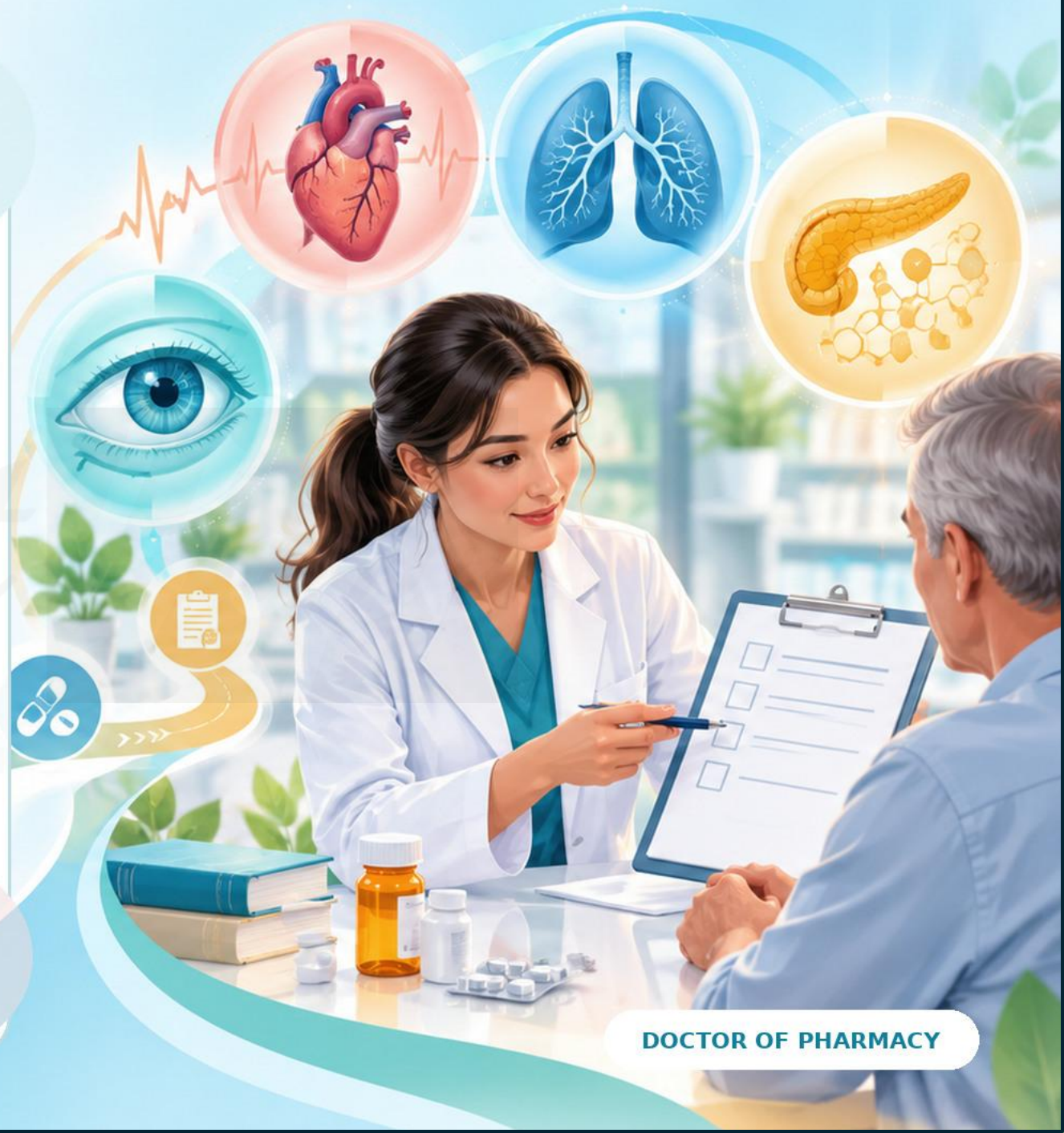
PHARM.D • YEAR 2

Pharmacotherapeutics

CHAPTER 4

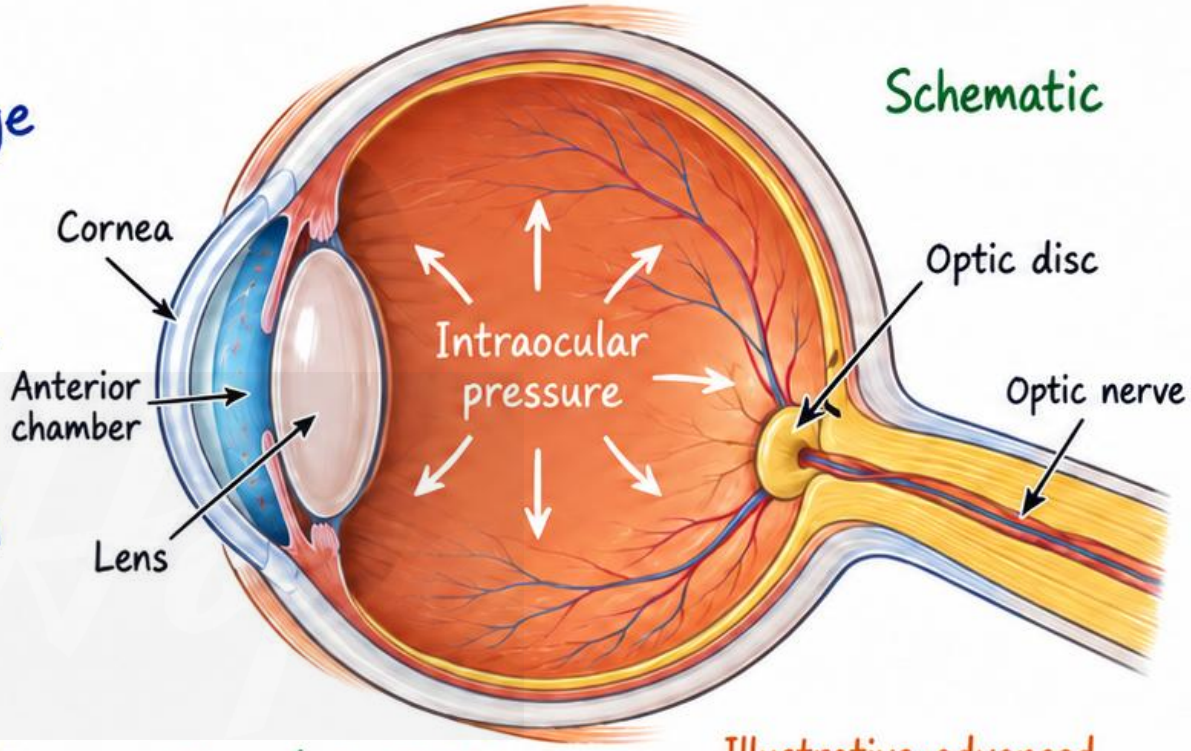
Ophthalmology



PPT CHAPTER COVER

Glaucoma: protecting the optic nerve

- Glaucoma is a group of progressive optic neuropathies with characteristic nerve damage and visual-field loss.
- Raised intraocular pressure is an important modifiable risk factor, but glaucoma can occur at statistically normal pressure.
- Lost vision is usually irreversible; early detection and sustained treatment aim to preserve remaining sight.
- Open-angle disease often develops without pain or obvious early symptoms.
- Risk assessment includes age, family history, pressure, optic-disc findings and other clinical features.
- A pressure value or cup-to-disc ratio alone does not establish the diagnosis.



Normal visual field

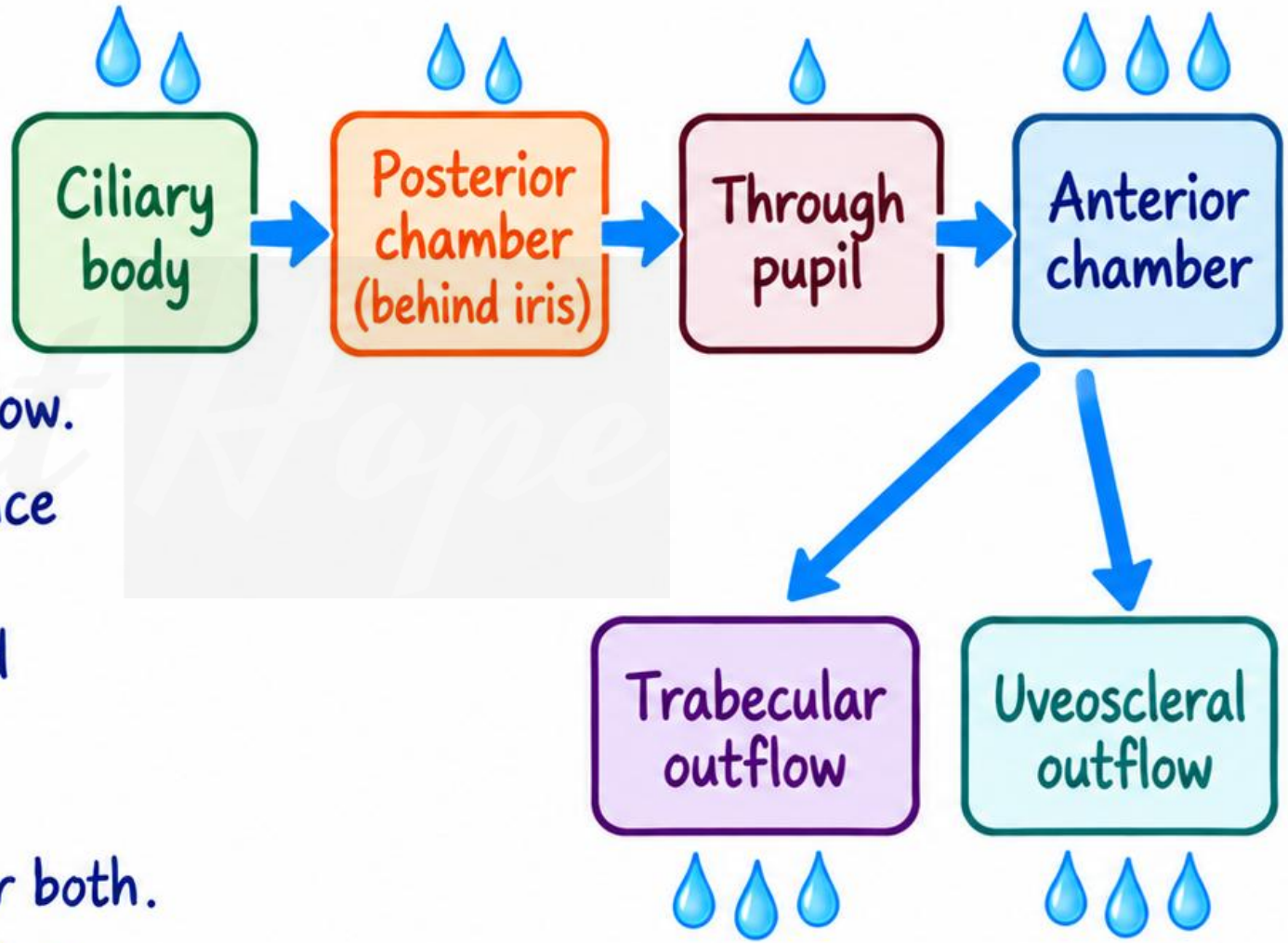


Illustrative advanced visual-field loss



Aqueous humour & pressure regulation

- The ciliary body produces aqueous humour behind the iris.
- Fluid passes through the pupil into the anterior chamber.
- Most outflow travels through the trabecular meshwork at the drainage angle; another route is uveoscleral outflow.
- Intraocular pressure reflects the balance between production and drainage.
- Reduced outflow can raise pressure and increase optic-nerve stress.
- Glaucoma medicines lower pressure by reducing production, improving outflow or both.
- Aqueous humour is not tear fluid and does not drain through the tear duct.



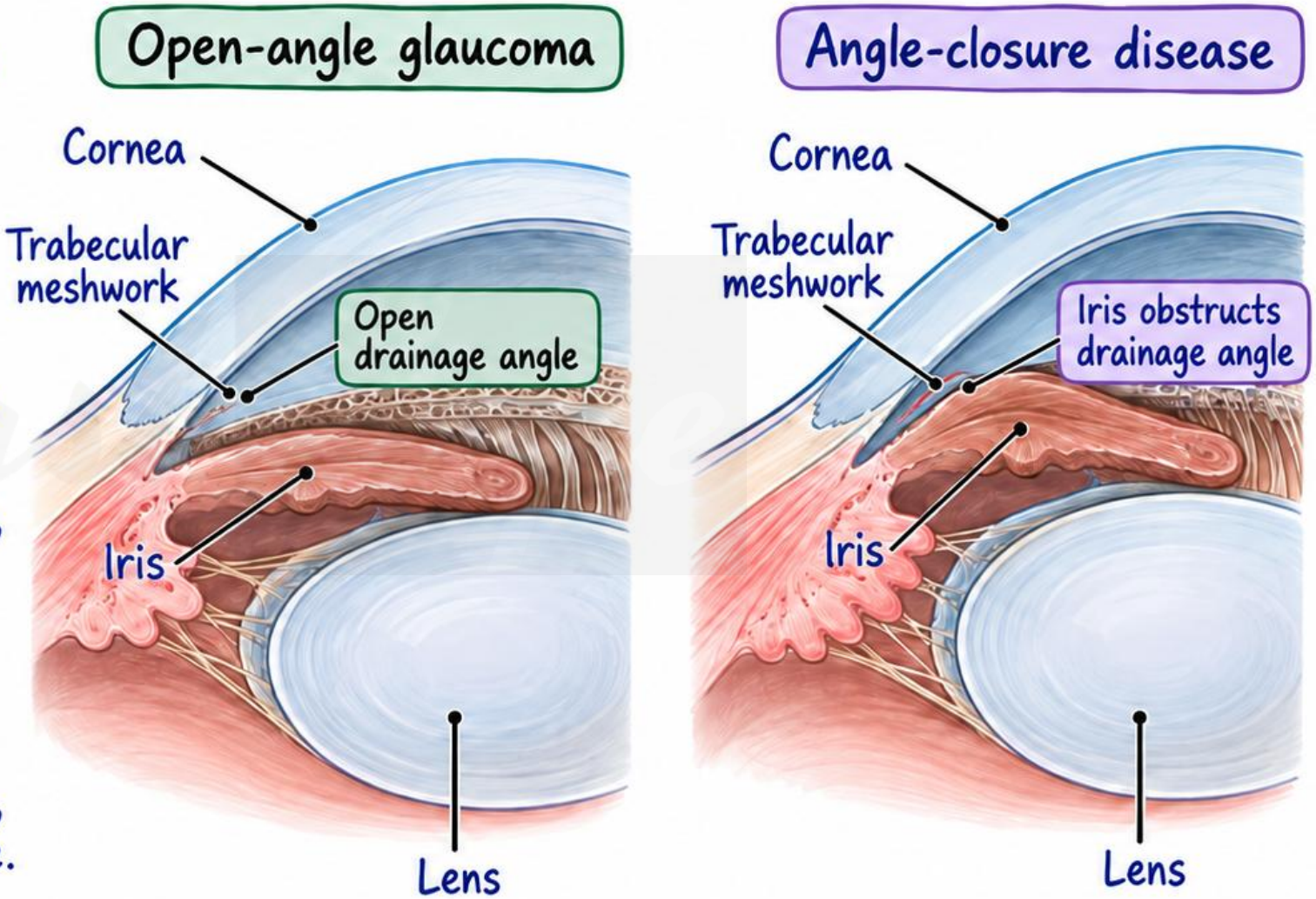
Glaucoma: open angle & angle closure

Open-angle glaucoma

- The drainage angle is anatomically open, but outflow resistance is increased.
- Progression is commonly slow and initially unnoticed.

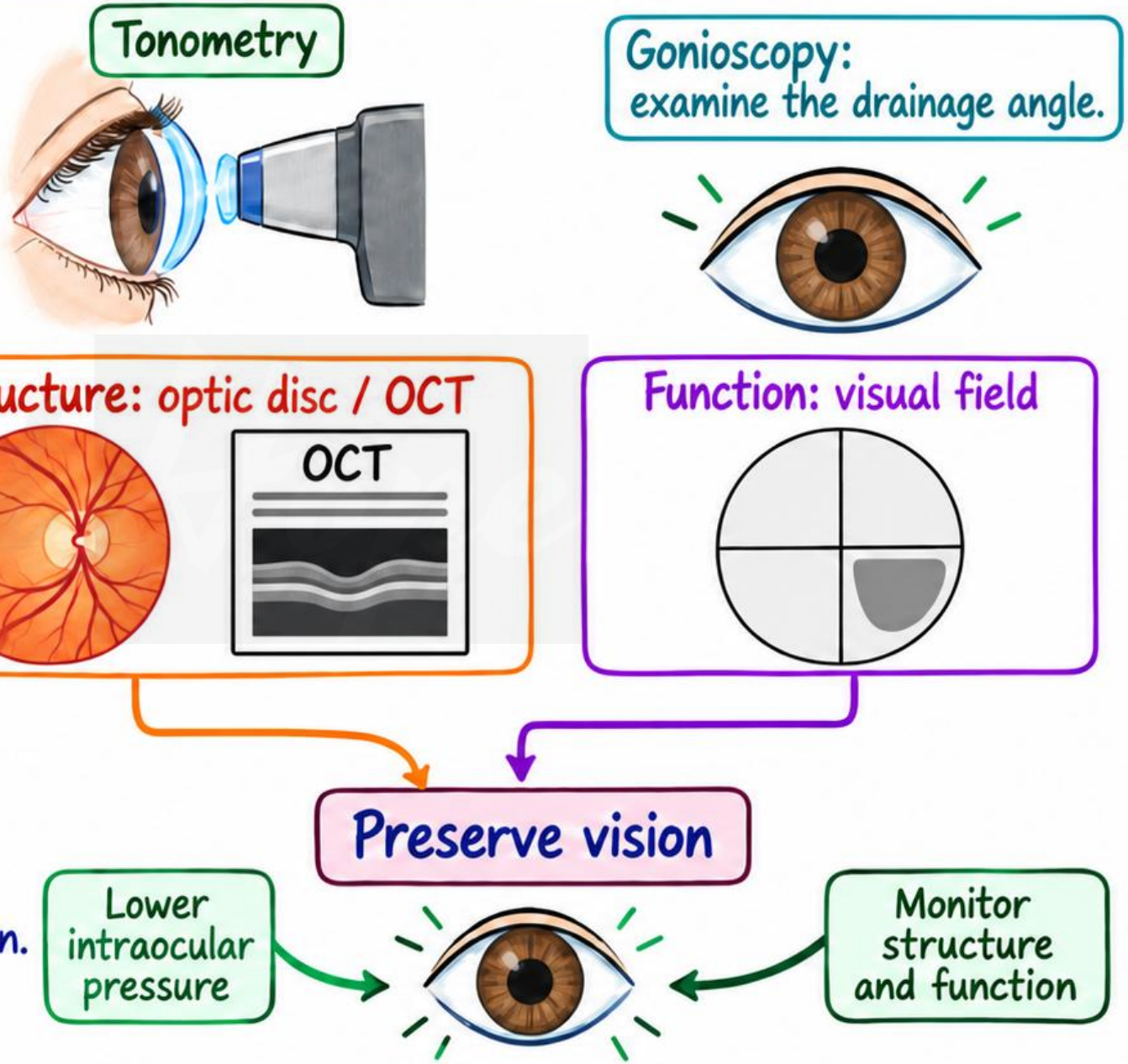
Angle-closure disease

- The iris obstructs access to the drainage angle.
- Acute closure can cause a painful red eye, blurred vision, halos, headache, nausea and vomiting.
- Suspected acute angle closure is an ophthalmic emergency.
- Secondary glaucoma can follow medicines, inflammation, trauma or other eye disease.
- Treatment depends on the mechanism; one eyedrop list does not fit every type.



Glaucoma investigations & treatment goals

- Tonometry measures intraocular pressure; corneal characteristics influence interpretation.
- Gonioscopy evaluates the anterior-chamber drainage angle.
- Optic-disc examination and OCT assess structural damage.
- Visual-field testing assesses functional loss and progression.
- Use repeated findings and the full clinical picture rather than one isolated measurement.
- Set a target pressure according to damage, progression, life expectancy and tolerance.
- Follow both structure and function; pressure reduction is a means to preserve vision.
- Normal-tension glaucoma may still benefit from lowering pressure.



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