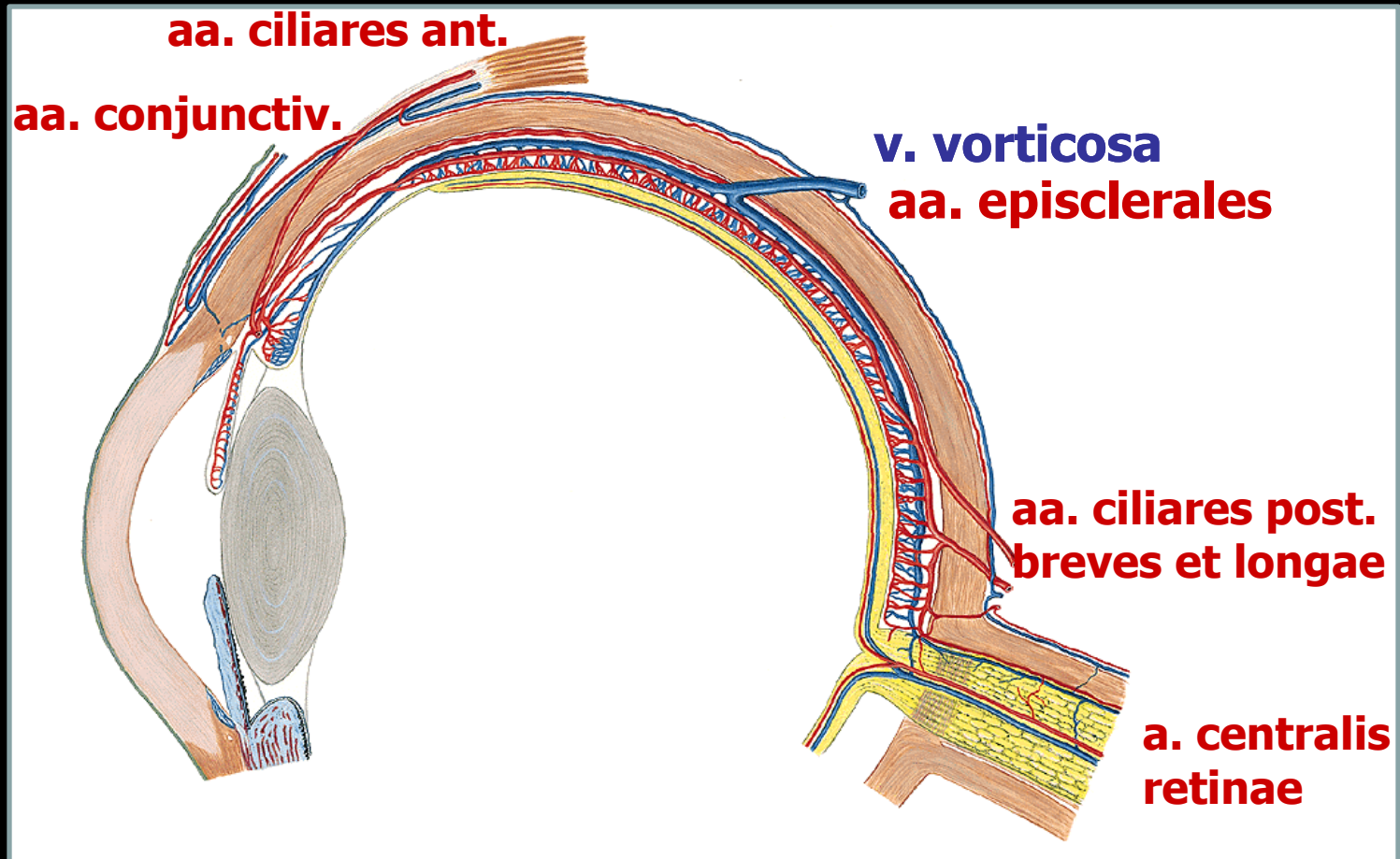
■ **plica semilun. conjunctivae**

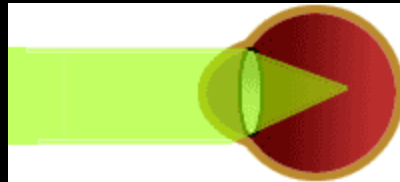




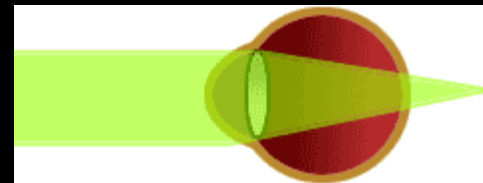
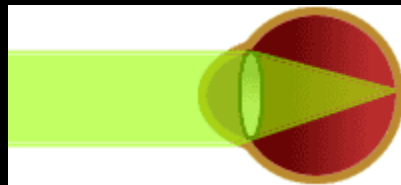
Blood supply

A. ophthalmica
V ophthalmica sup.
V. ophthalmica inf.





myopia - shortsightedness



hyperopia - hypermetropia -
longsightedness