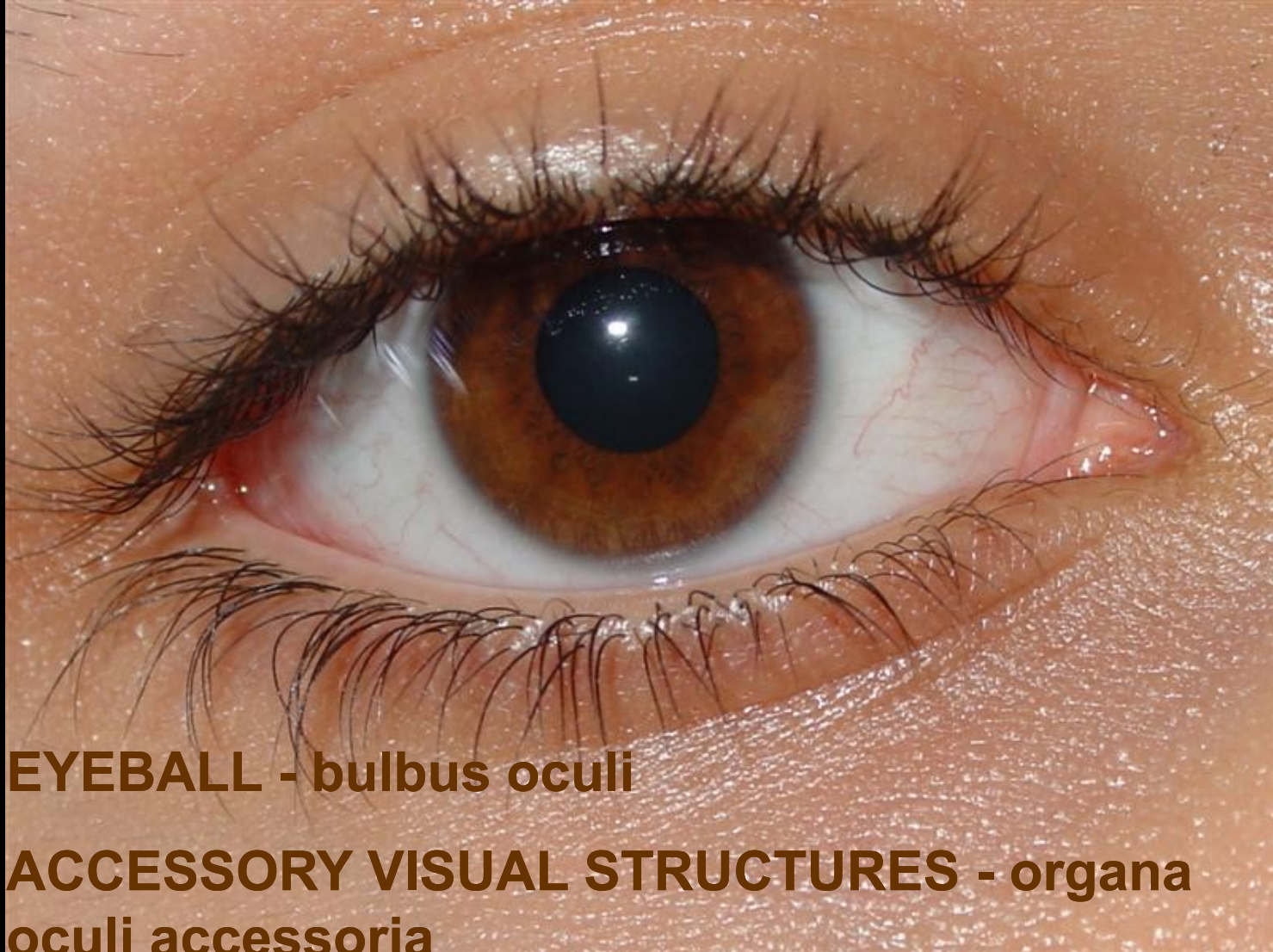


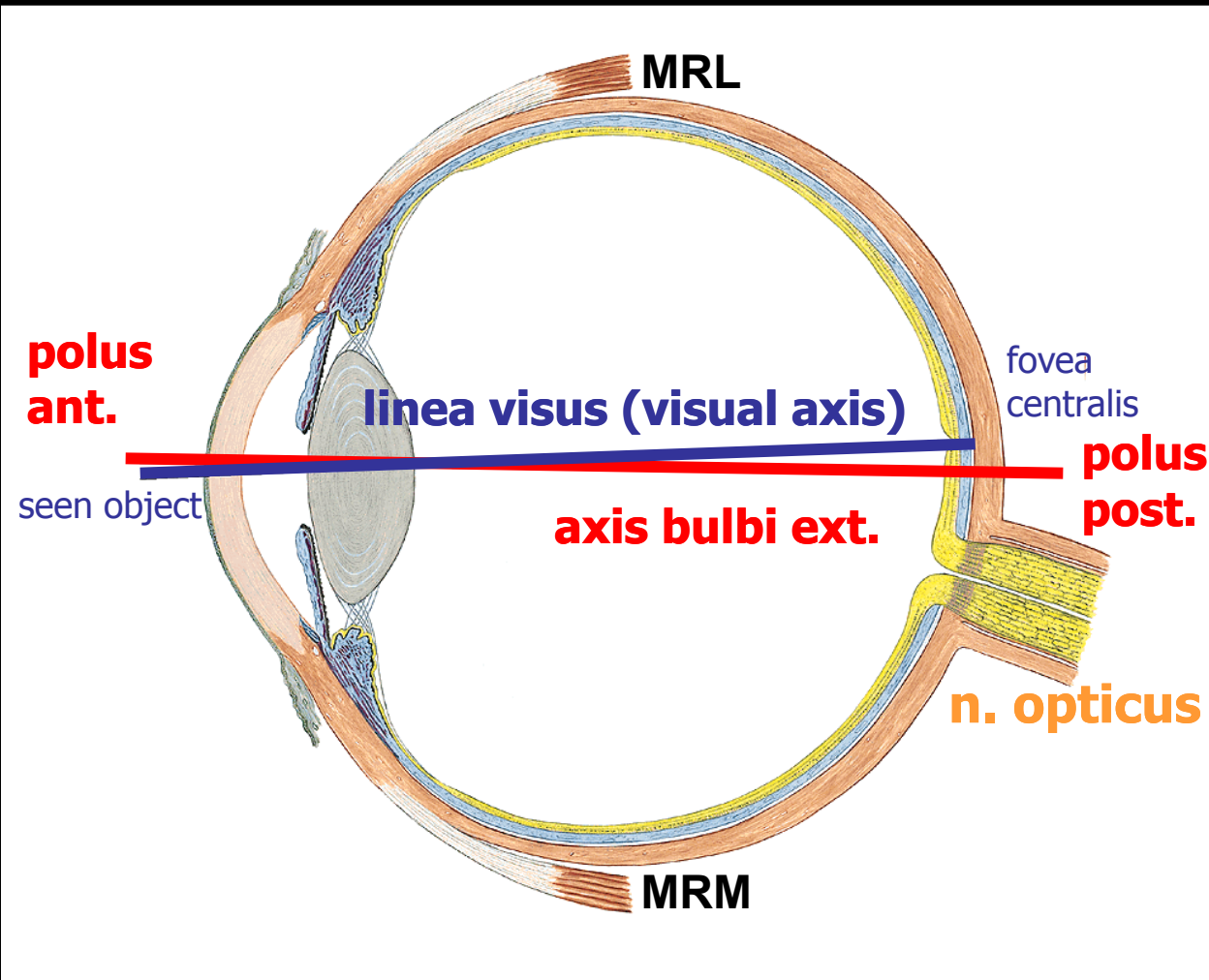
VISUAL APPARATUS



EYEBALL - bulbus oculi

**ACCESSORY VISUAL STRUCTURES - organa
oculi accessoria**

Eyeball (AP diameter 24 - 26 mm)

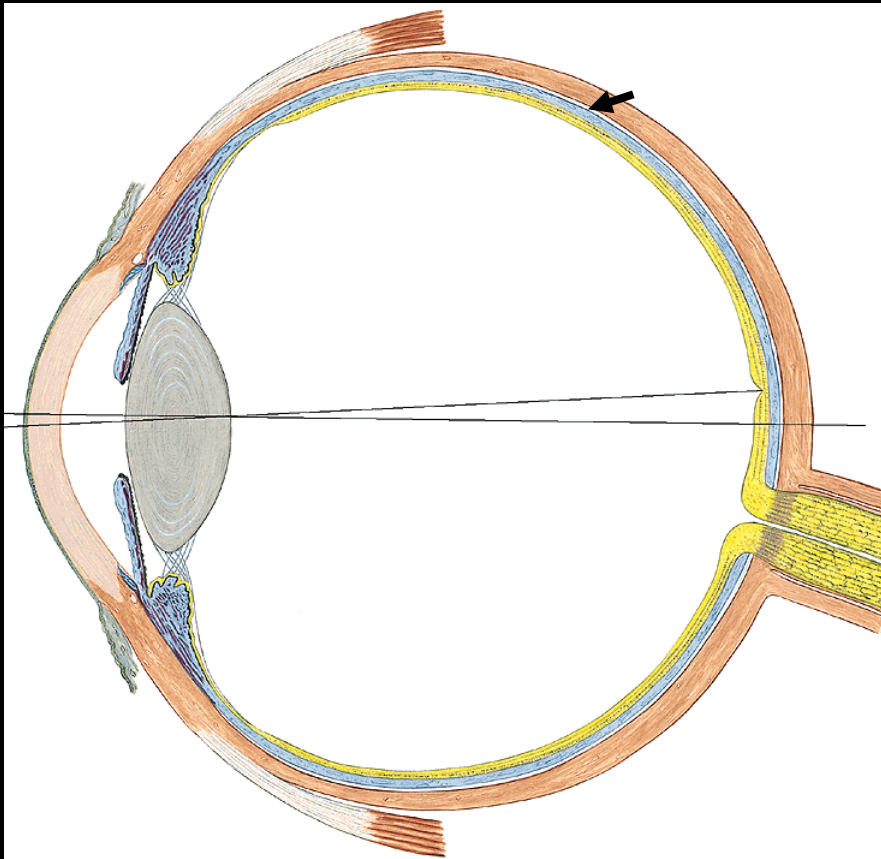


Layers:

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

1. tunica fibrosa

fibrous skeleton of the eyeball
attachment of muscles



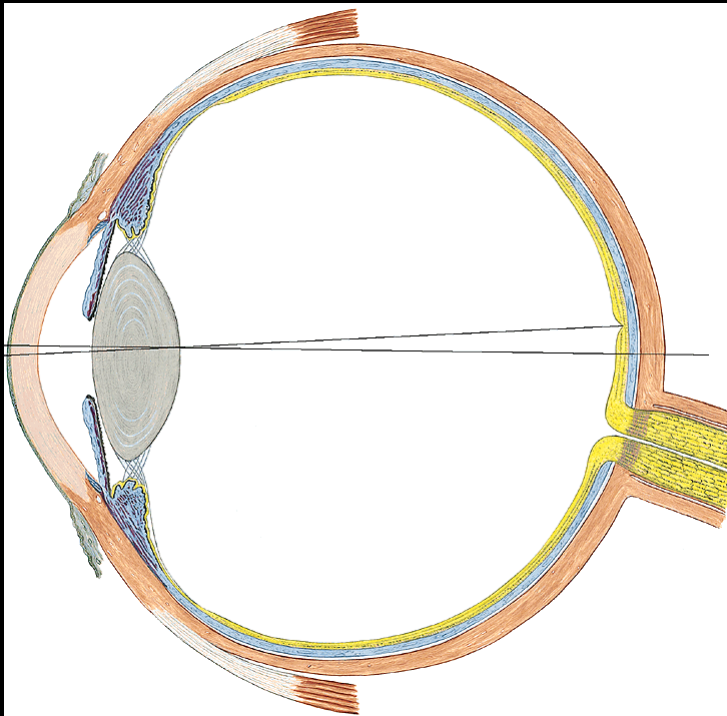
Sclera - post. 5/6

- 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

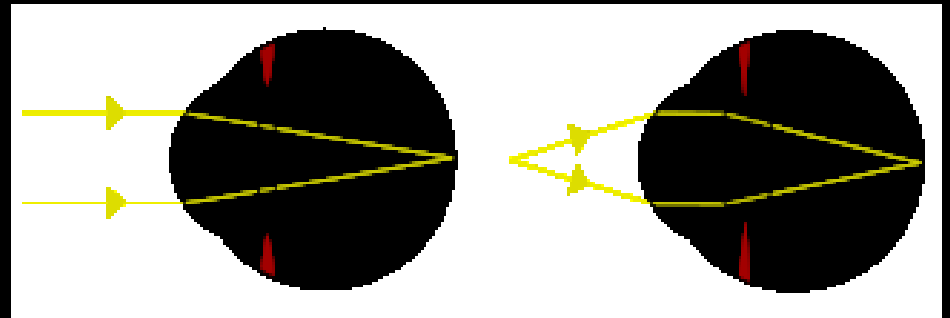
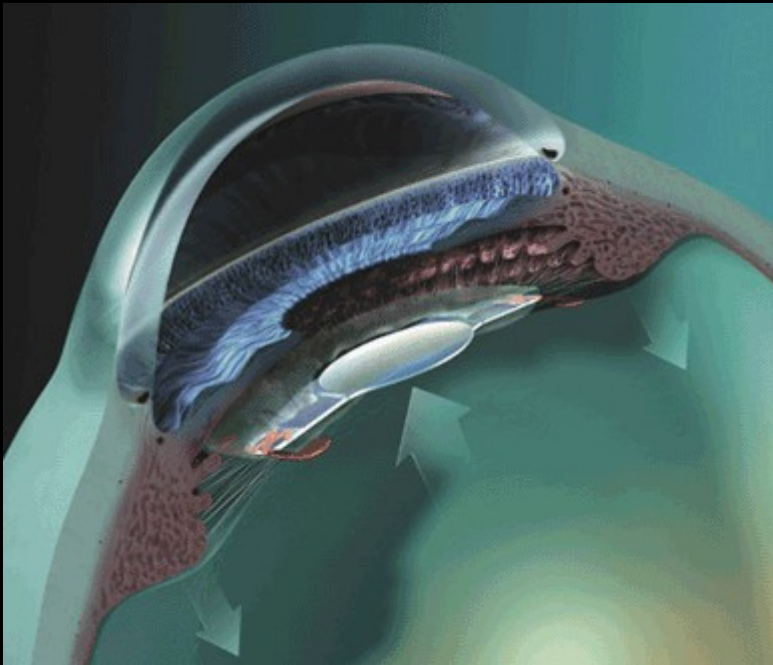
- ✓ attachment for the lens
- ✓ controls thickness of the lens
- ✓ secretion of aqueous humor

Iris

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

M. ciliaris

Accommodation of the lens

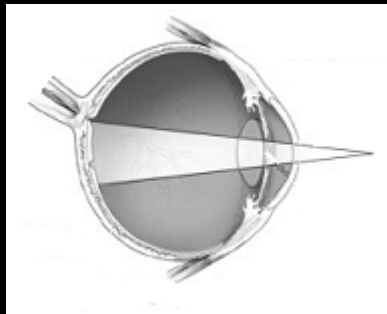


increased convexity of the
lens – refraction suitable
for near vision

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

M. sphincter pupillae

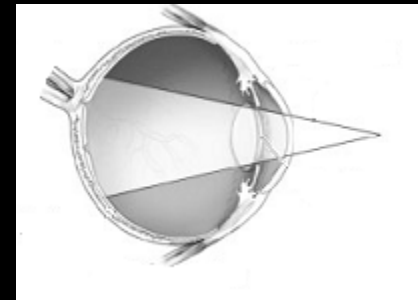
Miosis



E-W ncl. CN III

M. dilatator pupillae

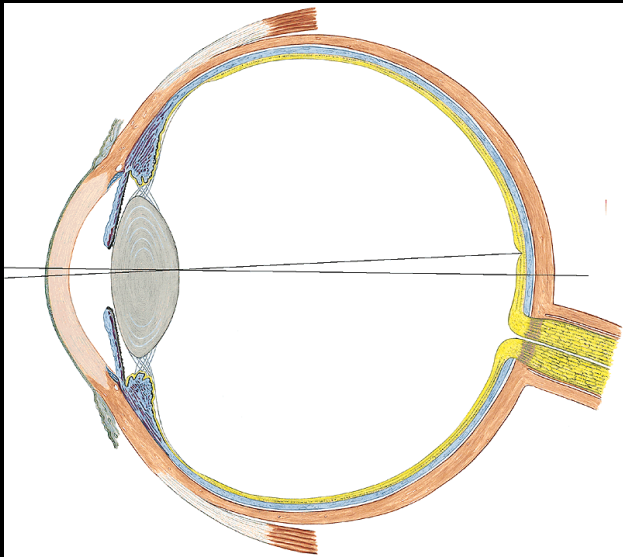
Mydriasis



Symp.ncl.

3. tunica interna

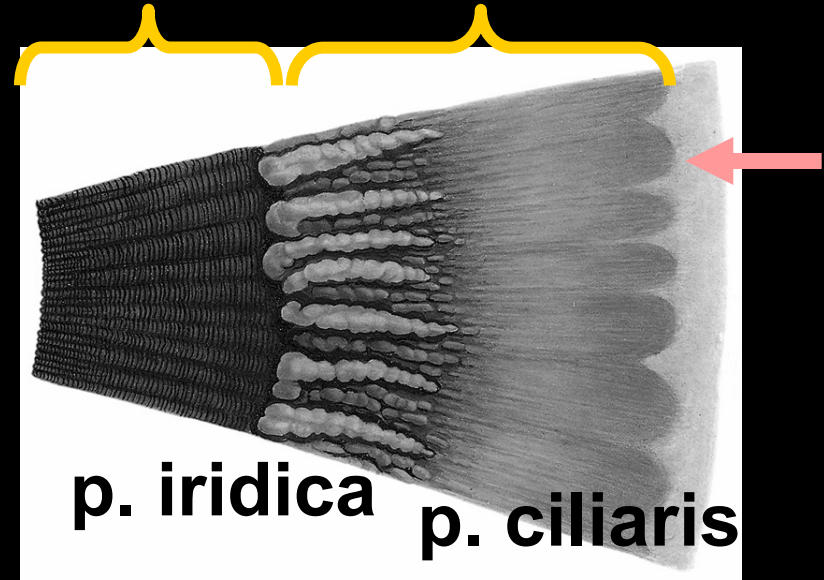
Retina



- pars optica
(rods, cones)

ora serrata

- pars caeca:



p. iridica

p. ciliaris

Photoreceptors:

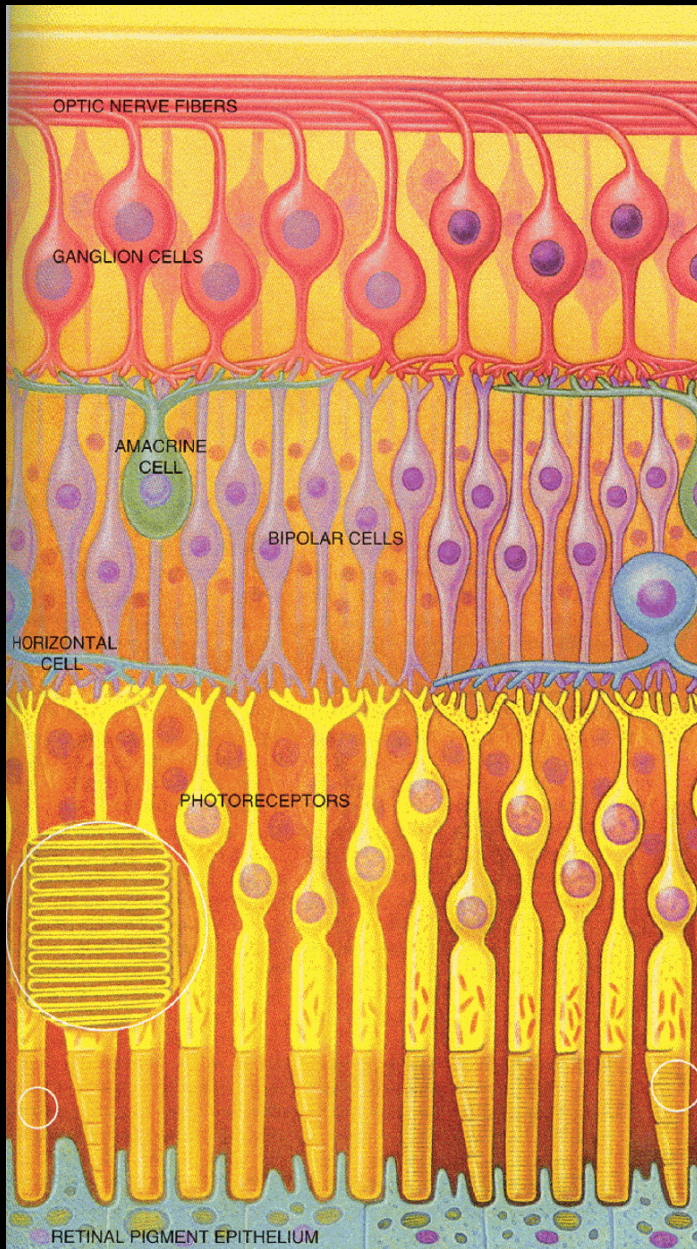
Rods

- ✓ **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**

Layers of the retina



N. opticus

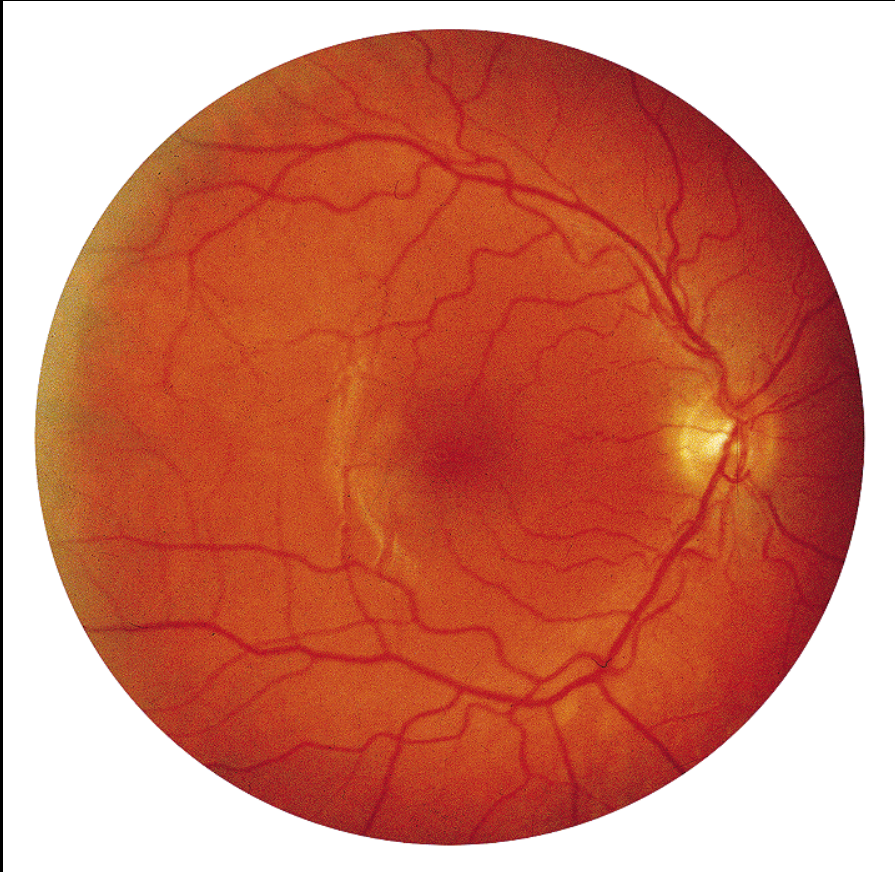
str. ganglionare n. optici

str. ganglionare retinae

str. neuroepitheliale

str. pigmentosum

Ophthalmoscopy

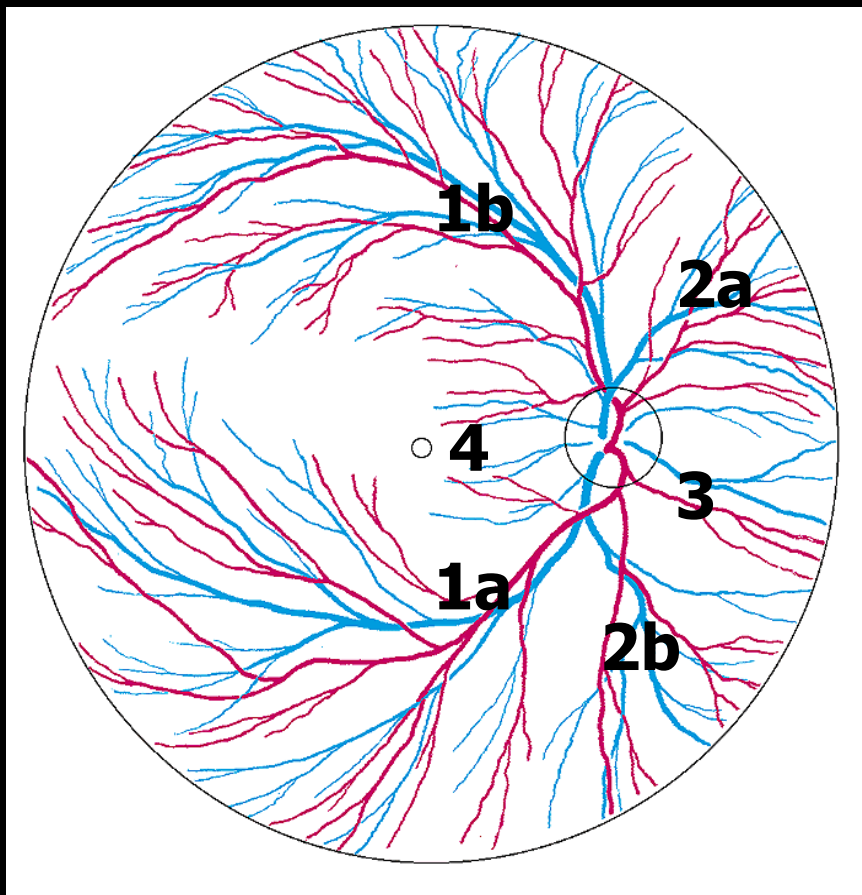


Fundus

optic disc - vessels

Macula lutea + fovea centralis

- the area of most acute vision



A. et v. centralis retinae

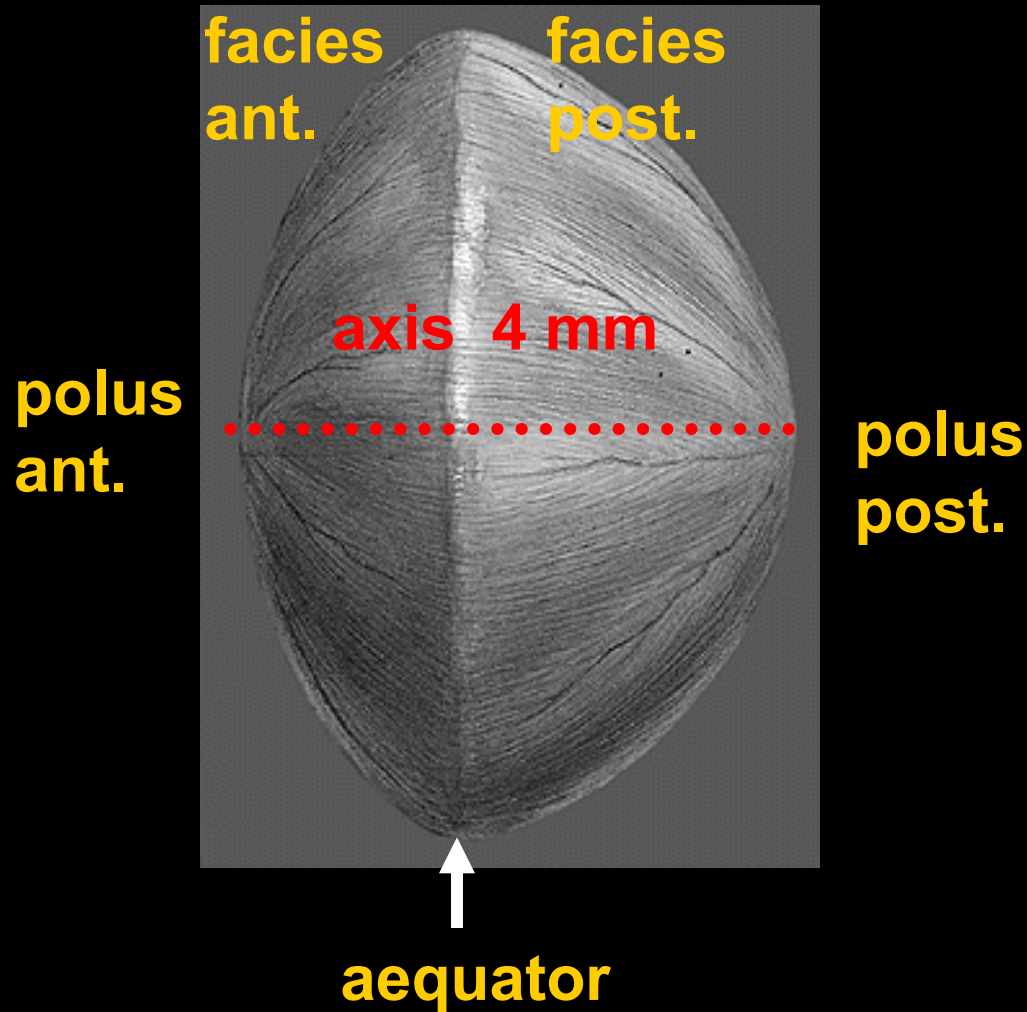
1a,b a. et v. temporales

2a,b a. et v. nasales

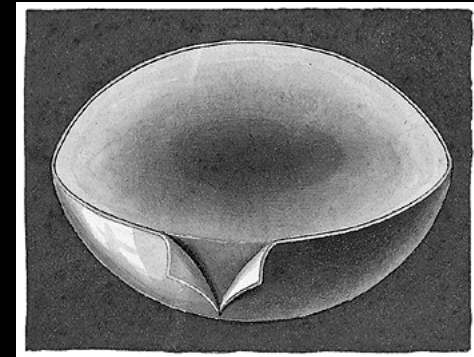
3 a. et v. med. retinae

4 a. et v. macularis

Lens



Optical power
+ 20 dioptries



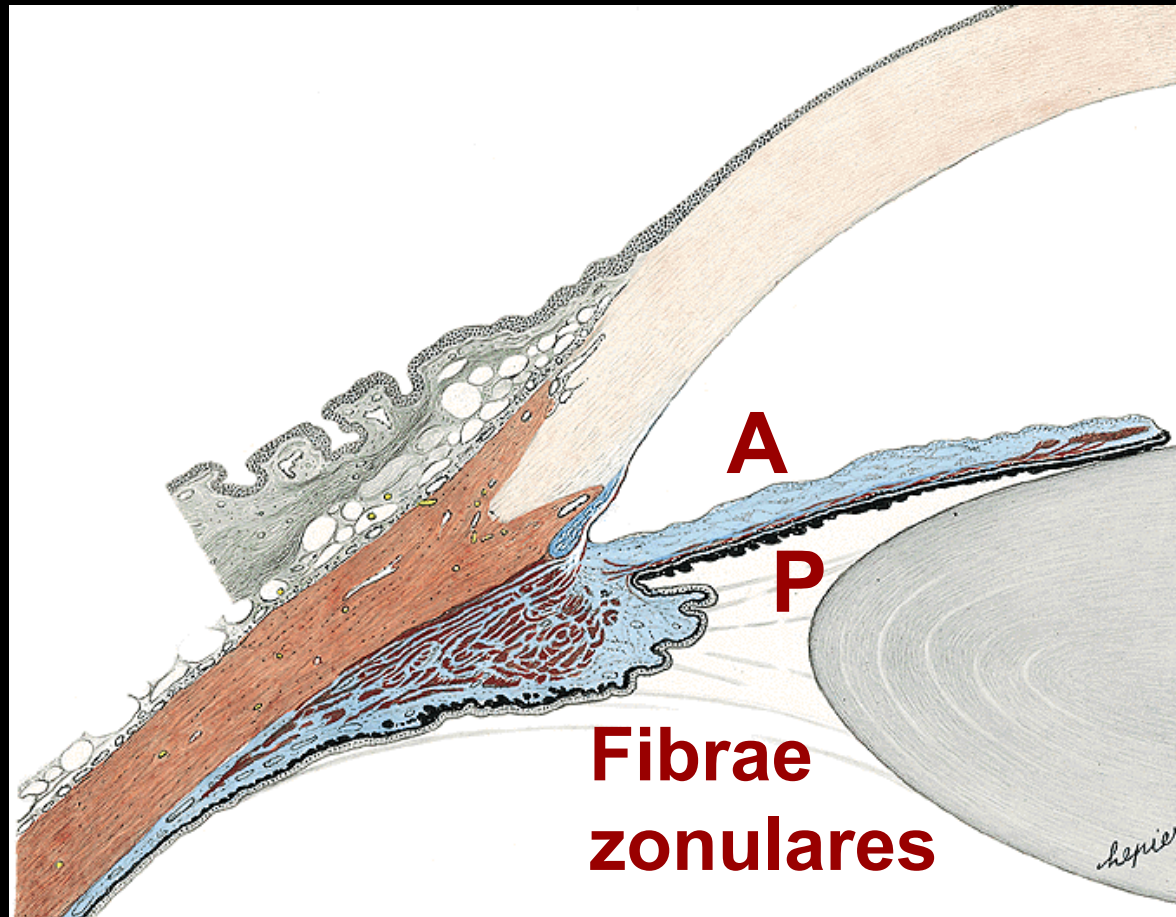
- capsula lentis**
- **cortex lentis**
- **nucleus lentis**

Cataracts

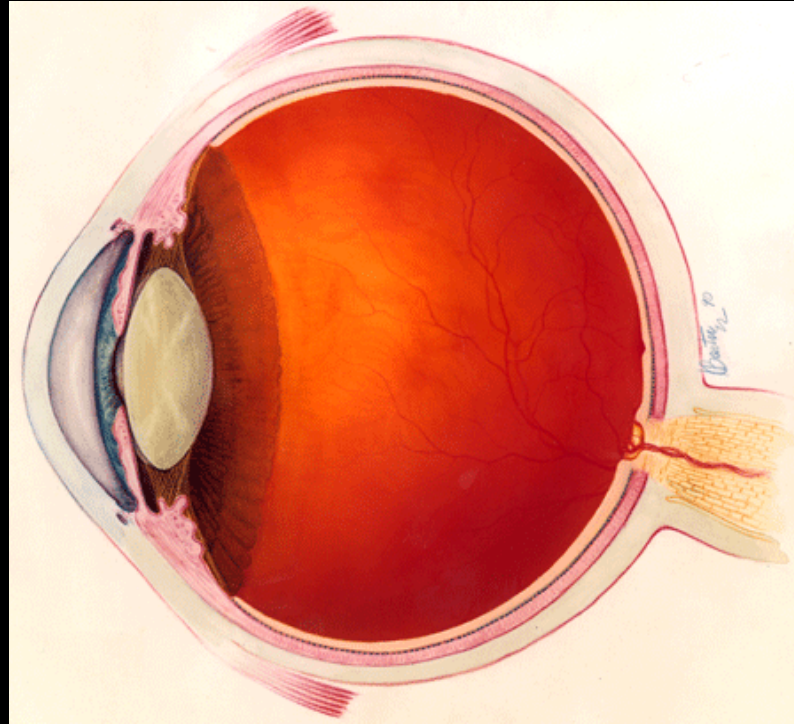


- ✓ loss of transparency
- ✓ cloudiness
- ✓ ageing process

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



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

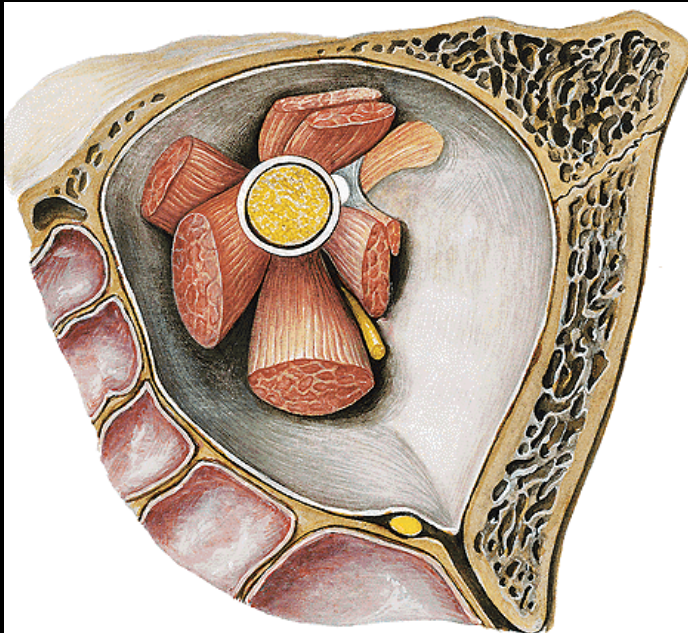


- ✓ **jelly-like substance with watery fluid**
- ✓ **holds the retina in place**
- ✓ **supports the lens**

Extraocular muscles

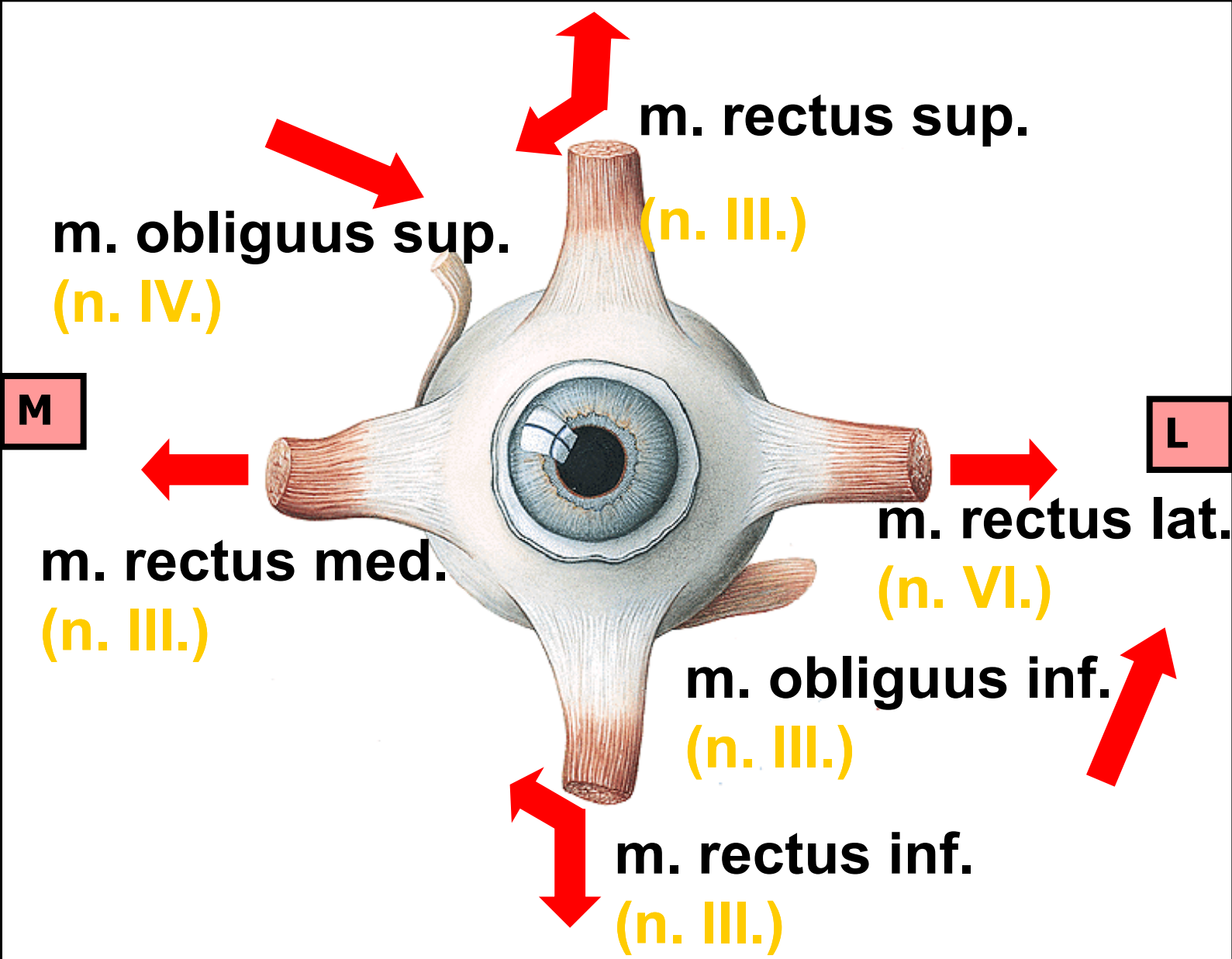
Smooth

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

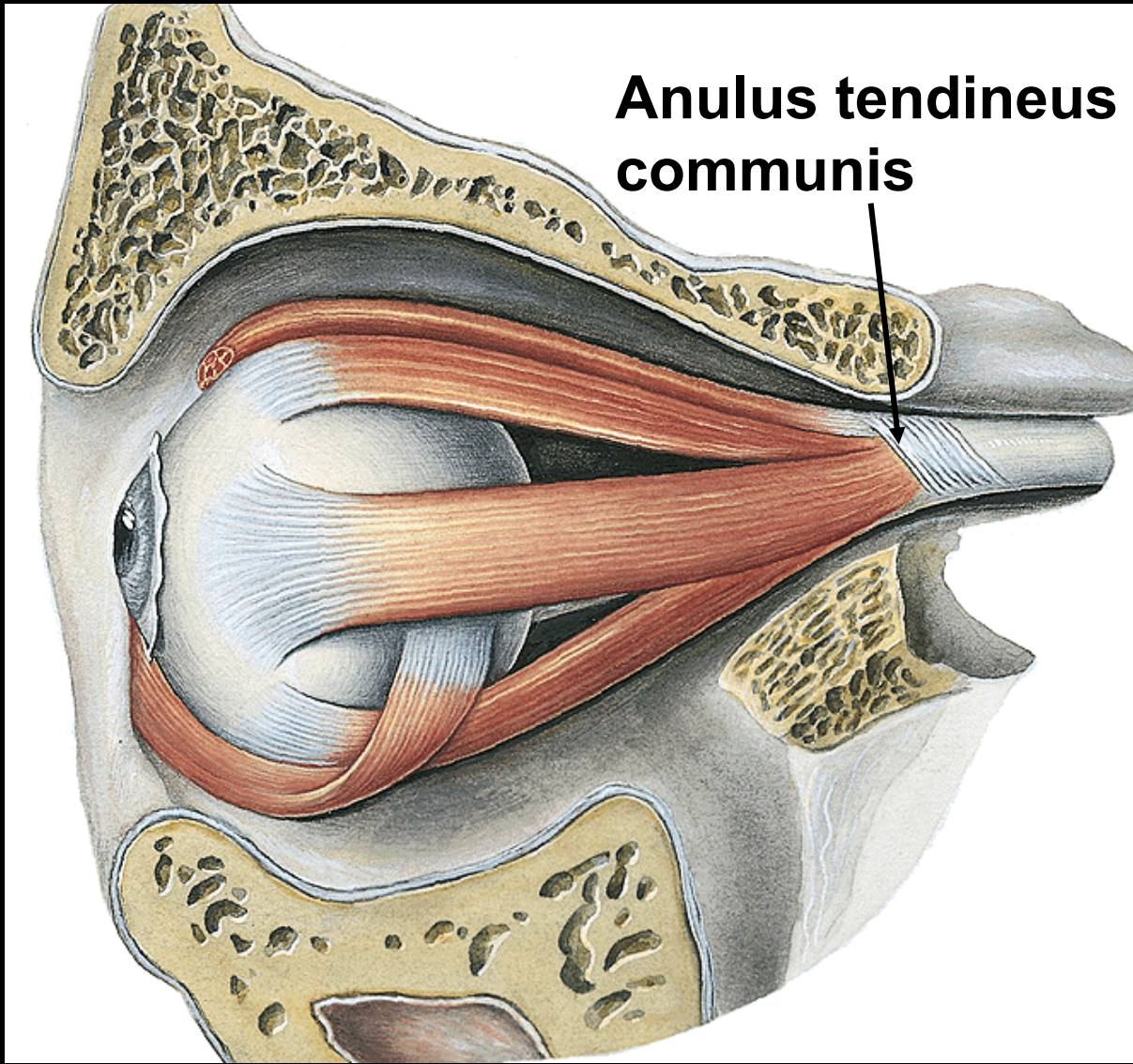


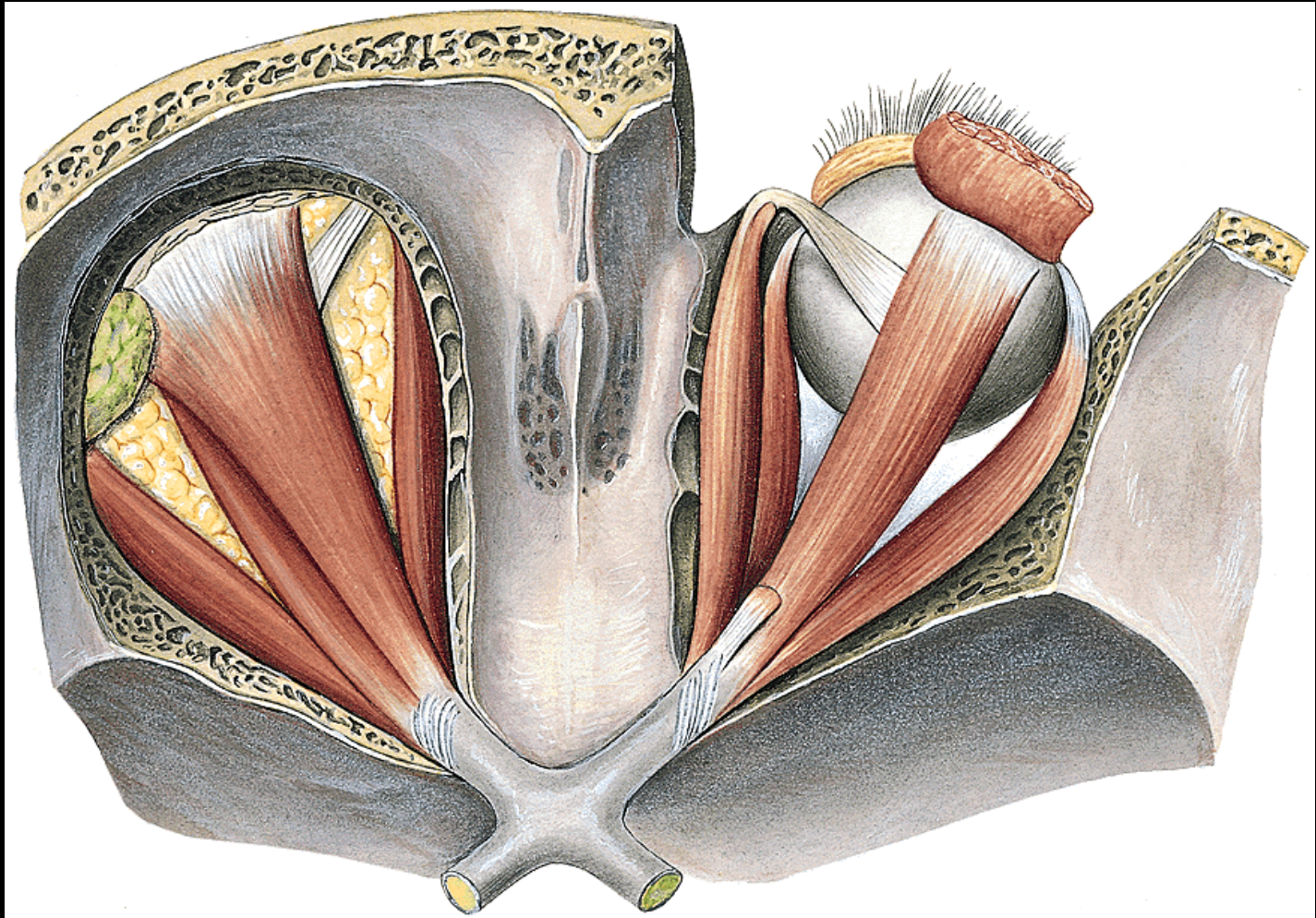
Skeletal

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



**Anulus tendineus
communis**





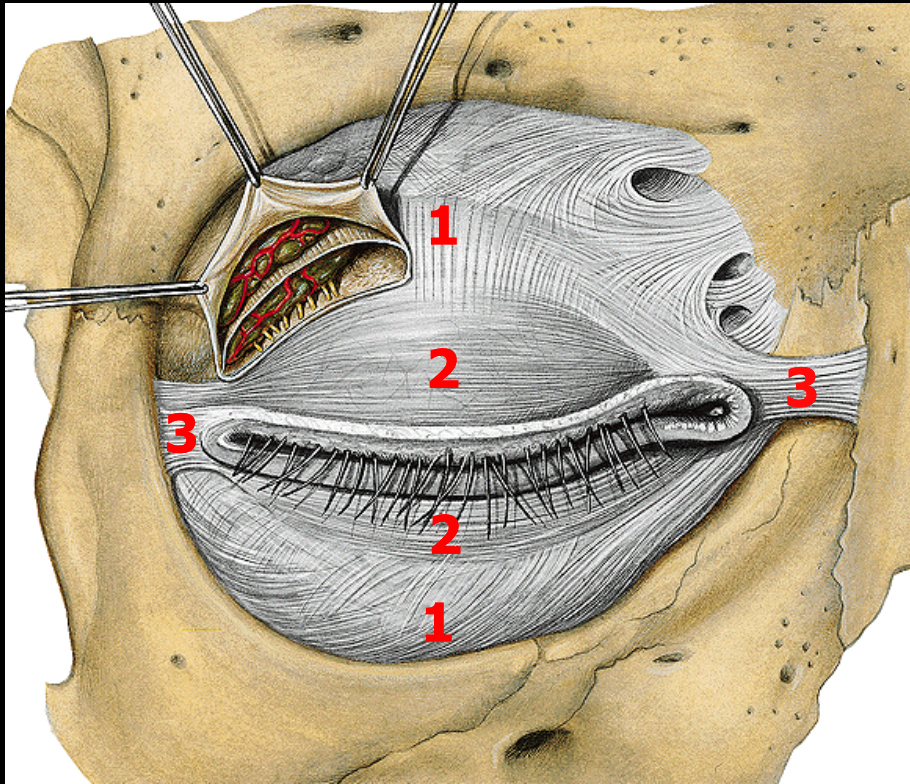
Eyelids - palpebrae

Conjunctiva

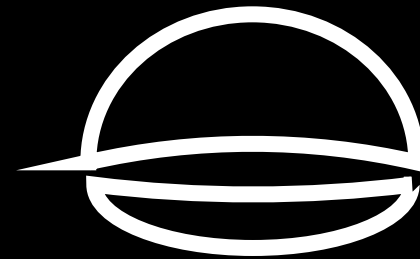


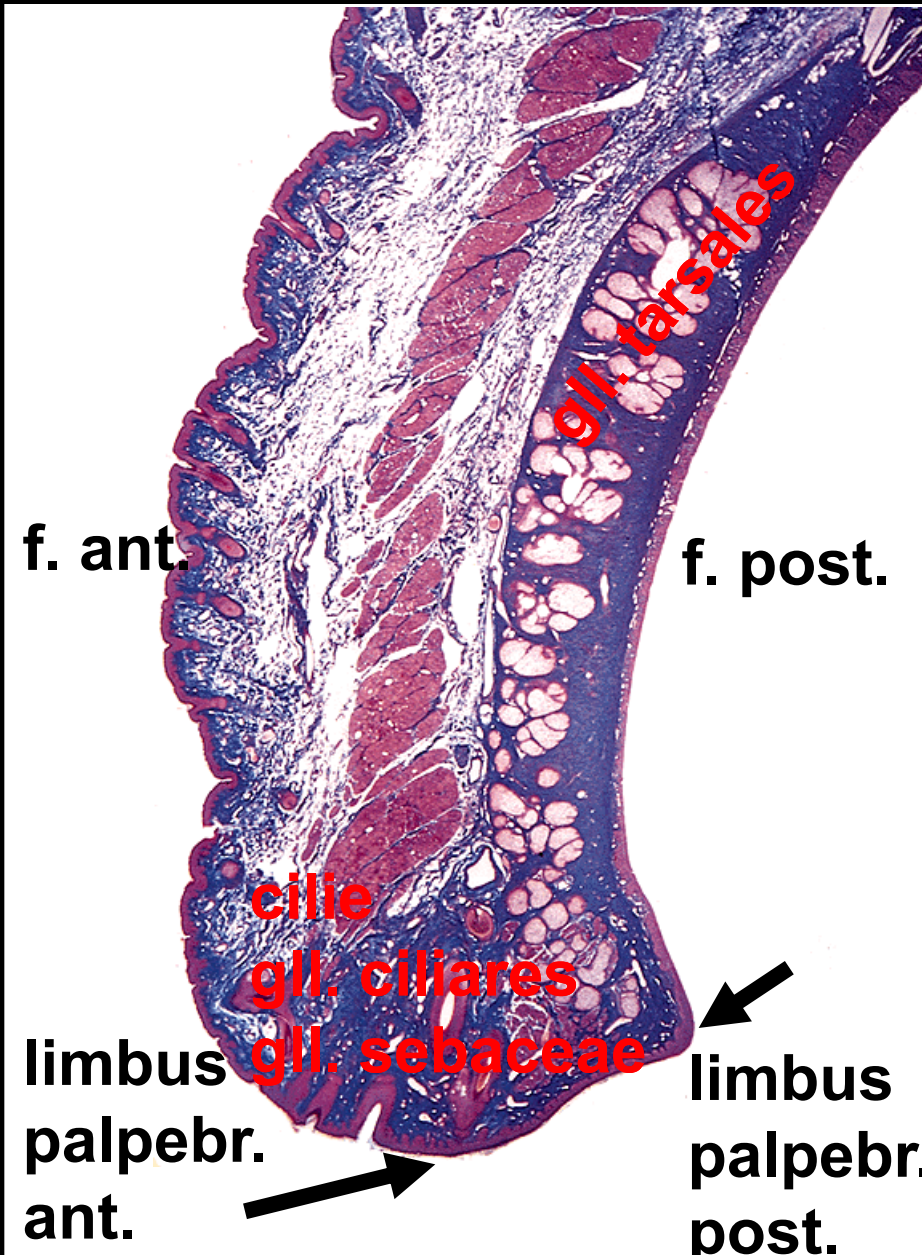
- palpebra sup. et inf.
- commisurae palpebr.
- rima palpebrarum
- angulus oculi med. et lat.
- facies ant. et post.
- sulcus palpebr. sup. et inf.

Structure of the eyelid



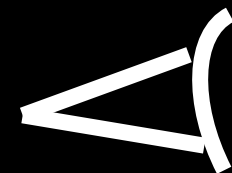
- 1 septum orbitale
- 2 tarsus sup. et inf.
- 3 lig. palp. med. et lat.





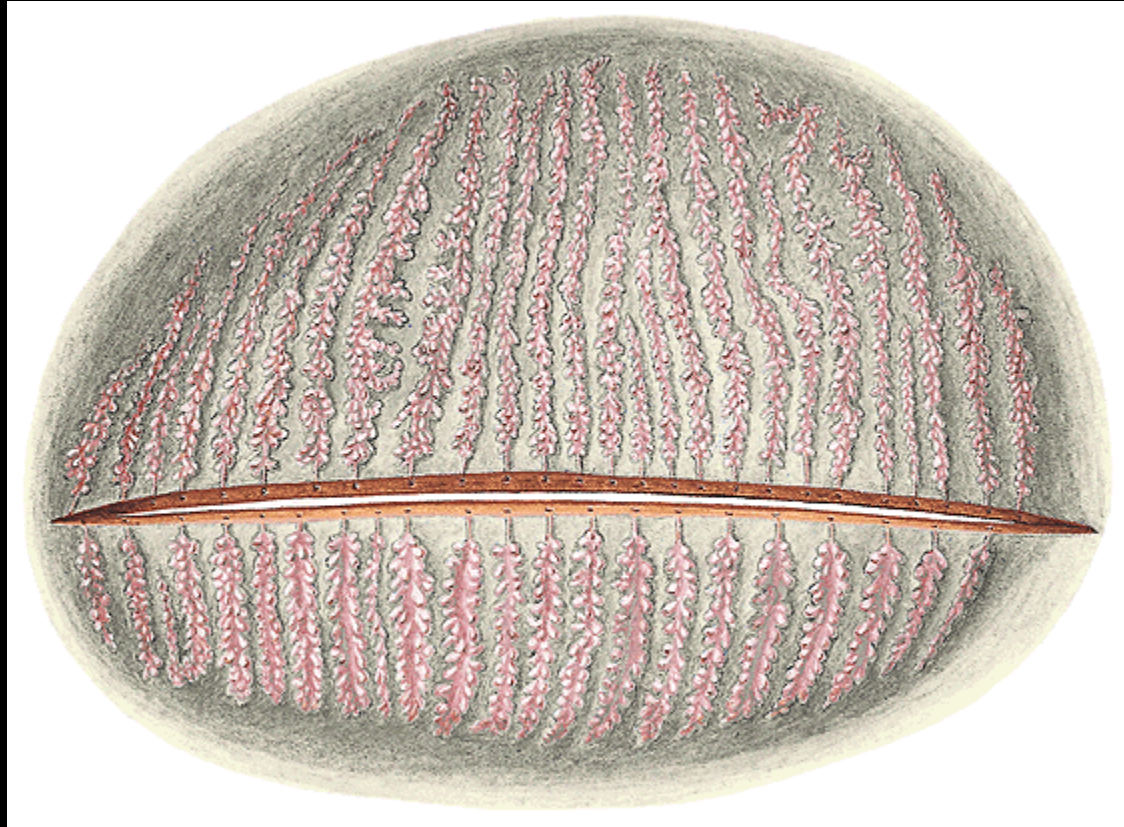
skin

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

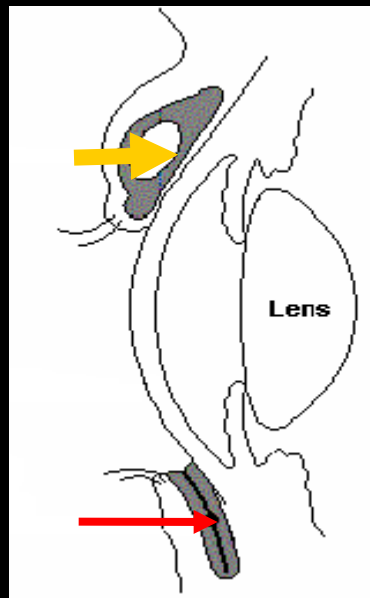


Rivus lacrimalis

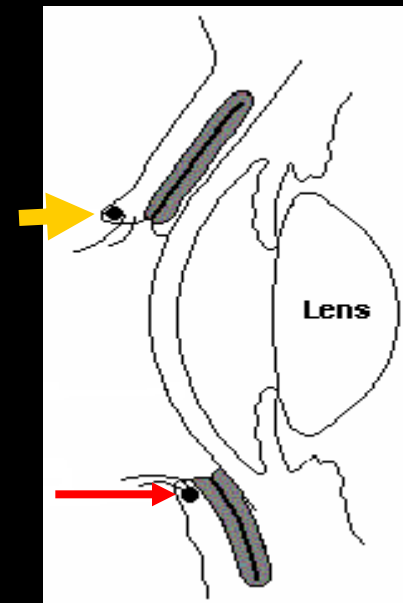
GII. tarsales

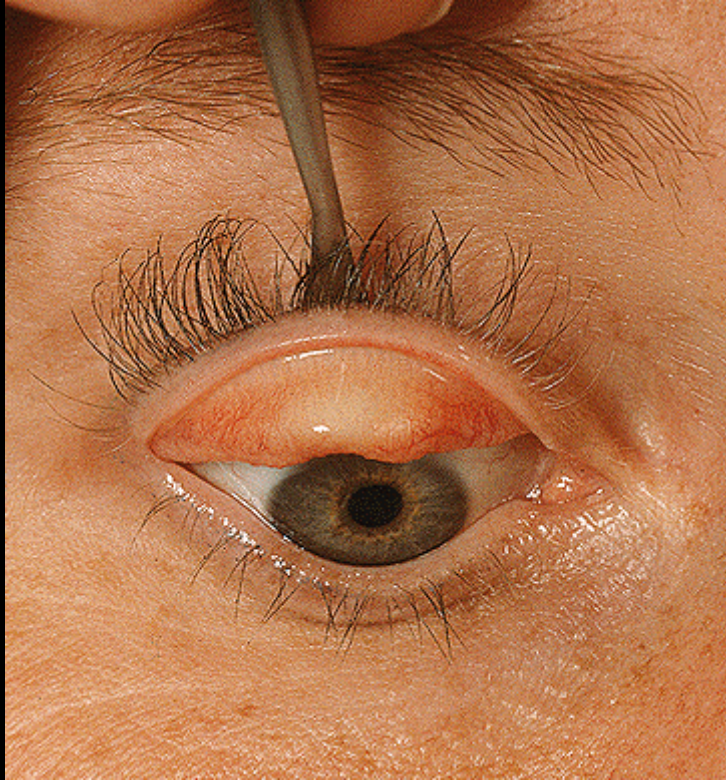


Chalazion (tarsal chalazion)



Hordeolum (sty)



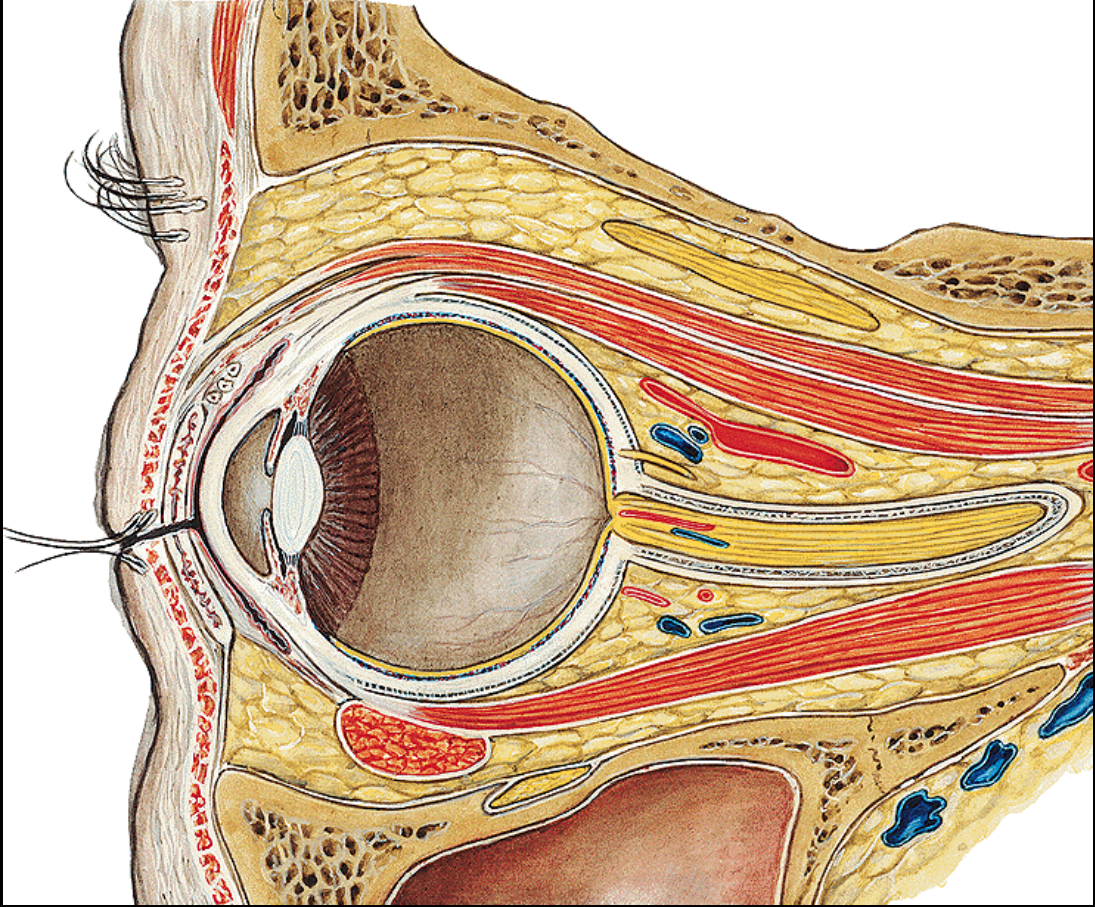


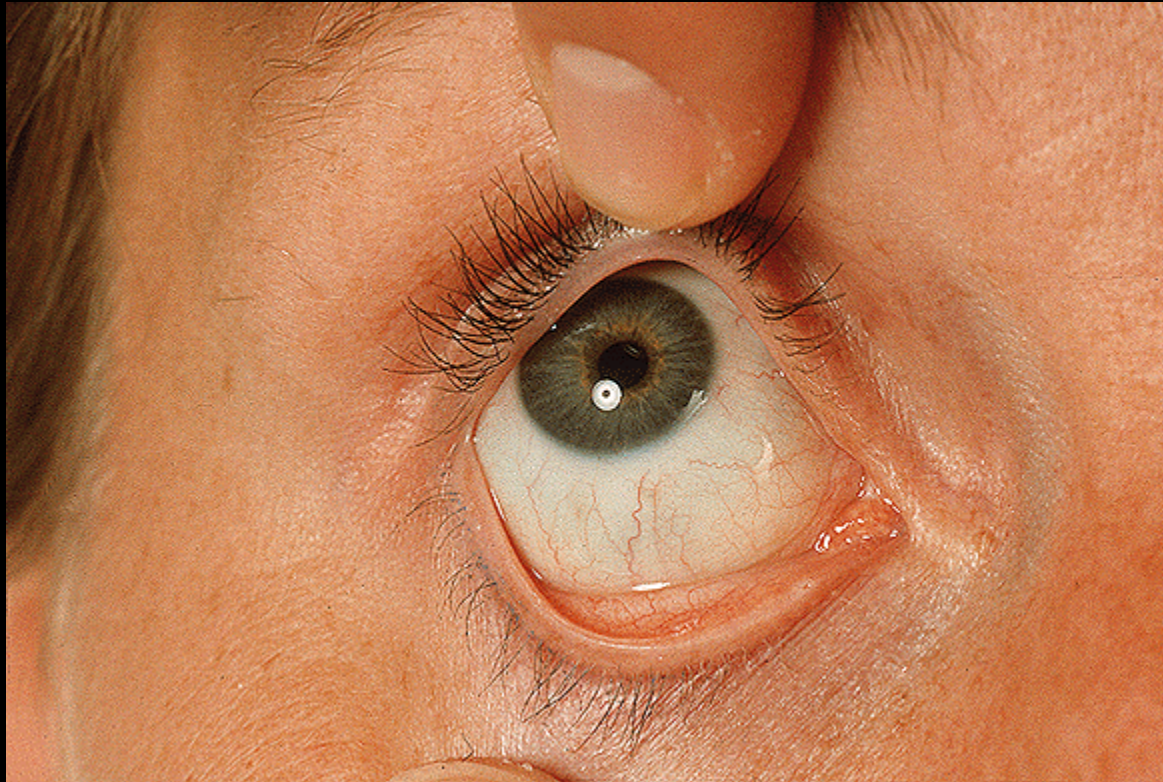
Tunica conjunctiva

tun. conj. palpebrarum

fornix conjunct. sup. et inf.

■ **tun. conj. bulbi**





Angulus medialis:

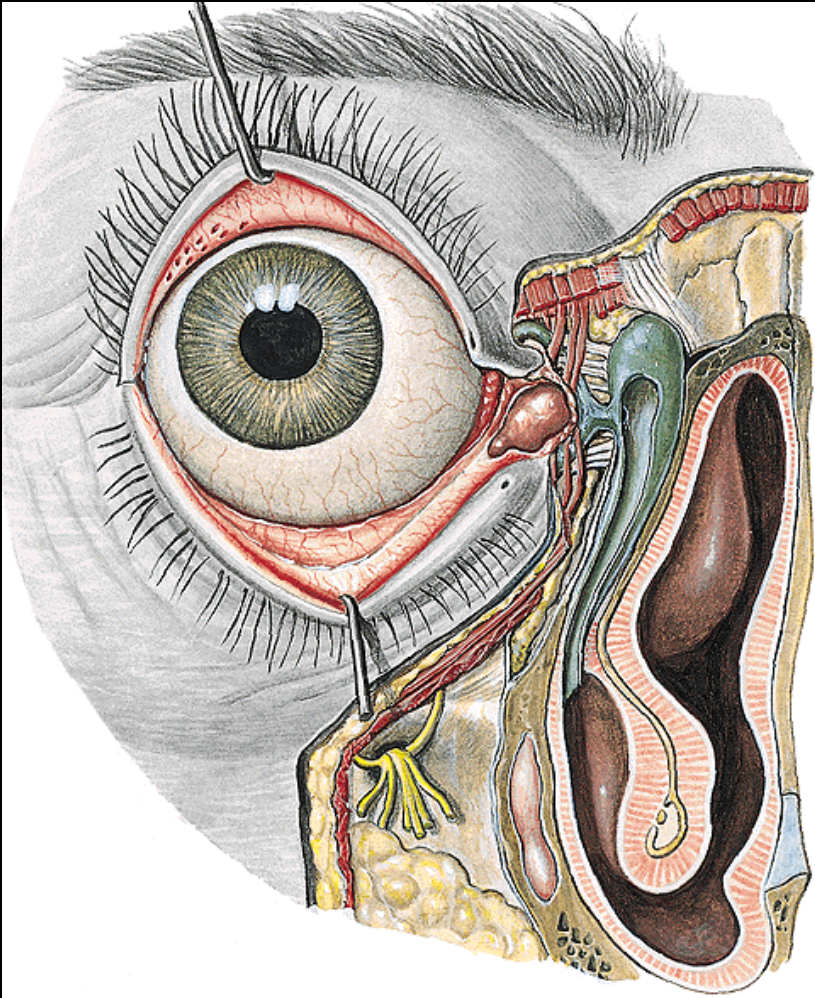
lacus lacrimalis

■ **caruncula lacrimalis**

■ **plica semilun. conjunctivae**

Přidatné orgány oka

Apparatus lacrimalis

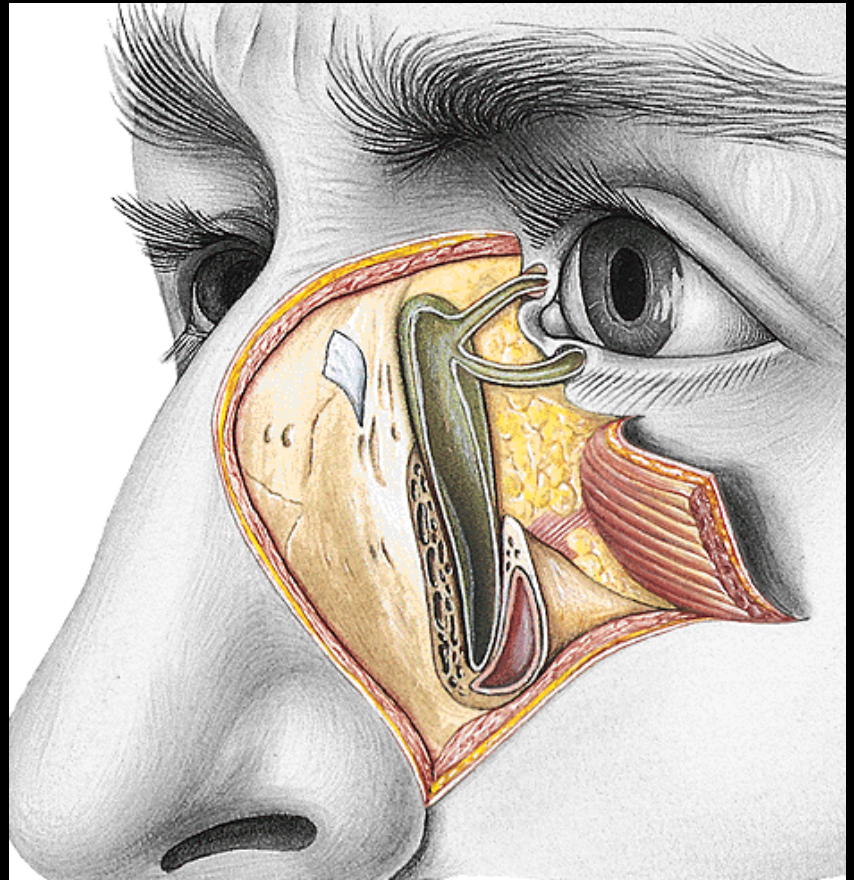
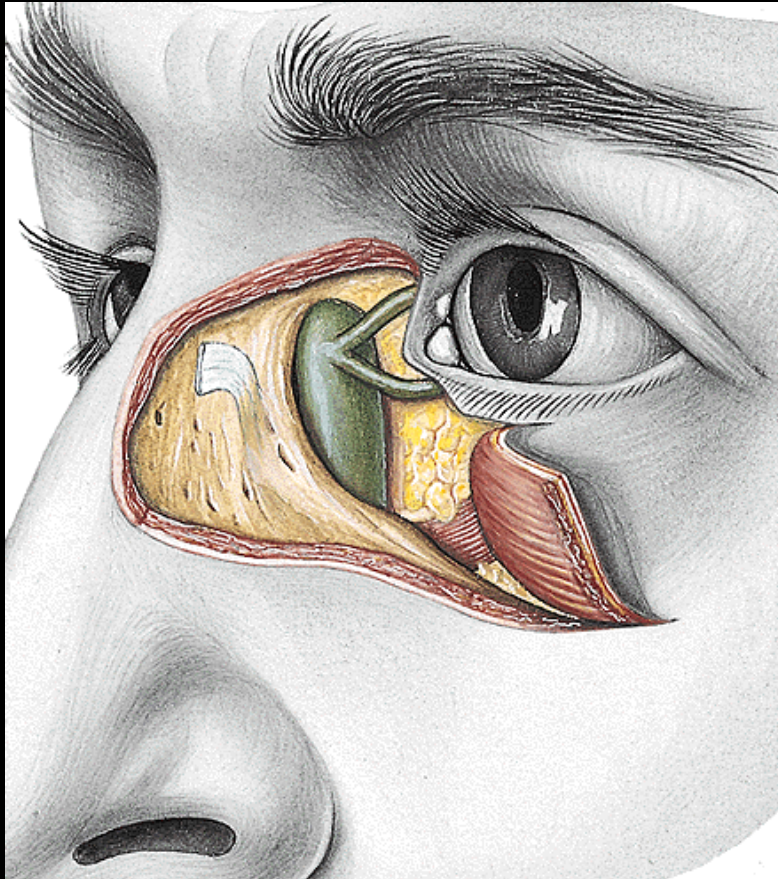


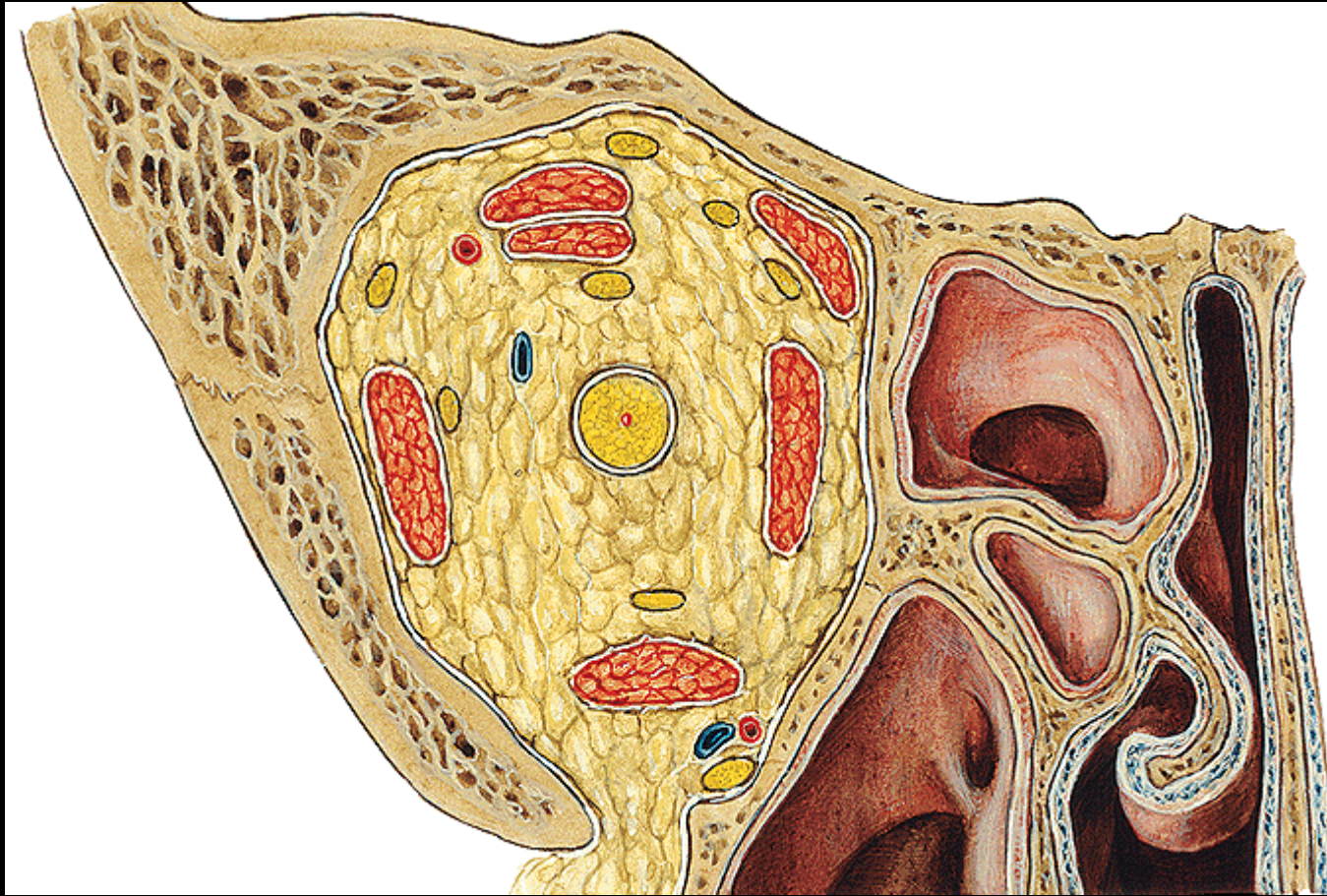
Glandula lacrimalis

- > ductuli excretorii
- > lacus lacrimalis

Lacrimal ducts

- papillae lacrimales
- puncta lacrimalia
- canaliculi lacrimales
- saccus lacrimalis
- dct. nasolacrimalis





Blood supply

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

