



OCULAR SIDE EFFECTS OF SYSTEMIC MEDICATIONS

جامعة ساوة

كلية التقنيات الصحية والطبية

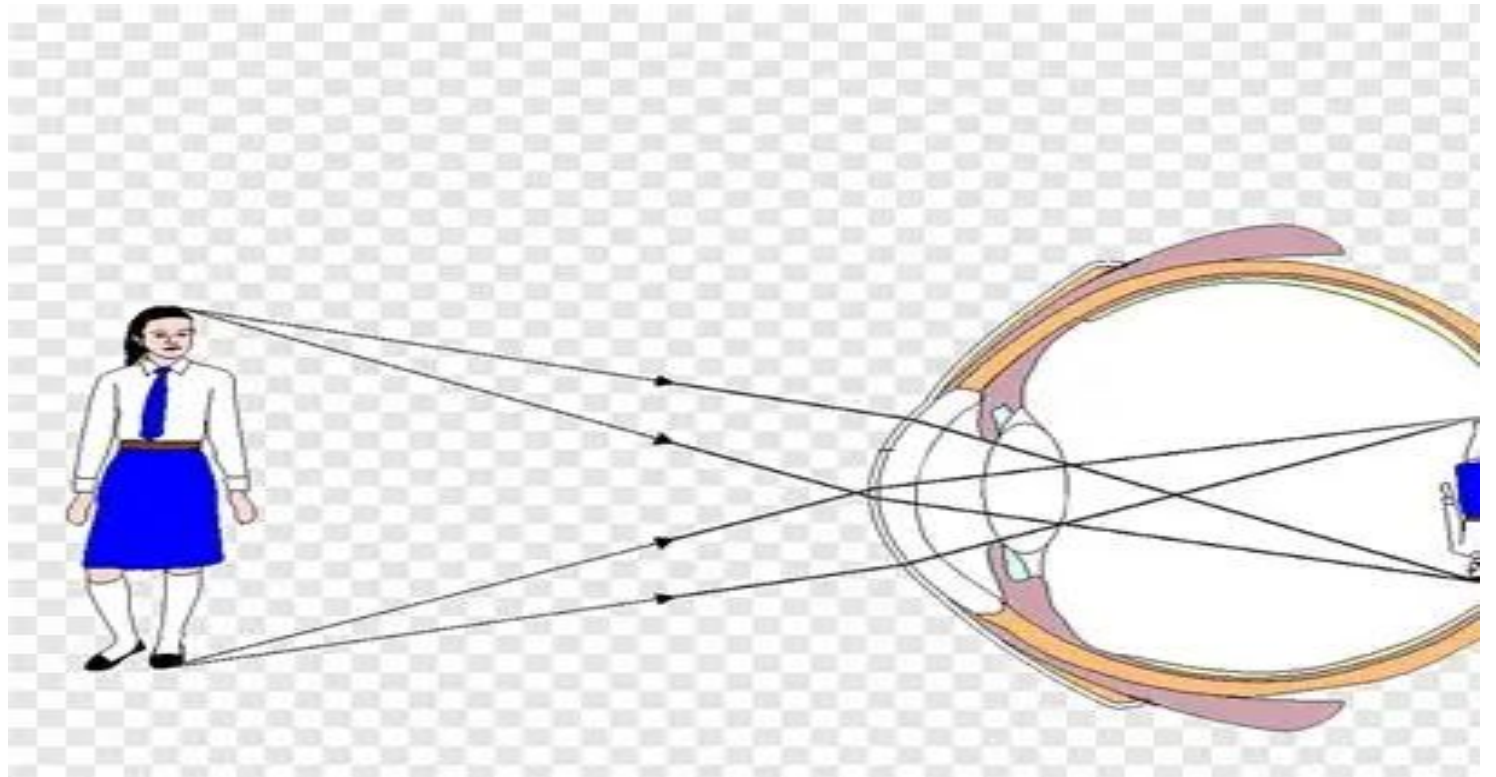
قسم تقنيات البصريات

المرحلة

Introduction

Content:

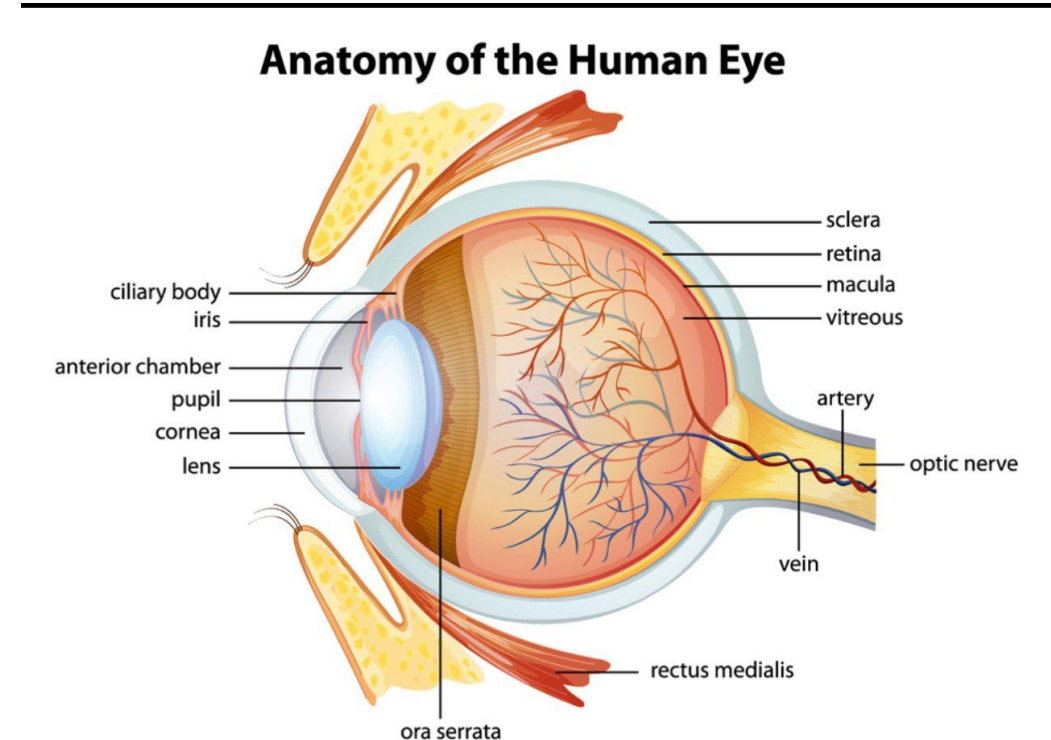
- Many systemic medications can affect the eye.
- These effects may be temporary or permanent.
- Early recognition by optometrists is essential.



Mechanisms of Ocular Toxicity

Content:

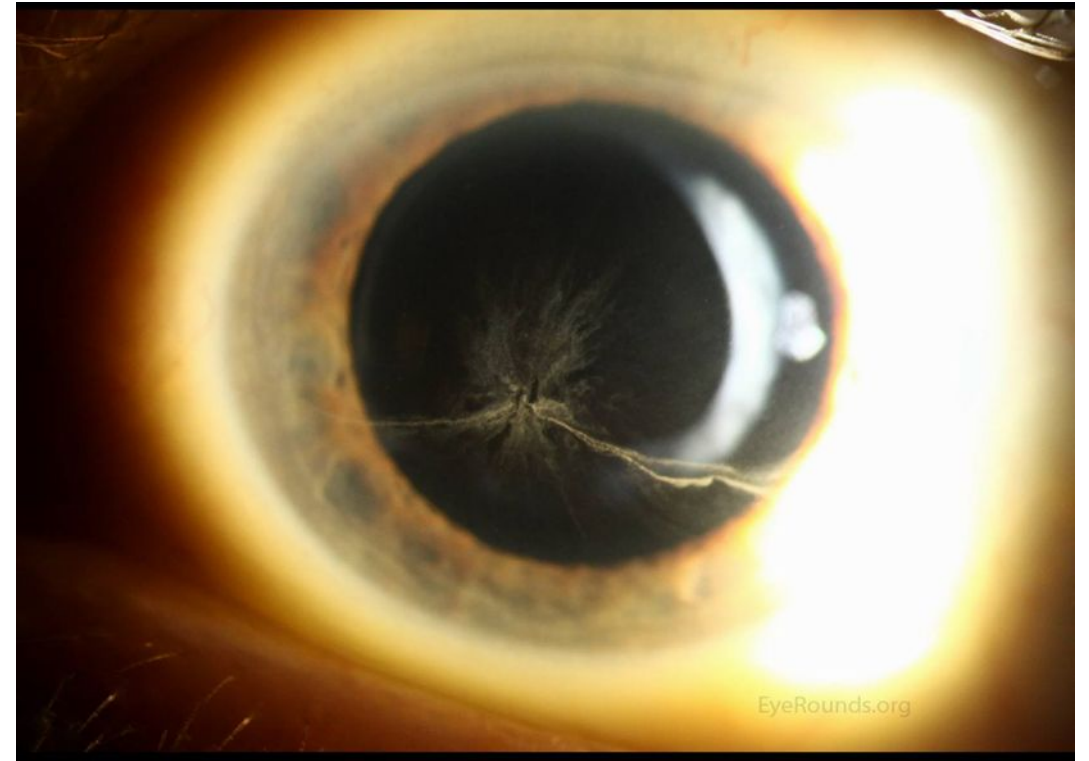
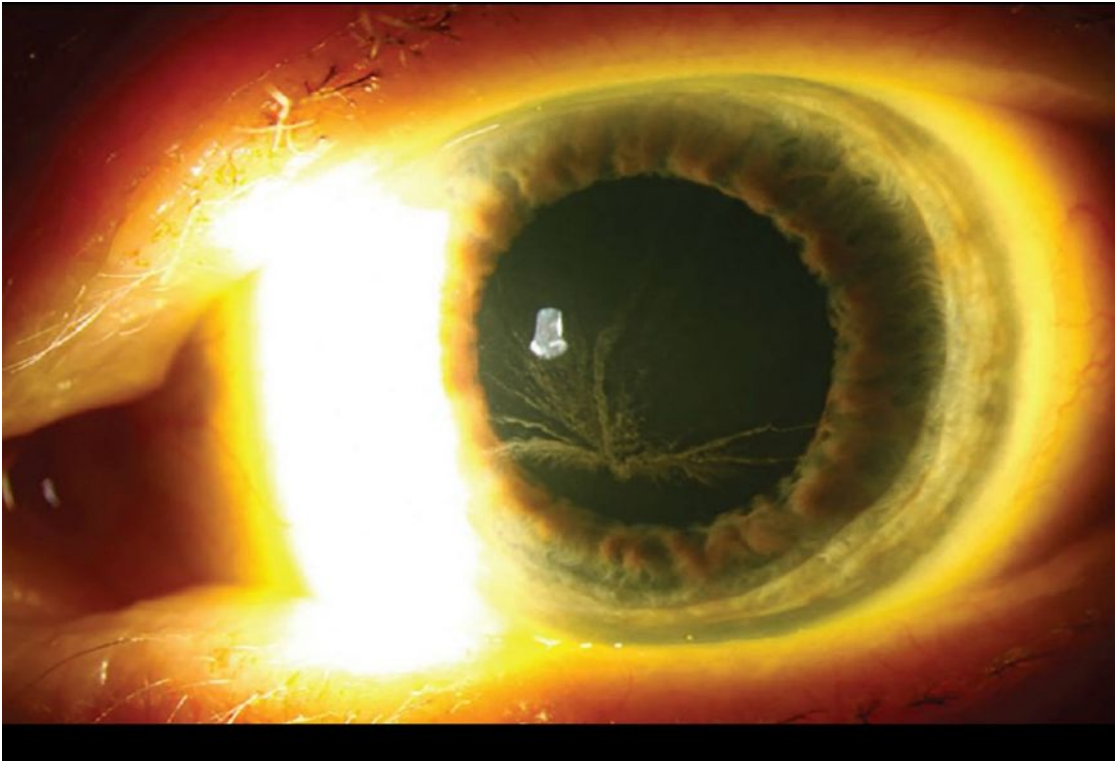
- Direct toxicity on ocular tissues
- Accumulation of drug/metabolites in the eye
- Vascular or immune-mediated reactions
- Photosensitivity



Drugs Affecting the Cornea

Examples:

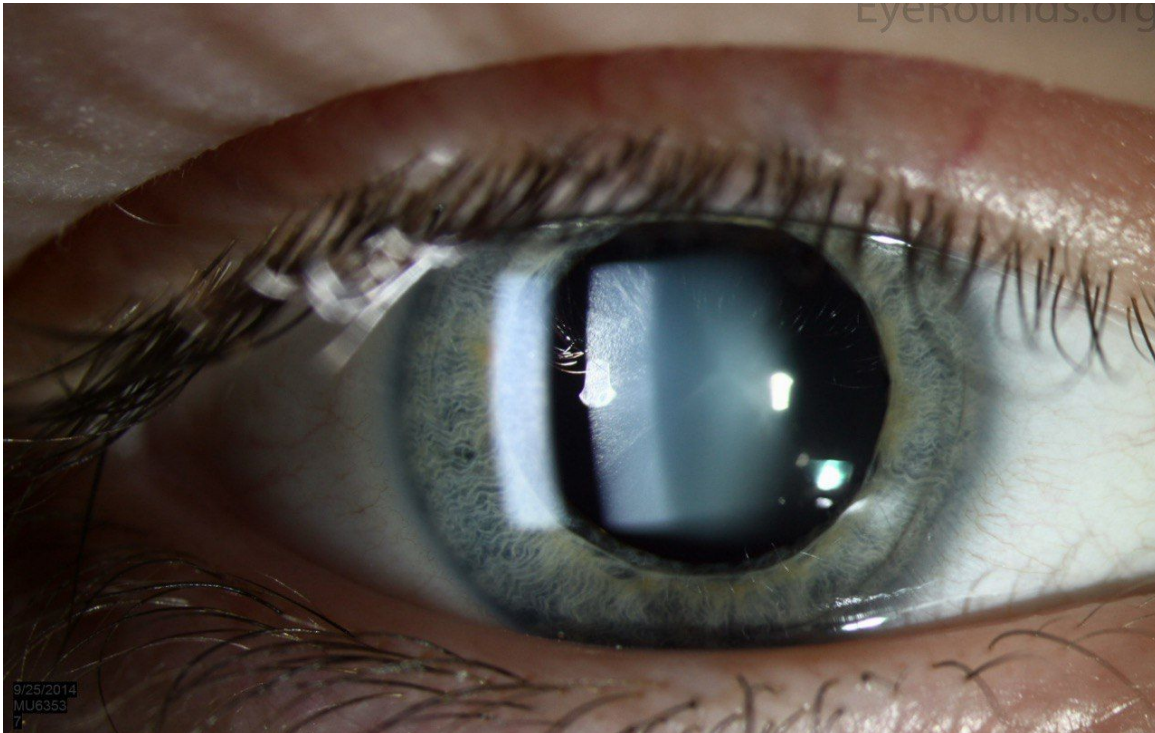
- Amiodarone: corneal micro deposits (vortex keratopathy)
- Chloroquine: whorl-like corneal deposits
- Isotretinoin: dryness, keratitis



Drugs Affecting the Lens

Examples:

- Corticosteroids: posterior sub capsular cataract
- Chlorpromazine: anterior sub capsular opacities



Drugs Affecting the Retina

Examples:

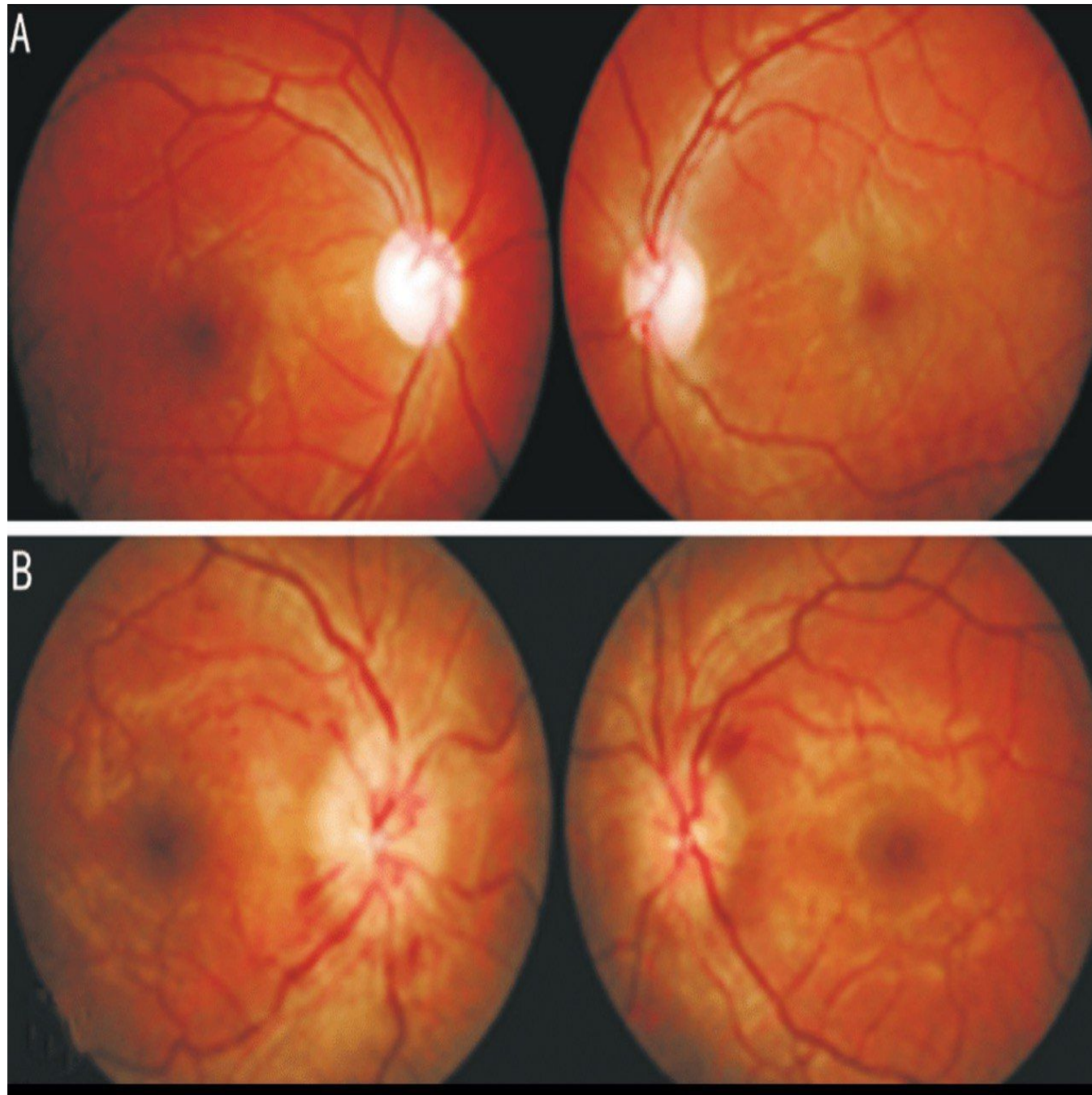
- Chloroquine / Hydroxychloroquine: bull's-eye maculopathy
- Tamoxifen: crystalline retinopathy
- Nitrofurantoin: optic neuritis (sometimes)



Drugs Affecting the Optic Nerve

Examples:

- Ethambutol: optic neuritis (reversible early)
- Isoniazid: optic neuropathy
- Amiodarone: optic neuropathy



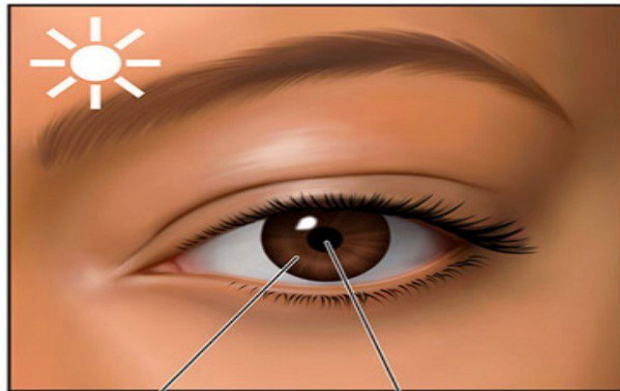
Drugs Causing Pupillary or Accommodation Changes

Examples:

- Anticholinergics: mydriasis, blurred near vision
- Sympathomimetic: mydriasis
- Opioids: miosis

Dilated Pupils

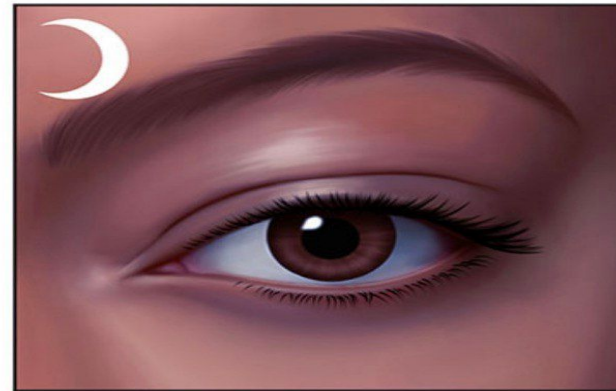
Direct response - constricted



Iris

Pupil

Direct response - dilated

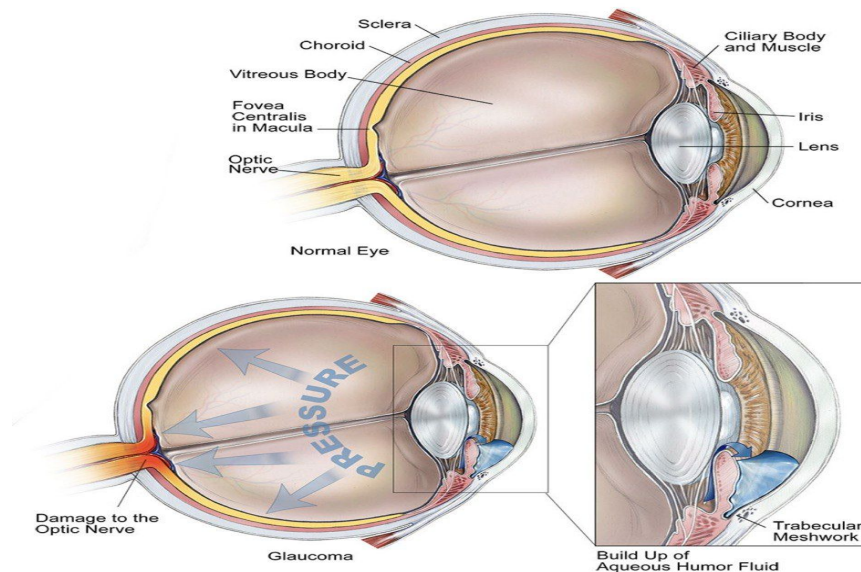


Drugs Increasing Intraocular Pressure (IOP)

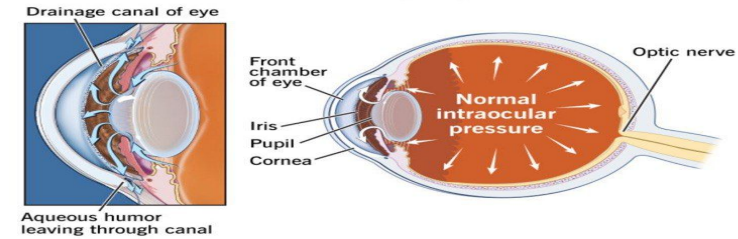
Examples:

- Corticosteroids: steroid-induced glaucoma
- Anticholinergics: may precipitate angle closure

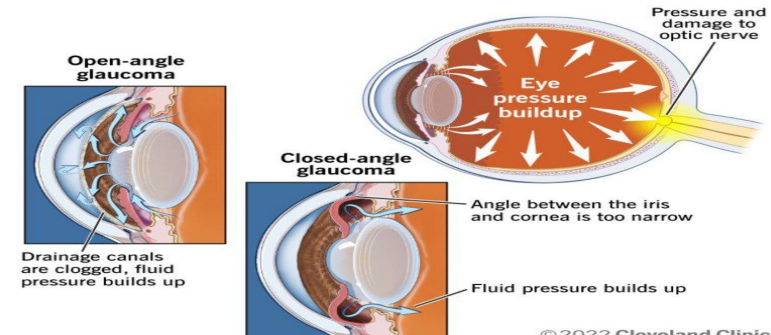
Build Up of Aqueous Humor



Healthy Eye



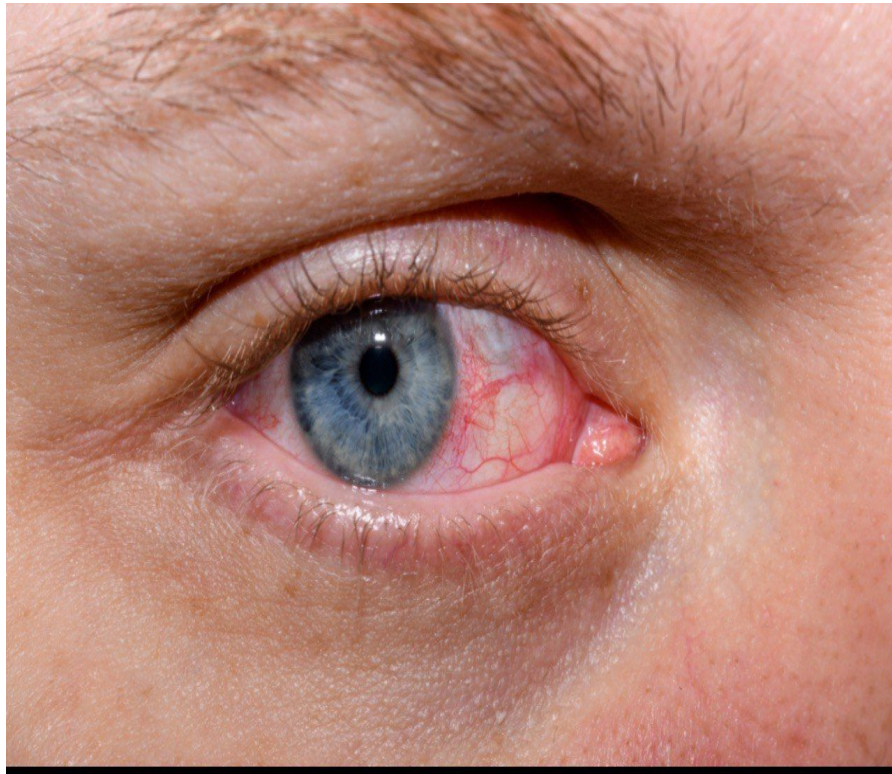
Glaucoma



Drugs Causing Ocular Surface Dryness

Examples:

- Antihistamines
- Antidepressants
- Oral contraceptives



Clinical Importance

Content:

- Optometrists must take a full drug history.
- Recognize early ocular toxicity signs.
- Refer patients when necessary.



Summary

- **Many systemic drugs can affect vision.**
- **Early detection prevents irreversible damage.**
- **Collaboration between optometrists and physicians is essential.**

References

1. American Academy of Ophthalmology:
Basic and Clinical Science Course.
2. Kanski's Clinical Ophthalmology.
3. Pharmacotherapy: Principles and Practice.

**Thank
you!**

