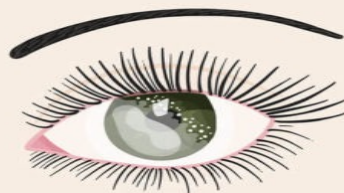


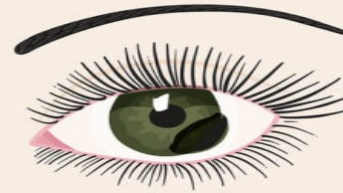
## GLAUCOMA TYPES



Inflammatory  
glaucoma



Neovascular  
glaucoma



Traumatic  
glaucoma

## HEALTHY EYES



# New Medicine Service

A FOCUS ON GLAUCOMA

# Learning for this session

- ▶ **Summary of New Medicine Service**
- ▶ **Recap on glaucoma**
- ▶ **Overall management of glaucoma**
- ▶ **Key information on medicines used in glaucoma**
- ▶ **Key counselling points**
- ▶ **Clinical case study**
- ▶ **Further reading and signposting**



**Objectives**



# NMS - Summary

- ▶ **Patient consent and other data requirements**
- ▶ **Catch up NMS - between 1st September 2021 and 31st March 2022.**
- ▶ **Targets for payment**
  - ▶ All completed NMS provided by a contractor that fall below the 10% target will be paid at £20 each;
  - ▶ Once a contractor reaches the 10% target all completed NMS (including those which fall below the 10% target) will be paid at £25 each;
  - ▶ Once a contractor reaches the 20% target all completed NMS (including those which fall below the 20% target) will be paid at £26 each;
  - ▶ Once a contractor reaches the 30% target all completed NMS (including those which fall below the 30% target) will be paid at £27 each;
  - ▶ Once a contractor reaches the 40% target all completed NMS (including those up to the maximum target) will be paid at £28 each.

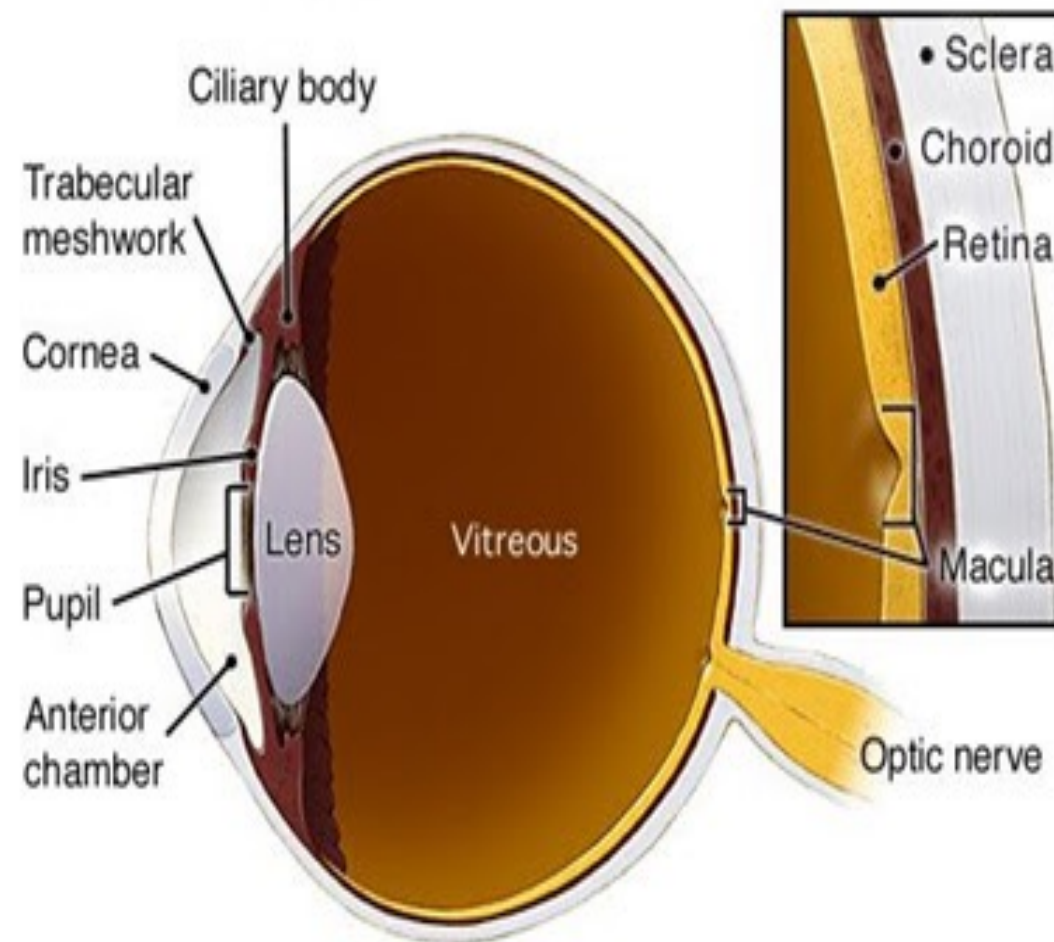
# The condition and clinical features

- ▶ Glaucoma is a **common eye condition where the optic nerve**, becomes damaged.
- ▶ Caused by fluid building up in the front part of the eye, which increases pressure inside the eye.
- ▶ Can lead to loss of vision if it's not diagnosed and treated early.
- ▶ Glaucoma affects 480,000 in England and millions worldwide



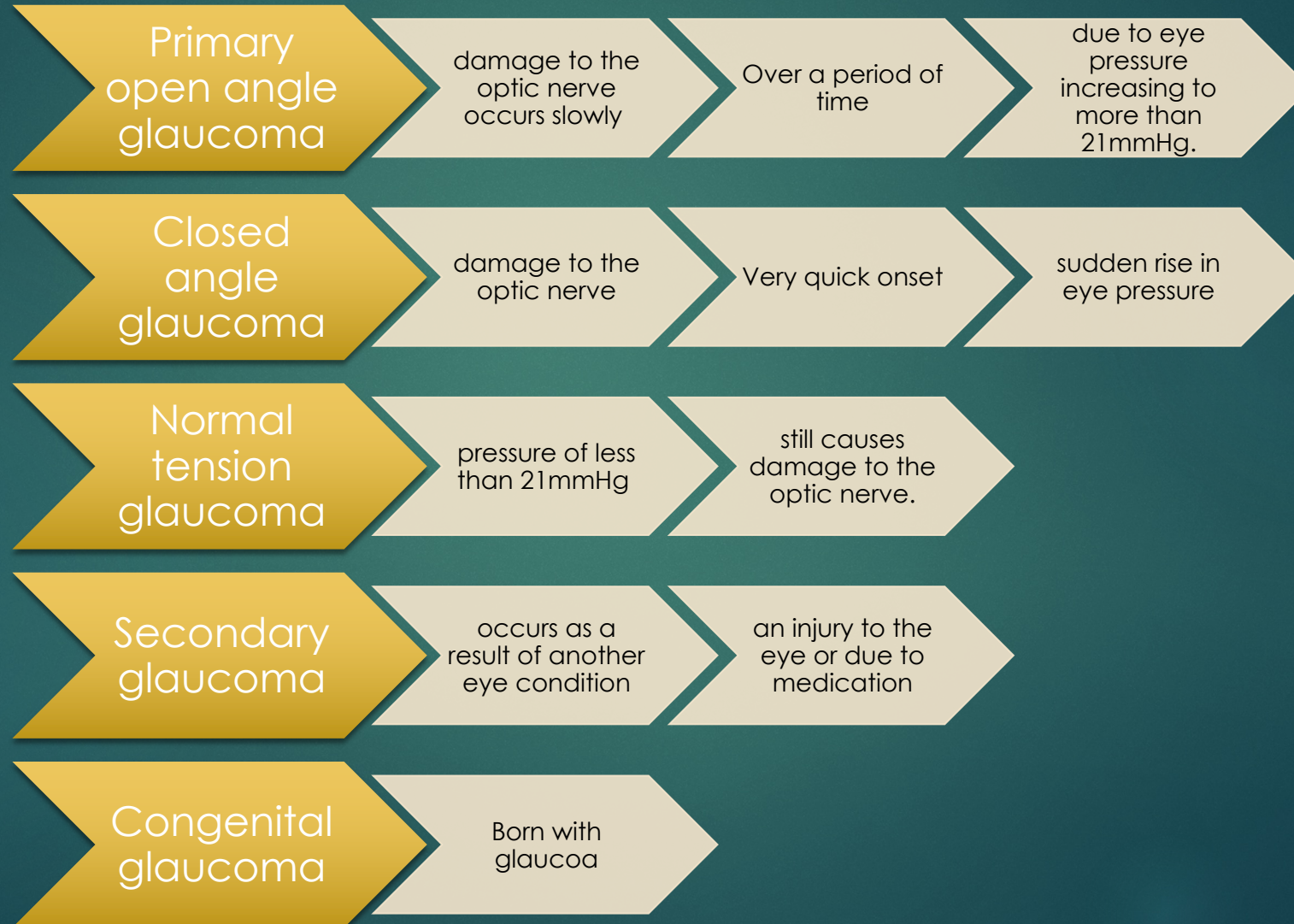
# The condition

- ▶ Anterior chamber of eye
- ▶ Fills with watery fluid
- ▶ Called aqueous humour
- ▶ IOP
- ▶ Normal range is 10 -20mmHg



# The condition

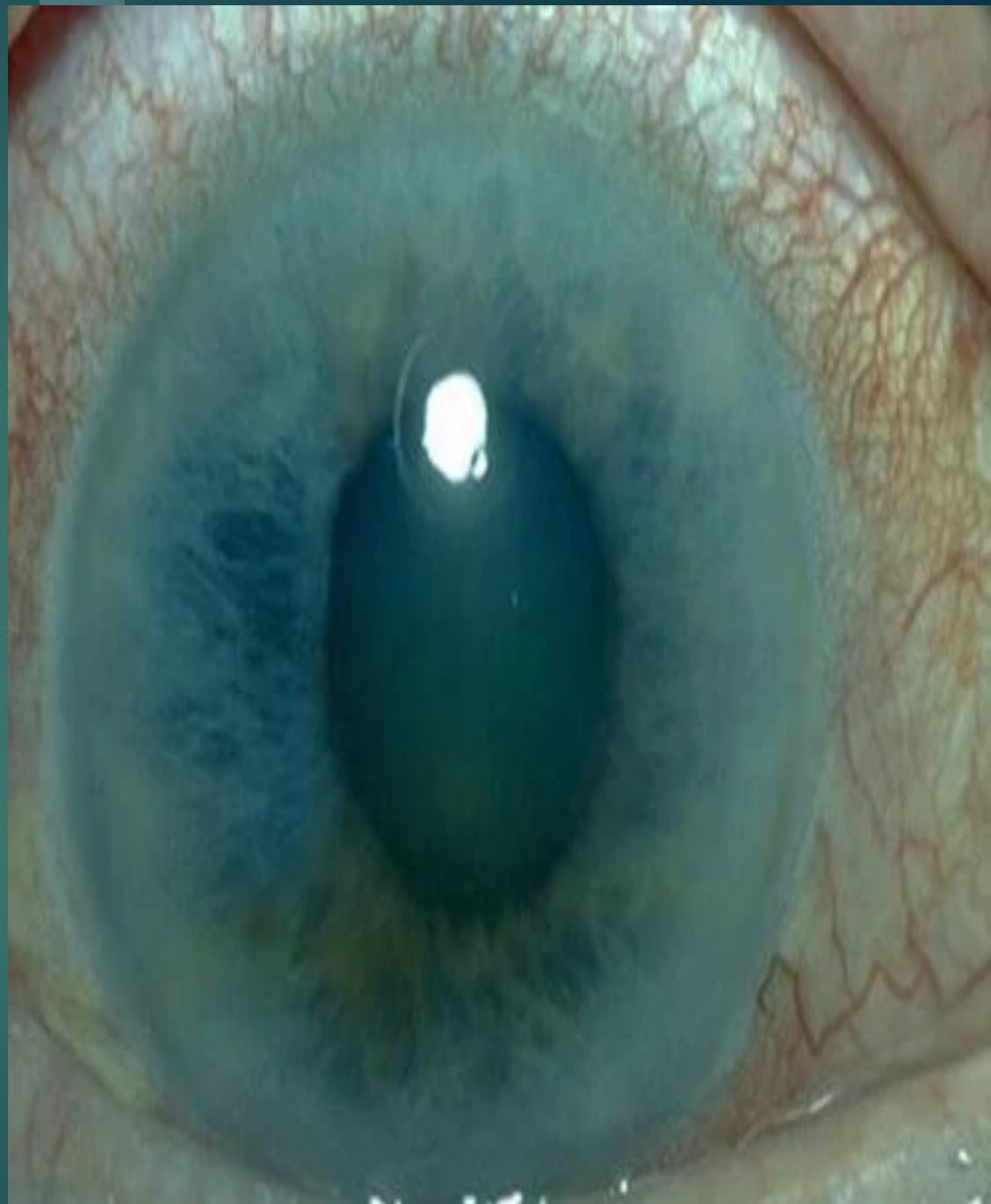
The main types of glaucoma are





# Clinical features

- ▶ does not usually cause any symptoms to begin with
- ▶ affects peripheral vision first
- ▶ blurred vision
- ▶ seeing rainbow-coloured circles around bright lights
- ▶ Very occasionally
  - ▶ intense eye pain
  - ▶ nausea and vomiting
  - ▶ a red eye
  - ▶ a headache
  - ▶ tenderness around the eyes
  - ▶ seeing rings around lights
  - ▶ blurred vision



# Risk factors

Age

Race

Genetics

eyesight

Diabetis

Steroids

Family  
history



# The management

► NICE Guidance <https://www.nice.org.uk/guidance/ng81>

► BNF <https://bnf.nice.org.uk/treatment-summary/glaucoma-and-ocular-hypertension.html>

Treatments for Glaucoma				
prostaglandin analogue	Beta-blockers	Alpha-2-agonists	Carbonic Anhydrase inhibitors	cholinergic
latanoprost	timolol	brimonidine	dorzolamide	pilocarpine
travoprost	betaxolol	apraclonidine	acetazolamide	
Bimatoprost	levobunolol	lofexidine	brinzolamide	
Tafluprost				

# The medicines Prostaglandins

Preferred 1st line treatment

Travoprost (0.0015% and 0.004%), a highly selective, potent prostaglandin F (FP) receptor agonist, is equal or superior to latanoprost

Enhances the aqueous outflow

starts reducing IOP after 3 to 4 hours of administration

maximum IOP lowering effect is seen 8 to 12 hours after use

Duration of action is a several days

Once daily admin (bedtime)

Reduces IOP by 25-34%

Good for patients with patients' compliance issues

eyelid edema, blurred vision, dry eyes, itching, redness, the growth of eyelashes, change in eyelid pigmentation (may become darker), iris, and eyelash.



# ▶ Difference between prostaglandin agents

## ▶ **Latanoprost**

- ▶ fewer ocular adverse event than other PG agents
- ▶ Often used first line

## ▶ **Travoprost**

- ▶ Similar to latanoprost
- ▶ May lower IOP to a slightly greater effect in black patients

## ▶ **Bimatoprost**

- ▶ Although a prostamide, included in PG group
- ▶ Shown to have greater IOP lowering effect
- ▶ Less iris hyperpigmentation

## ▶ **Tafluprost**

- ▶ Newest PG agent
- ▶ Well tolerated
- ▶ Less disruption of the ocular surface

# The medicines - Beta Blockers

Second line treatment

Act by decreasing the aqueous production

Given twice daily

Betaxolol is selective beta blocker

Monotherapy or in combination

Preservative free available

Can cause systemic side effects

Keep eyelid closed for 2 minutes to reduce these

Ocular irritation and headache



# The medicines - **carbonic anhydrase inhibitors**

Brinzolamide or dorzolamide

One drop twice a day

Work on carbonic anhydrase enzymes

Well tolerated

Burning sensation, blurred vision, redness of eye

Oral drug available

# The medicines - **Alpha-2- agonists**

Brimonidine

Adrenergic receptors

Reduces aqueous production and increases drainage

Twice a day dosing

Dizziness, dry mouth, headache, dry eyes, eye inflammation, GI disturbances

other alpha 2 agonist is apraclonidine, lofexidine

More of these type of eye drop on the horizon



# The medicines - **cholinergic**

Pilocarpine

Used in acute angle-closed glaucoma

Headache, brow ache

Blurred vision, difficulty in seeing in poor lighting

Burning, itching or smarting

Use up to four times a day

# Self-help counselling points

- **Changes to prevent eyesight loss**
- **Use drops correctly and regularly**
- **Attend planned eye clinic appointments**
- **Sight loss due to glaucoma is not reversible**
- **Ensure know about side effects to help them understand risk Vs benefits**
- **Talk to eye consultant if problems with eye drops**
- **Preservative free eye drops may be an option**
- **Inform DVLA**





# Self-help counselling points

- **Foods to avoid**
  - **Caffeine**
  - **Saturated fats**
  - **Tran fats**
  - **Salt**



# Clinical case study

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Mr AA is a 48-year-old shop attendant who presented at the eye unit of a teaching hospital with a history of gradual, painless vision loss. He was diagnosed with open angle glaucoma. He then visits you to have a chat about his concerns

---

**What would you talk about with this patient**

---

**What would be the first line treatment**

---

**Mr AA brings in a prescription for betaxolol, brinzolamide and latanoprost. What advice do you give him?**

---

One week later, at the next NMS session, he tells that he doing fine with no side effects but wants to understand how to prevent the eye condition from getting worse

---

**What do you recommend?**

---



# Further reading and signposting

- ▶ Royal National Institute of Blind People (RNIB) <https://www.rnib.org.uk/>
- ▶ <https://glaucoma.uk/>
- ▶ NHSE information <https://www.nhs.uk/conditions/glaucoma/#:~:text=Glaucoma%20is%20a%20common%20eye,not%20diagnosed%20and%20treated%20early.>



# Bibliography/References

- ▶ <https://www.rebuildyourvision.com/blog/vision-conditions/glaucoma/natural-ways-to-lower-eye-pressure/>
- ▶ [file:///C:/Users/User/Downloads/934-003ARTHUR2011%20\(1\).pdf](file:///C:/Users/User/Downloads/934-003ARTHUR2011%20(1).pdf)
- ▶ <https://glaucoma.uk/care-support/glaucoma-self-care/>
- ▶ <https://www.coastaleyeyesurgeons.com/blog/what-foods-to-avoid-if-you-have-glaucoma-2>
- ▶ <https://www.nhs.uk/conditions/glaucoma/treatments/>



# Clinical case study

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Mr AA is a 48-year-old shop attendant who presented at the eye unit of a teaching hospital with a history of gradual, painless vision loss. He was diagnosed with open angle glaucoma. He then visits you to have a chat about his concerns

---

**What would you talk about with this patient -** Important to educate Mr AA about glaucoma and what his treatment options are. Tell him that initial control of IOP should be by medical treatment and so a visit to the GP or ophthalmologist is very important.

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**What would be the first line treatment?** - First choice was a combination of a beta-blocker and a prostaglandin analogue (PGA). A second option was a combination of a beta-blocker and an alpha-agonist.

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**Mr AA brings in a prescription for betaxolol, brinzolamide and latanoprost. What advice do you give him?** Ensure the patient understands how to use eye drops. Go through each medicine and mention the dose and a couple of side effects for each. Does the patient understand that these eye drops are not for acute treatment but rather long term. Thus do they understand how and when to reorder?

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One week later, at the next NMS session, he tells that he is doing fine with no side effects but wants to understand how to prevent the eye condition from getting worse

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**What do you recommend?** - discuss foods to avoid, using eye drops correctly, discuss with him if he feels the condition is getting worse or if eye drops are causing problems. Attend eye clinic appointments