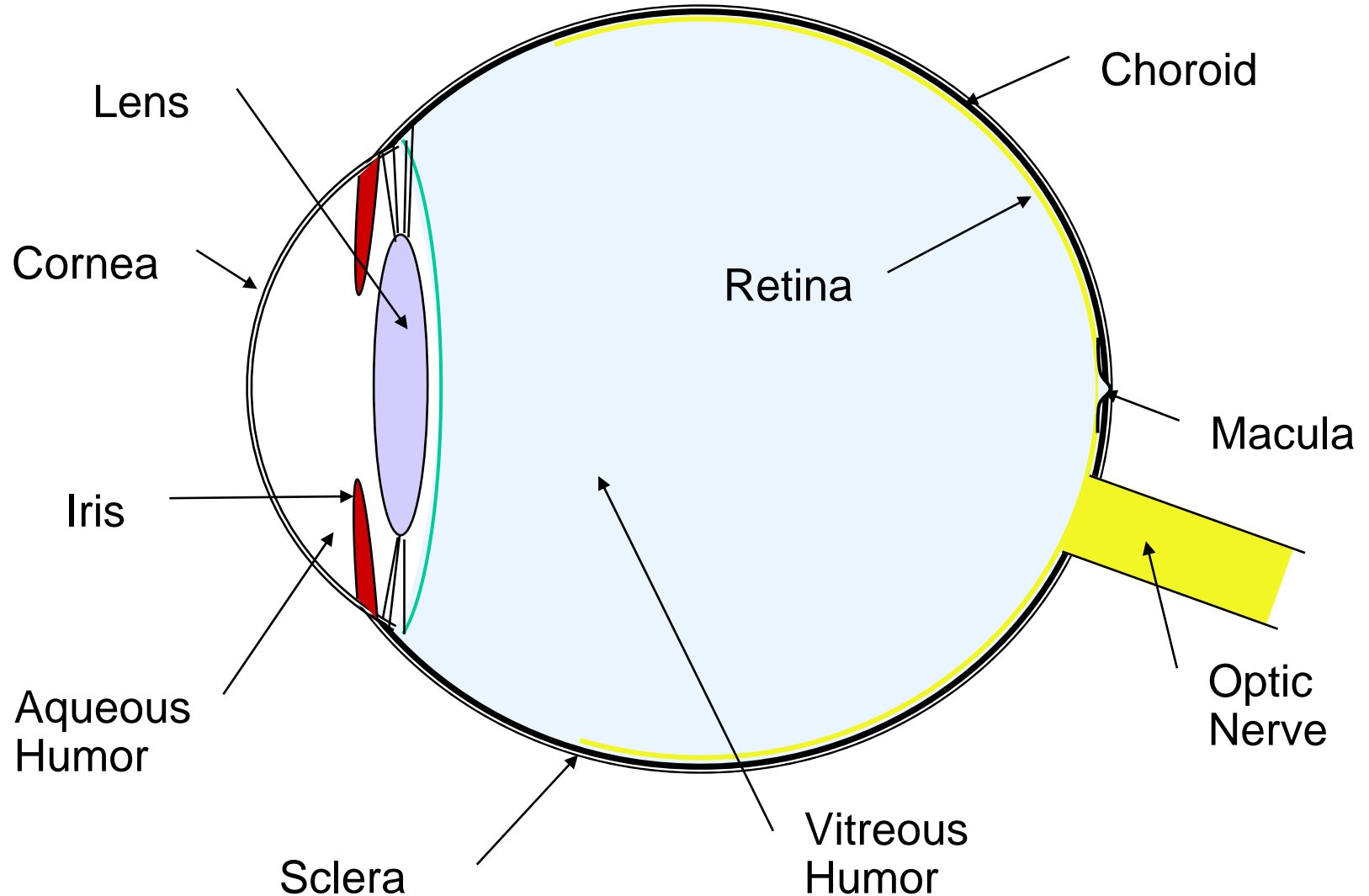




# Anatomy of the Eye

**Health Care Technology Unit  
ORBIS Flying Eye Hospital**

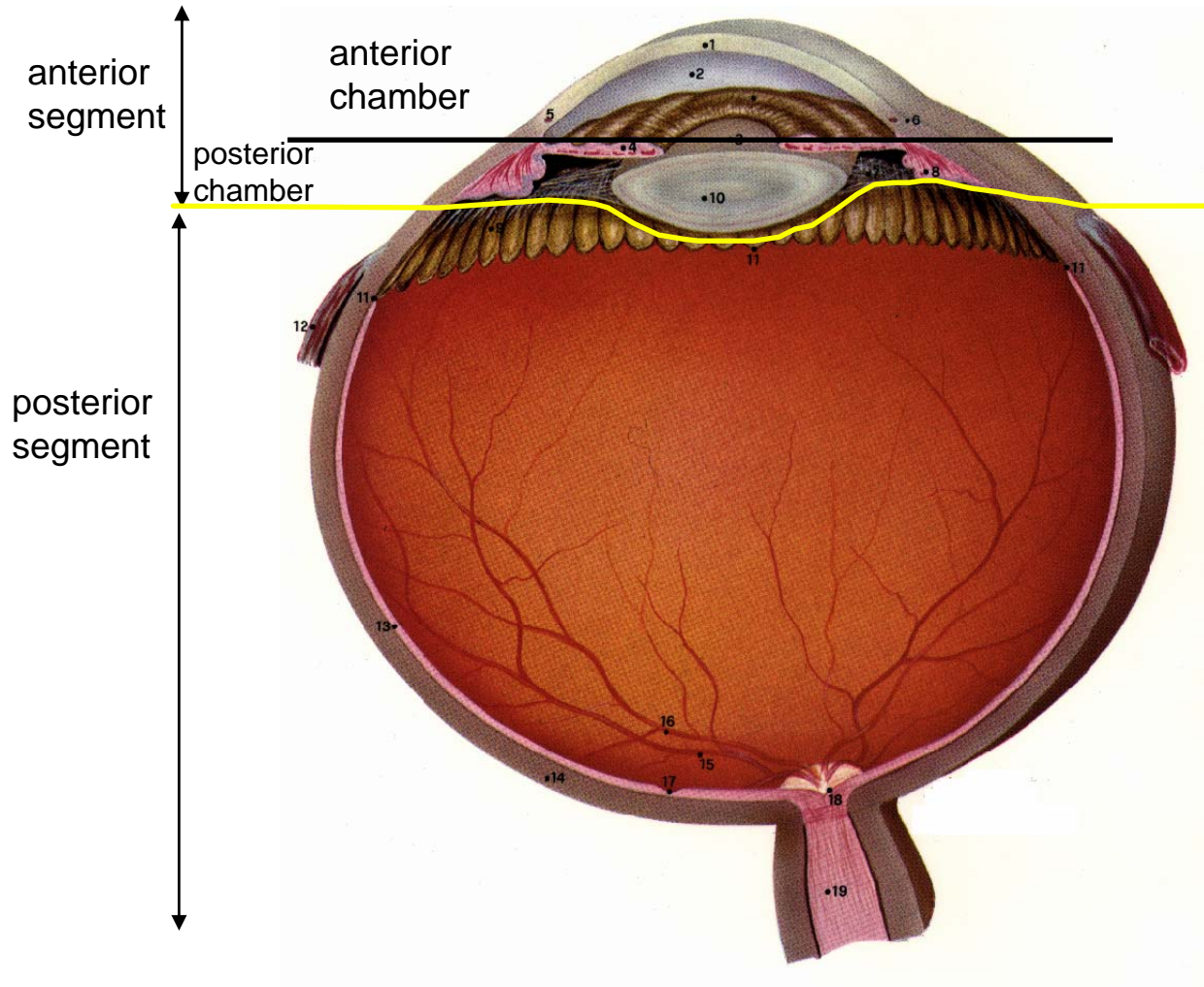
# Anatomy of the eye



# Key anatomy of

- **Cornea** : protective outer layer, triggers blink reflex, tear duct secretion, and 2/3 of total refraction.
- **Aqueous Humor**: clear fluid behind the cornea.
- **Iris**: (pupil) constricts and dilates
- **Retina** : coats the back of the eye, image sensor (specialized cells: cones and rods)
- **Lens** : flexible, transparent, provides 1/3 refraction that focuses an image on the retina.
- **Vitreous Humor**: semi-gelatinous material filling the volume between the lens and the retina.

# Anatomy of the eye





# Anatomy of the eye: Anterior segment

cornea

Aqueous humor

Iris

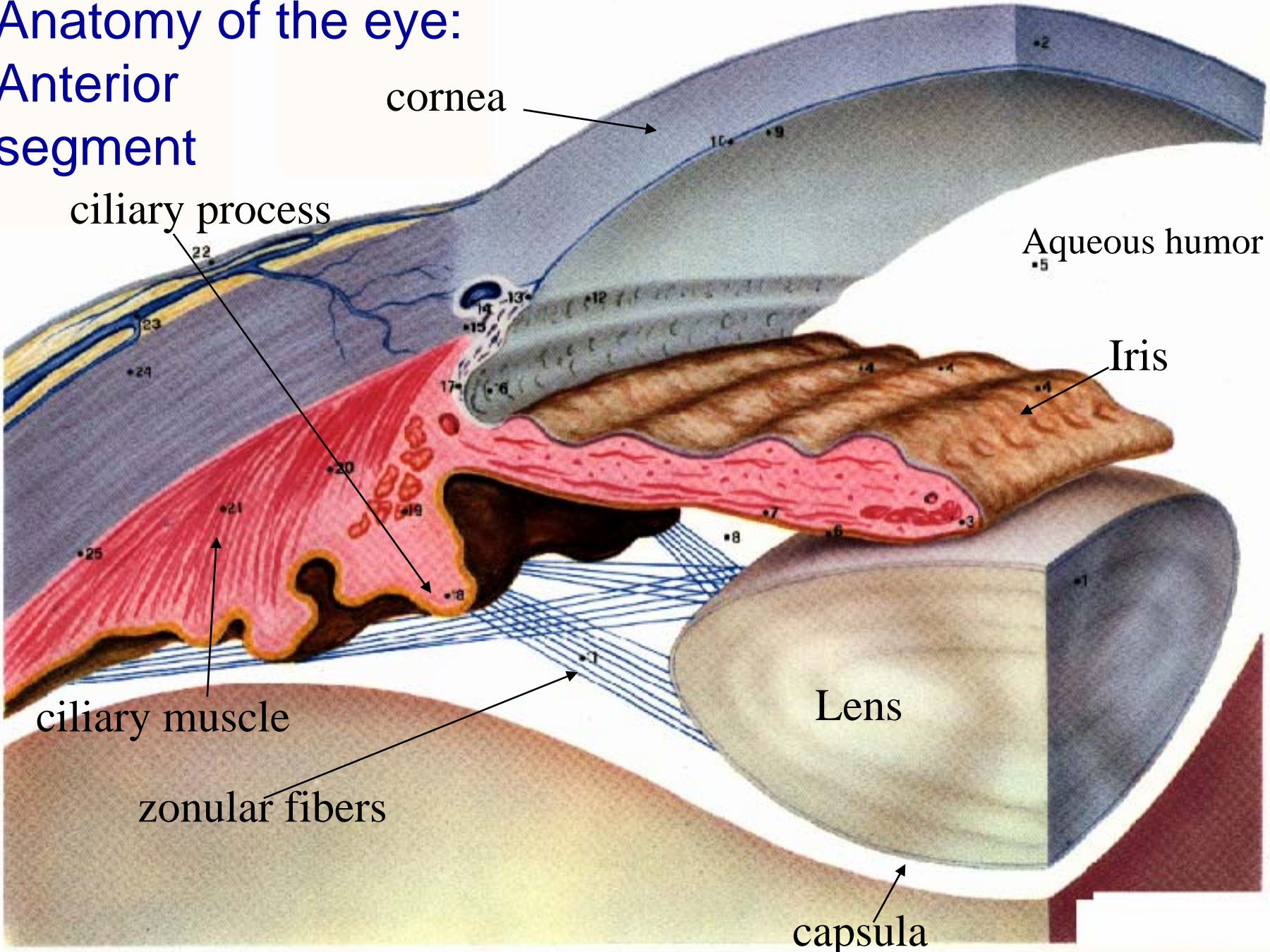
Lens

capsula

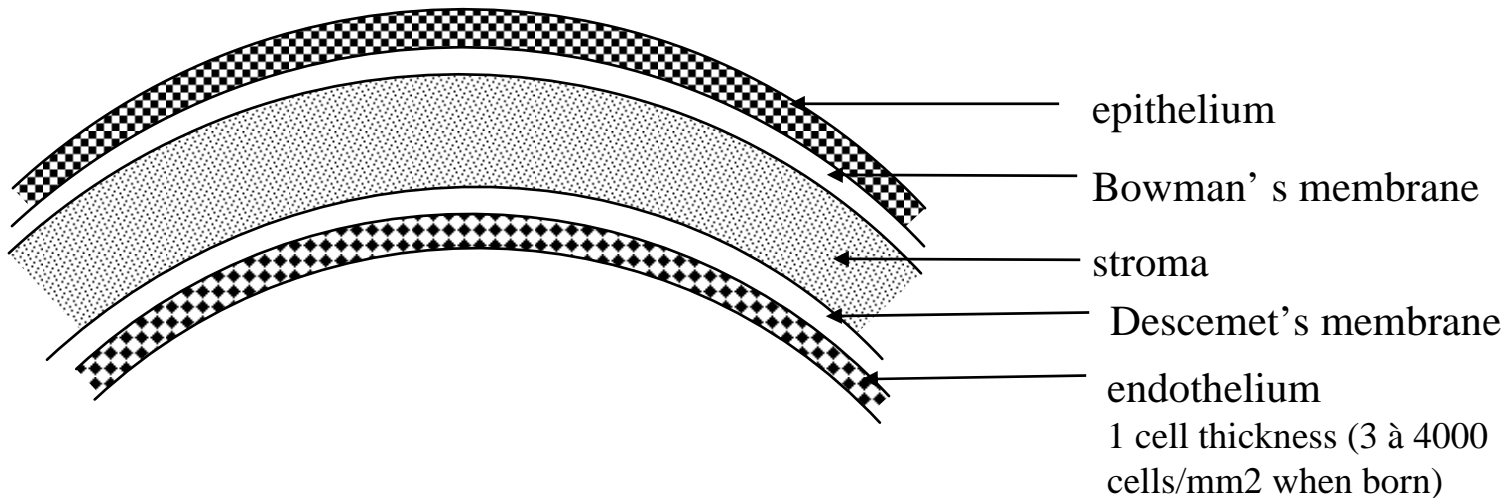
ciliary process

ciliary muscle

zonular fibers



# Anatomy of the eye (detail): Cornea (5 layers)



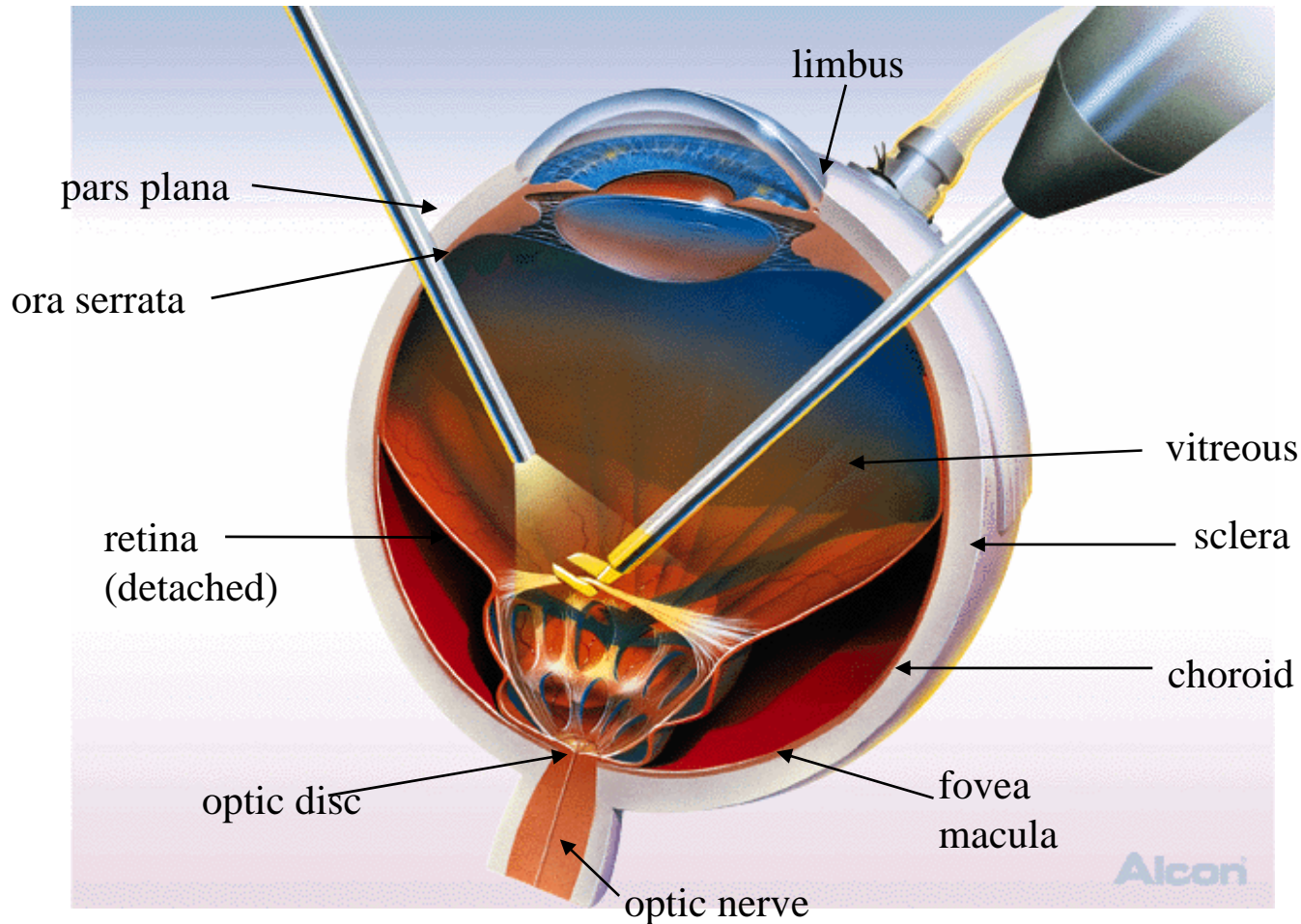
Thickness = 500  $\mu\text{m}$  at center, 700 to 800  $\mu\text{m}$  on sides

Dioptric power = 40 (total eye = 60 diopters)

Epithelium regenerates every 2 to 8 days

**Endothelium is an unicellular layer that never regenerates** (3 to 4000 cells /mm<sup>2</sup> at birth)

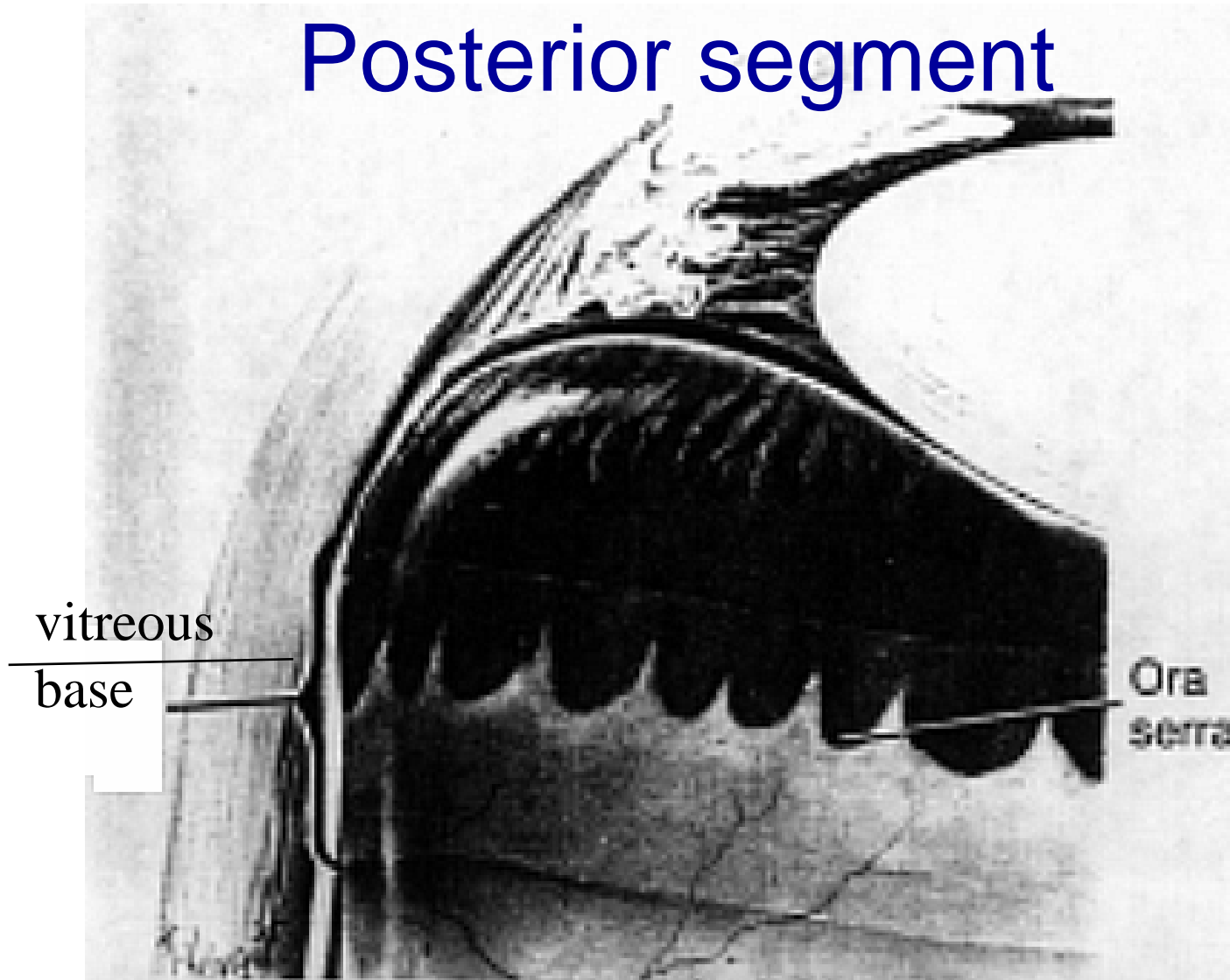
# Anatomy of the eye: Posterior segment





# Anatomy of the eye (detail):

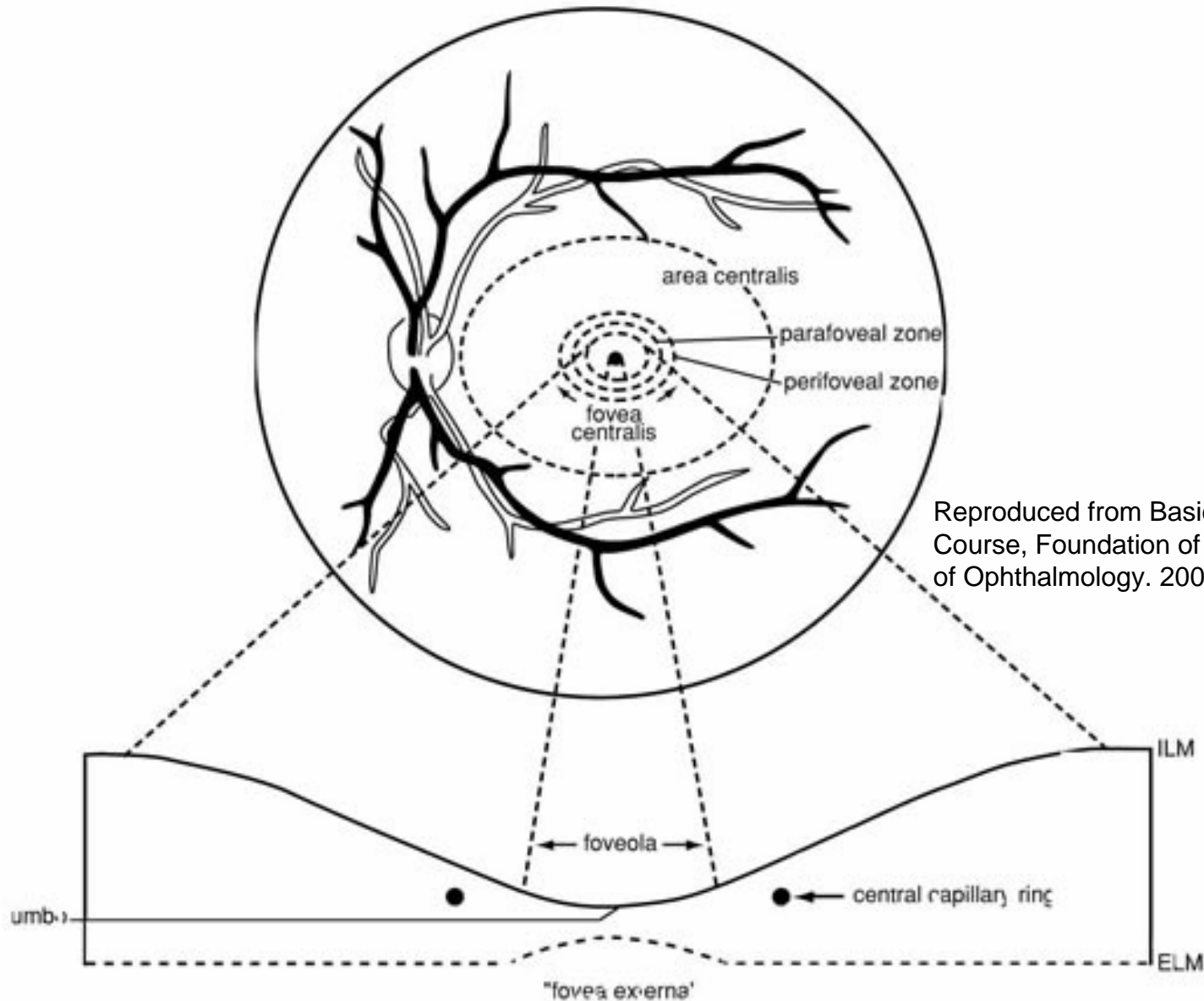
## Posterior segment



Ora serrata = anterior limit of retina



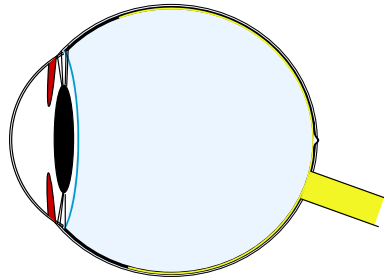
# Anatomic Macula



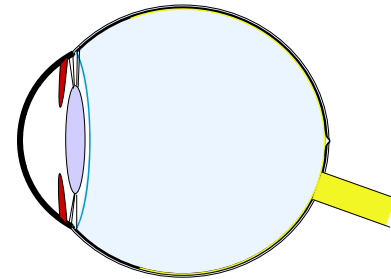
Reproduced from Basic Clinical Science Course, Foundation of the American Academy of Ophthalmology. 2003 - 2004.

# Six sub-specialties of Ophthalmology

## 1. Cornea & Cataract

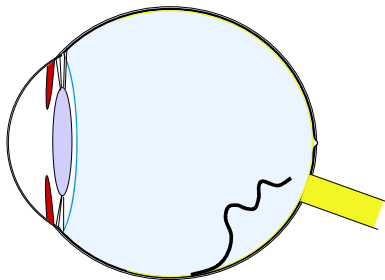


*Cataract*

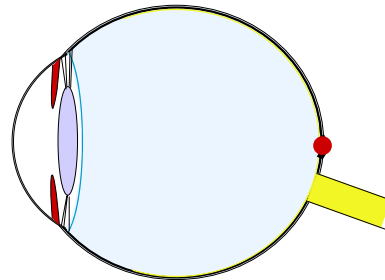


*Corneal Diseases*

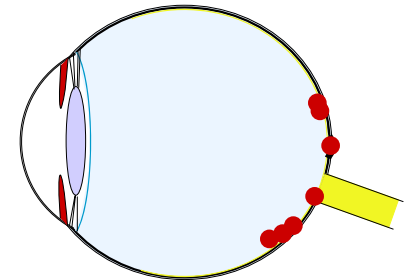
## 2. Retina & Vitreous



*Retinal Detachment*



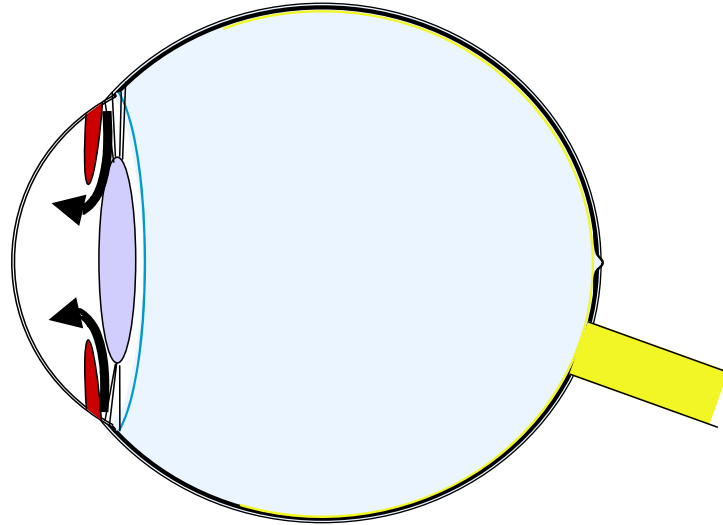
*Macular Diseases*



*Diabetic Retinopathy*

# Six sub-specialties of ophthalmology

## 3. Glaucoma



## 4. Oculoplastics (trauma, birth defects, tumors, cosmetics)

## 5. Pediatrics & Strabismus



## 6. Neuro-ophthalmology (optic disk, optic nerve, brain)

# Acknowledgements



- ALCON Laboratories





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