Dr Allan Simpson

Ophthalmologist

Southern Eye Specialists, Christchurch

Sunday, August 14, 2016

(Room 1)

8:30 - 9:25 WS #144: Glaucoma - The Silent Raider

9:35 - 10:30 WS #154: Glaucoma - The Silent Raider (Repeated)

The Treatment of Glaucoma: arresting the Silent Raider

Dr AJ Simpson Southern Eye Specialists
Christchurch

Why does a GP need to know about glaucoma?

- Glaucoma is a major cause of preventable blindness
- It is estimated 50% of people with glaucoma do not realise they have it
- Early detection key to preventing irreversible sight loss
- 98% of patients who comply with treatment will not go blind

How do patients find out more?
Glaucoma NZ

www.glaucoma.org.nz

99 times out of 100,

glaucoma is detected in routine eye examinations,

not because someone is aware of difficulty seeing

Presbyopia is the main chance!

Early detection is vital

Have an eye test

Glaucoma NZ promotes 45 + 5 ‘rule’

Tell family and friends

The 3 most important things in glaucoma treatment

Pressure

Pressure

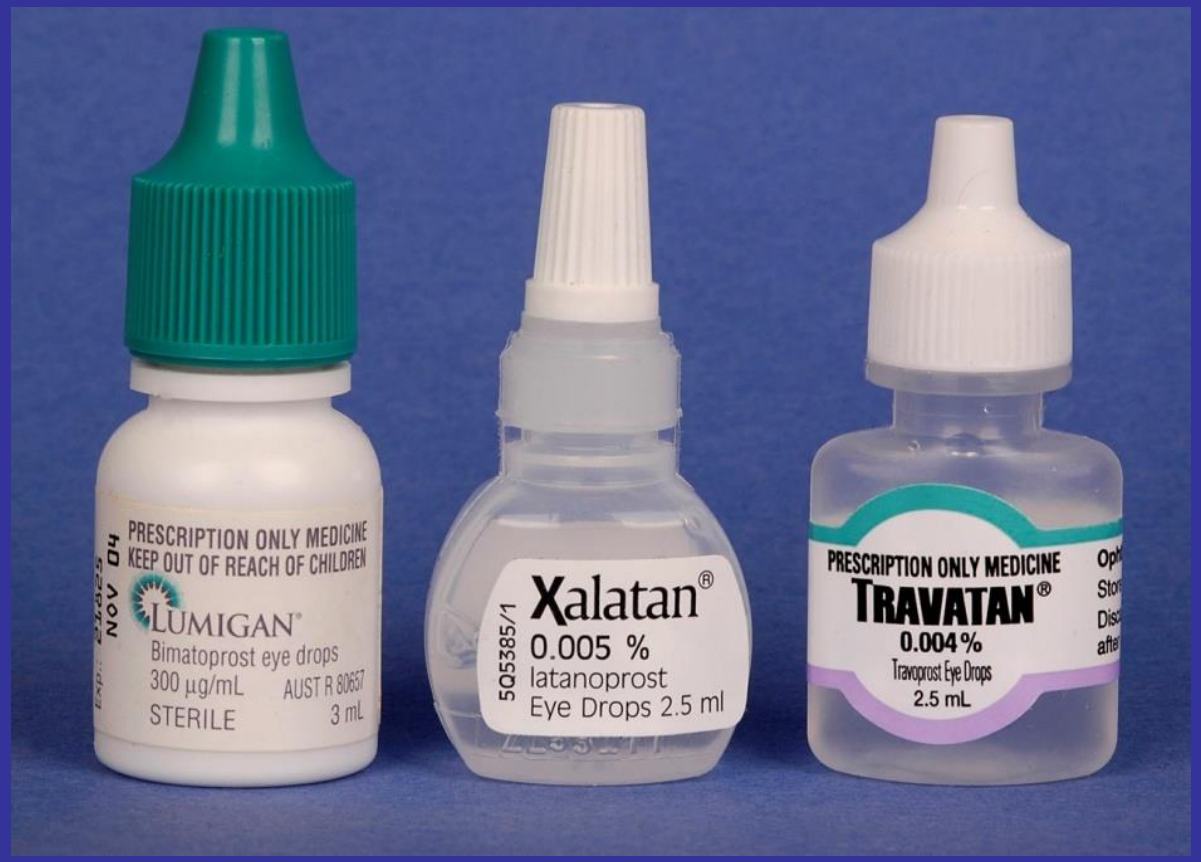
Pressure

Other Risk Factors

- Disc cupping
- Age
- Family history
- Myopia
- African Descent
- Steroid medication
- Migraine sufferers
- Trauma

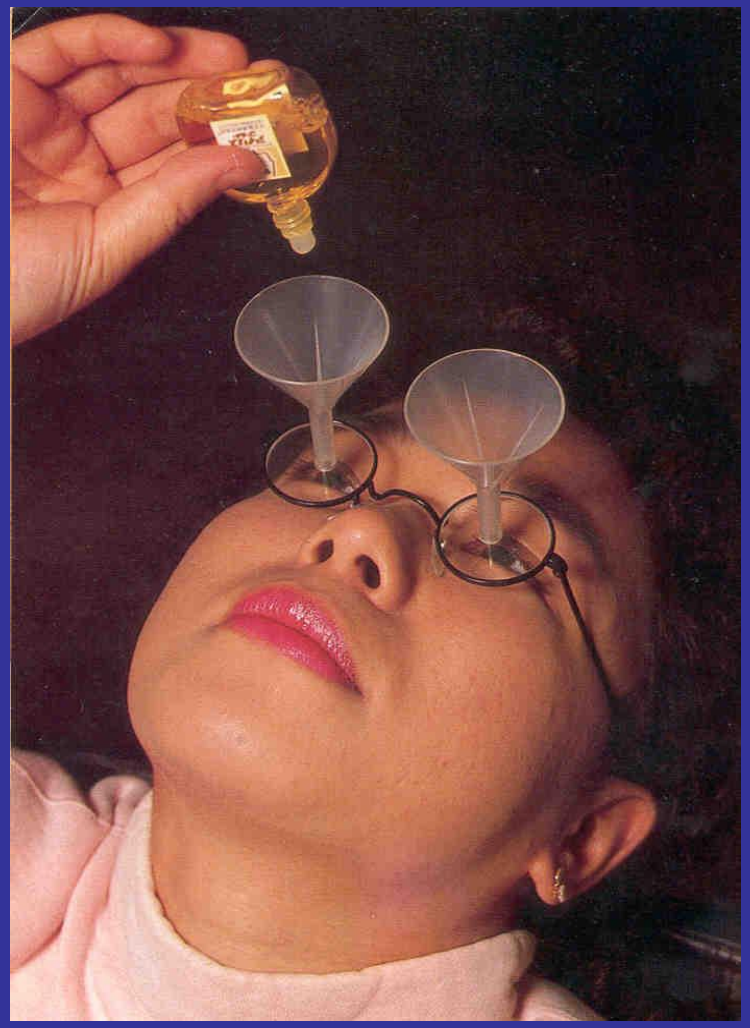
the only way we can treat glaucoma is by lowering the intraocular pressure

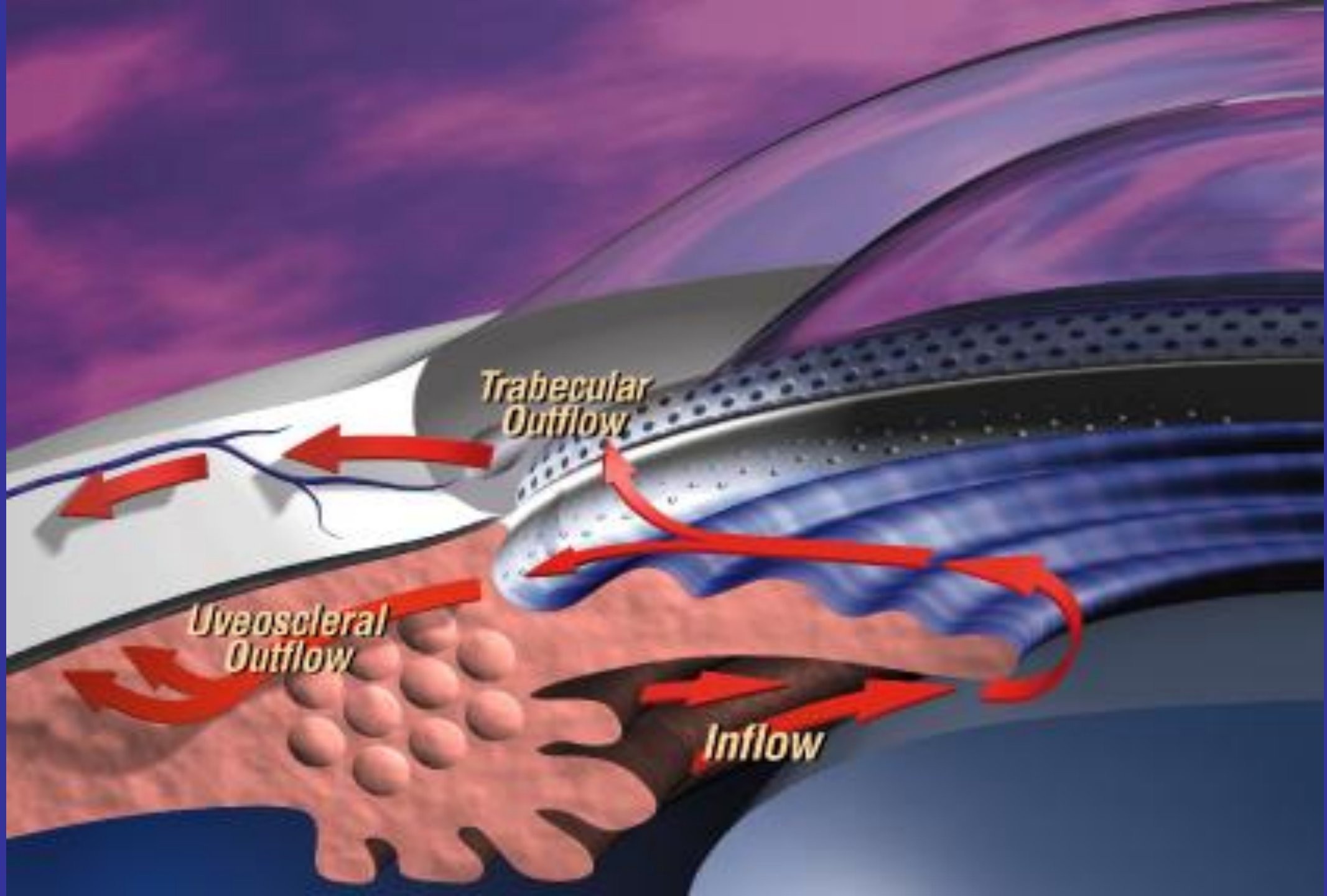
1. Medications
2. Laser
3. Surgery



Most common treatment is eye drops

Medications to reduce IOP- must get into the eye to work!




Trabecular
Outflow
Uveoscleral
Outflow
Inflow

Medications to reduce IOP

- Those that reduce fluid production

  Timolol, Betagan, Betoptic, Azopt, Brimonidine, Cosopt, Combigan

- Those that increase trabecular outflow

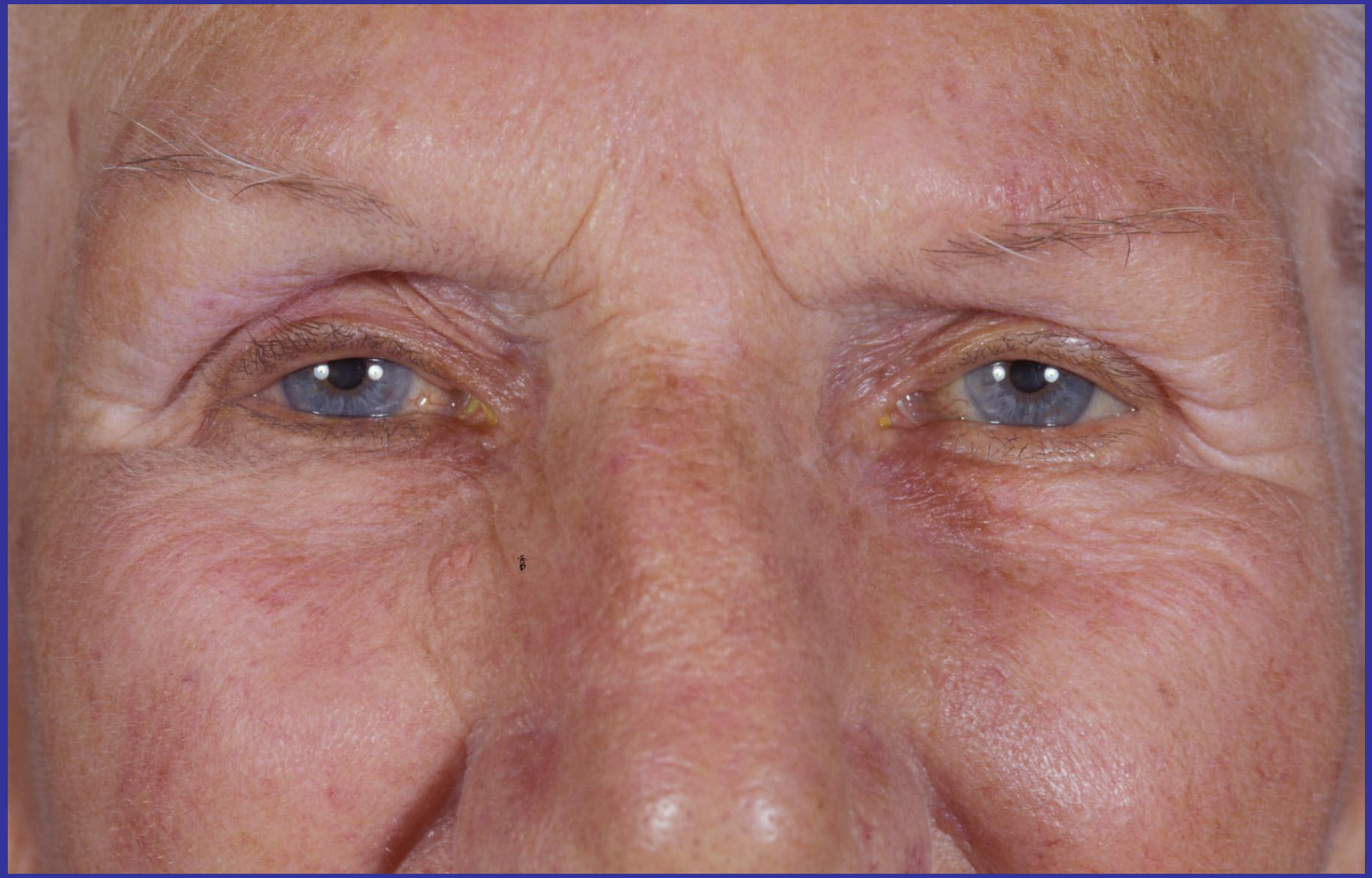
  Pilocarpine

- Those that increase uveo–scleral outflow

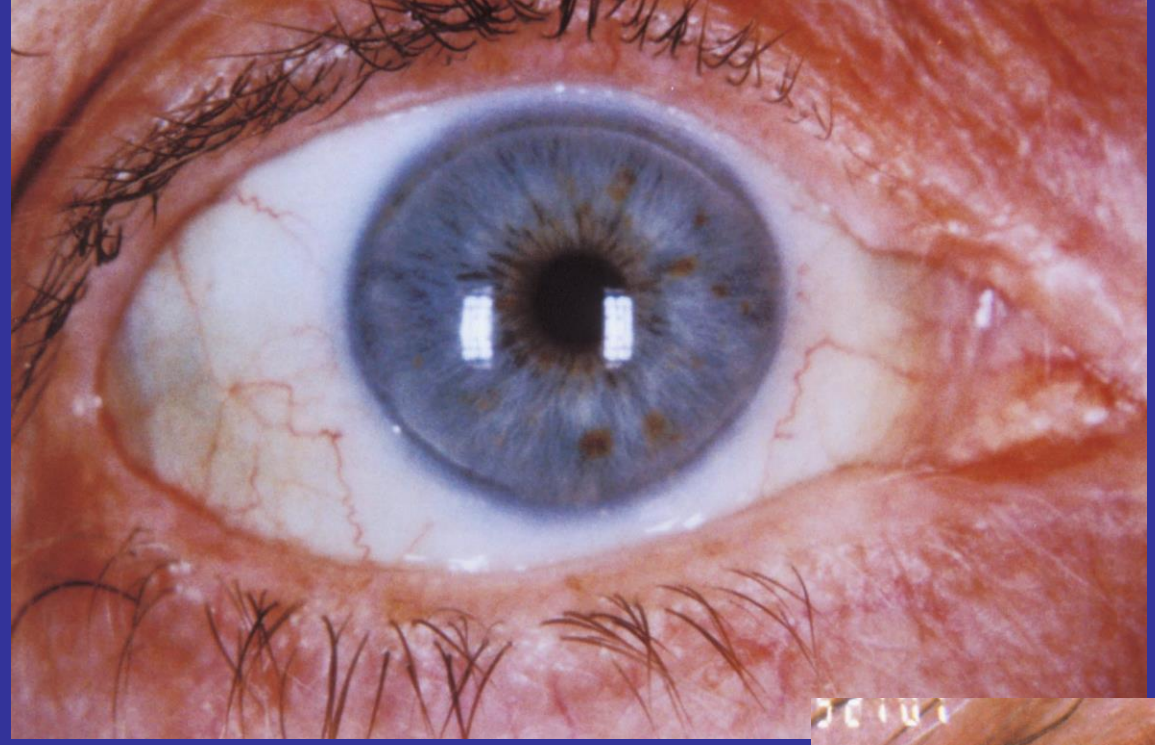
  Hysite, Travatan, Lumigan

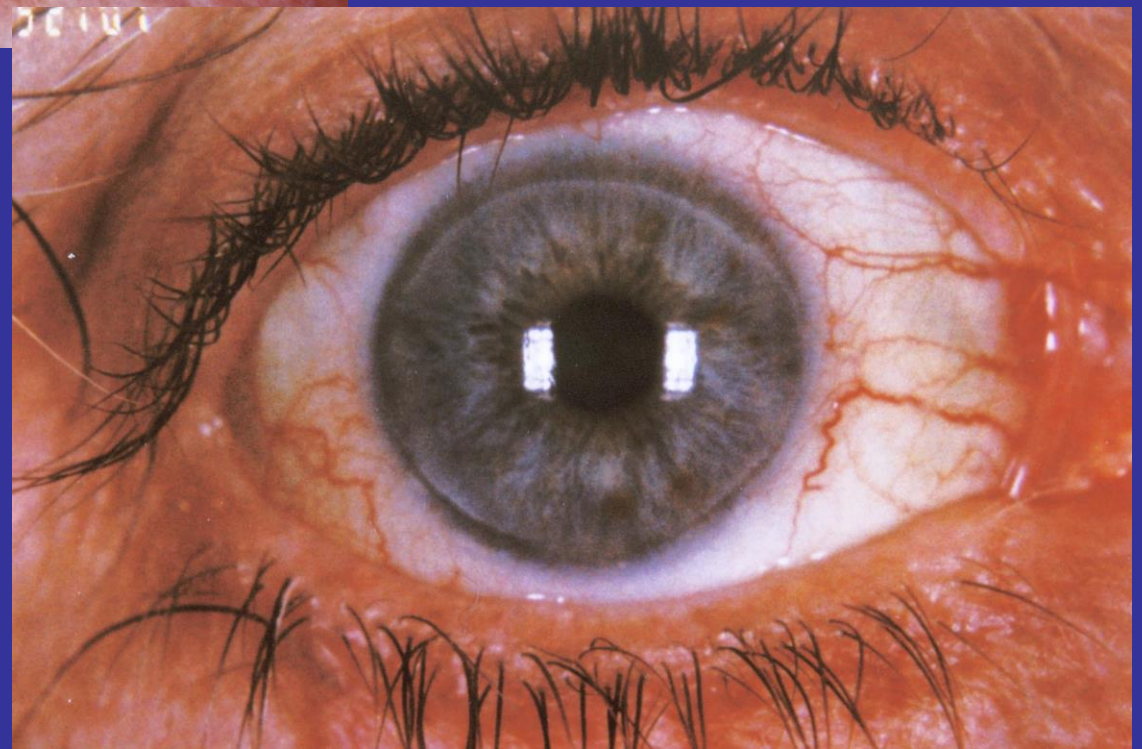
Prostaglandins:
Hysite (Xalatan), Travatan, Lumigan

- Red Eye (less in 2 months)
- Darker Iris
- Longer Eyelashes
- Orbital atrophy syndrome
- Systemic side-effects unlikely as they are metabolised in the eye.

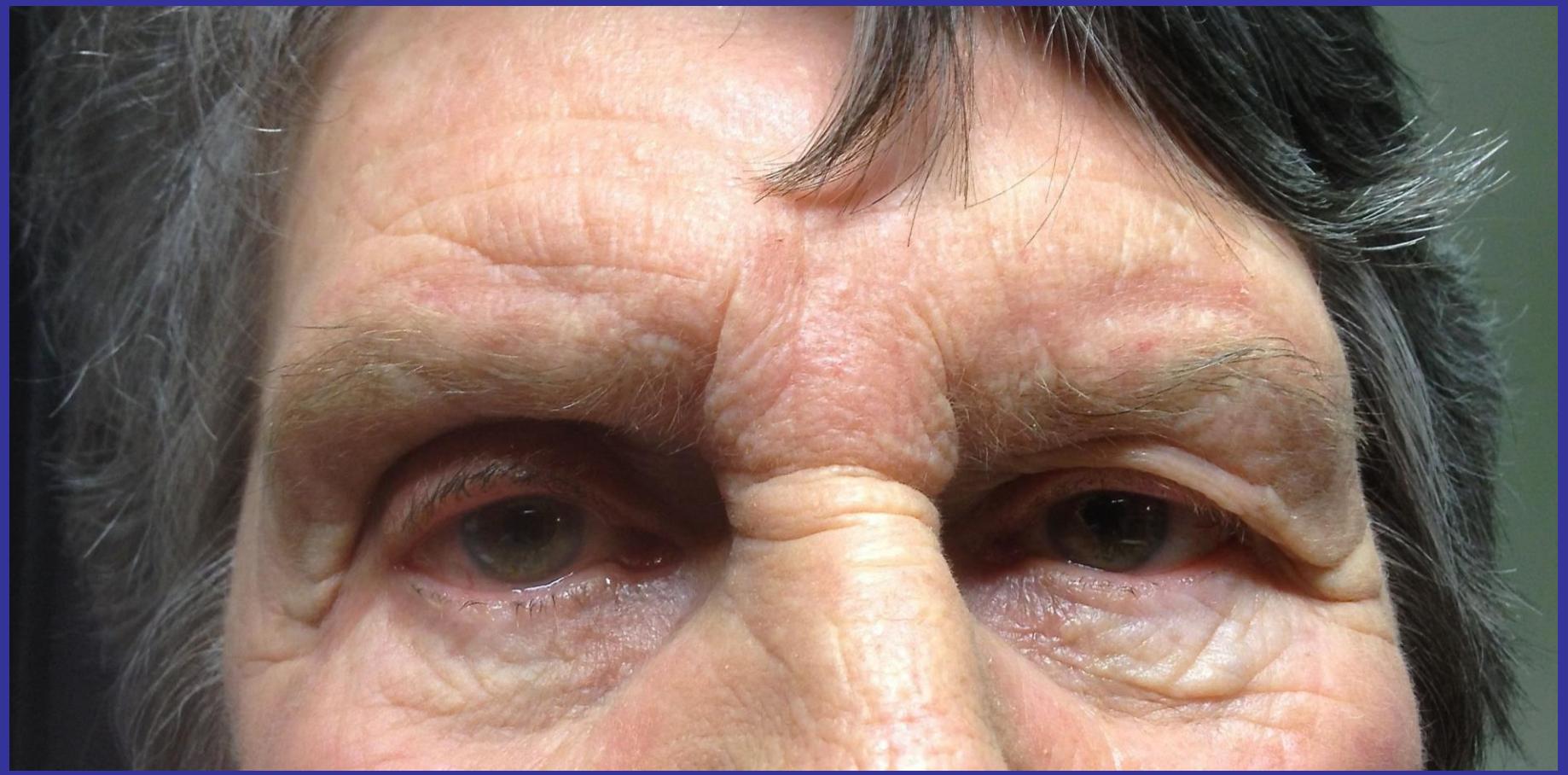


Iris colour





Orbital atrophy syndrome



Beta Blockers

- Asthma
- Lower Blood Pressure
- Slower Pulse
- Dizziness
- Depression
- Vivid Dreams
- Impotence
- Hair Loss

2 Different Strengths of *B* blocker

Carbonic Anhydrase Inhibitors

Eyedrops:

Trusopt, Azopt, (Cosopt)

- Bitter Taste
- Stinging
- Crusty eyelashes
- Dry mouth

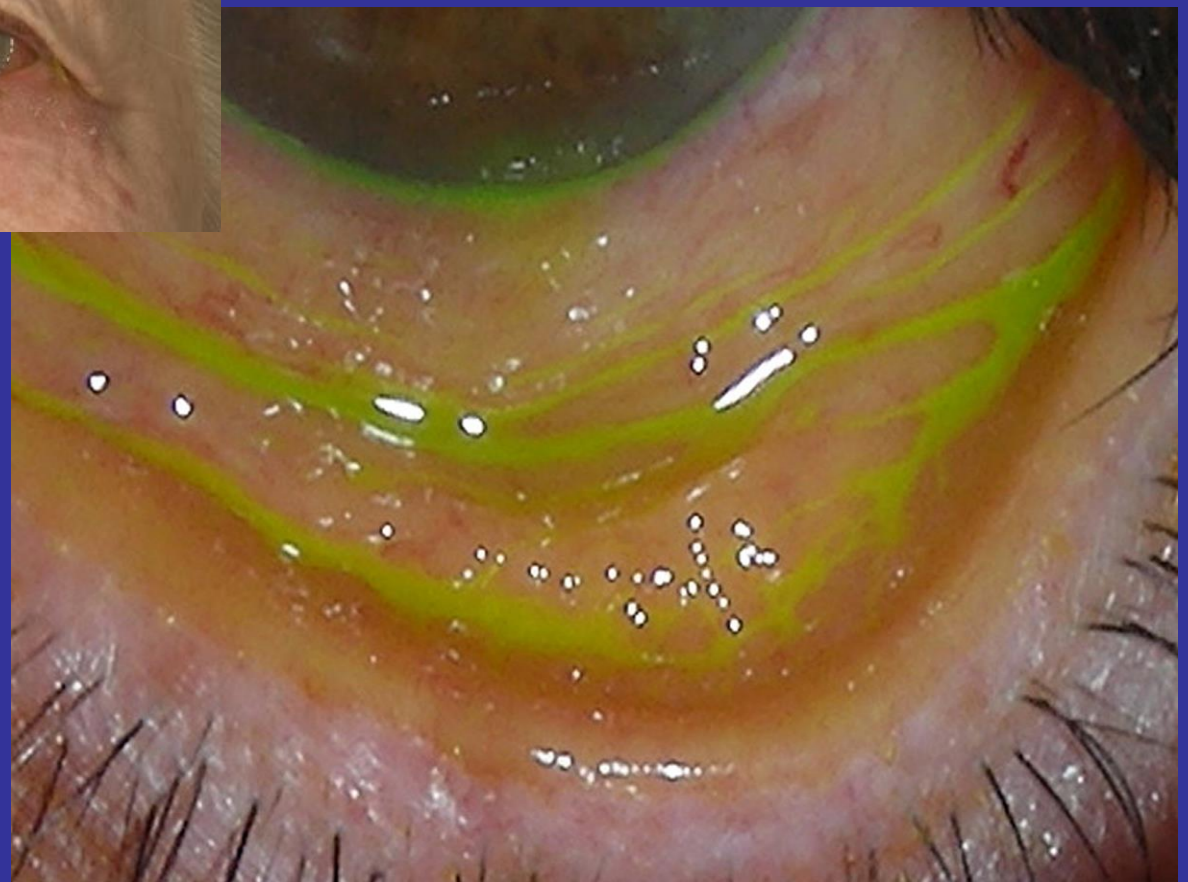
Diamox tabs

- Tingling fingers, toes
- GI upset, loss of apetite
- Potassium depletion
- polyuria, renal stones
- confusion
- aplastic anaemia

Alpha Agonists
Alphagan, Brimonidine

- Allergy 20 – 30%
- Fatigue
- Somnolence
- Increased BP
- Dry Mouth
- Altered Taste

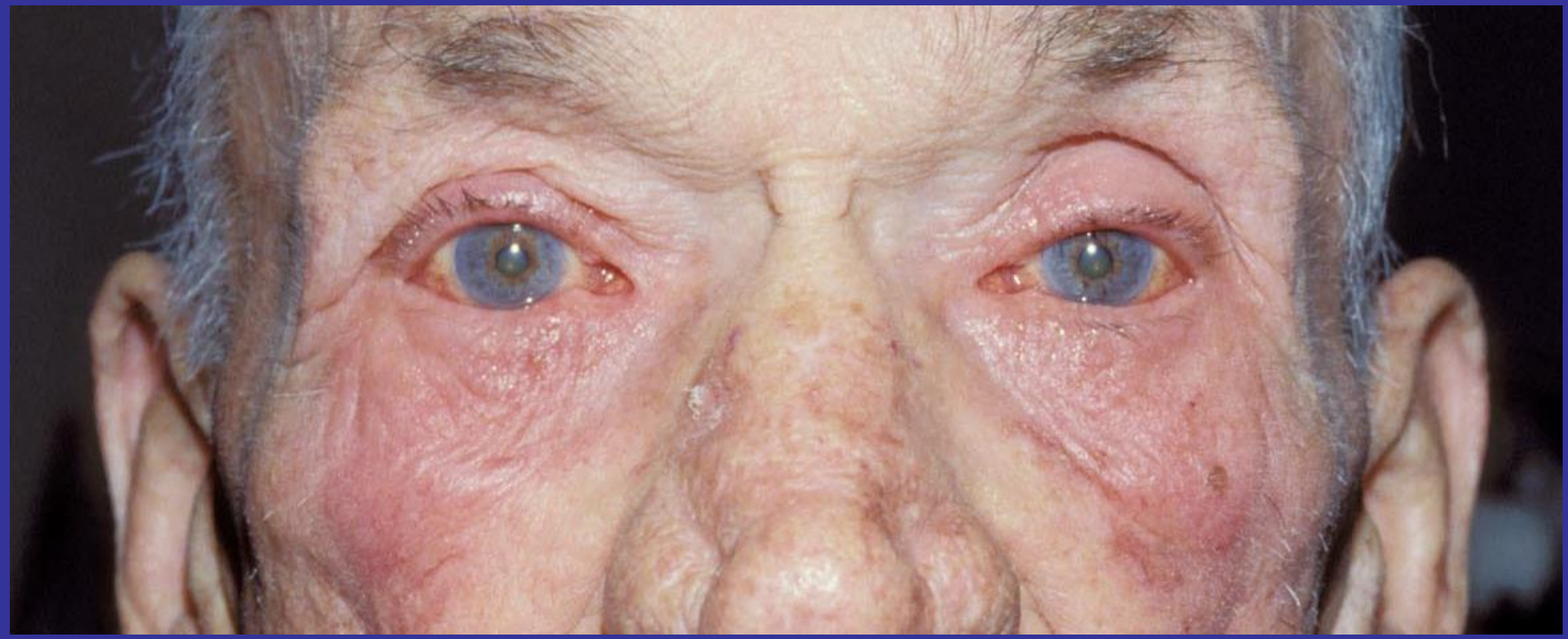
Brimonidine/Alphagan allergy

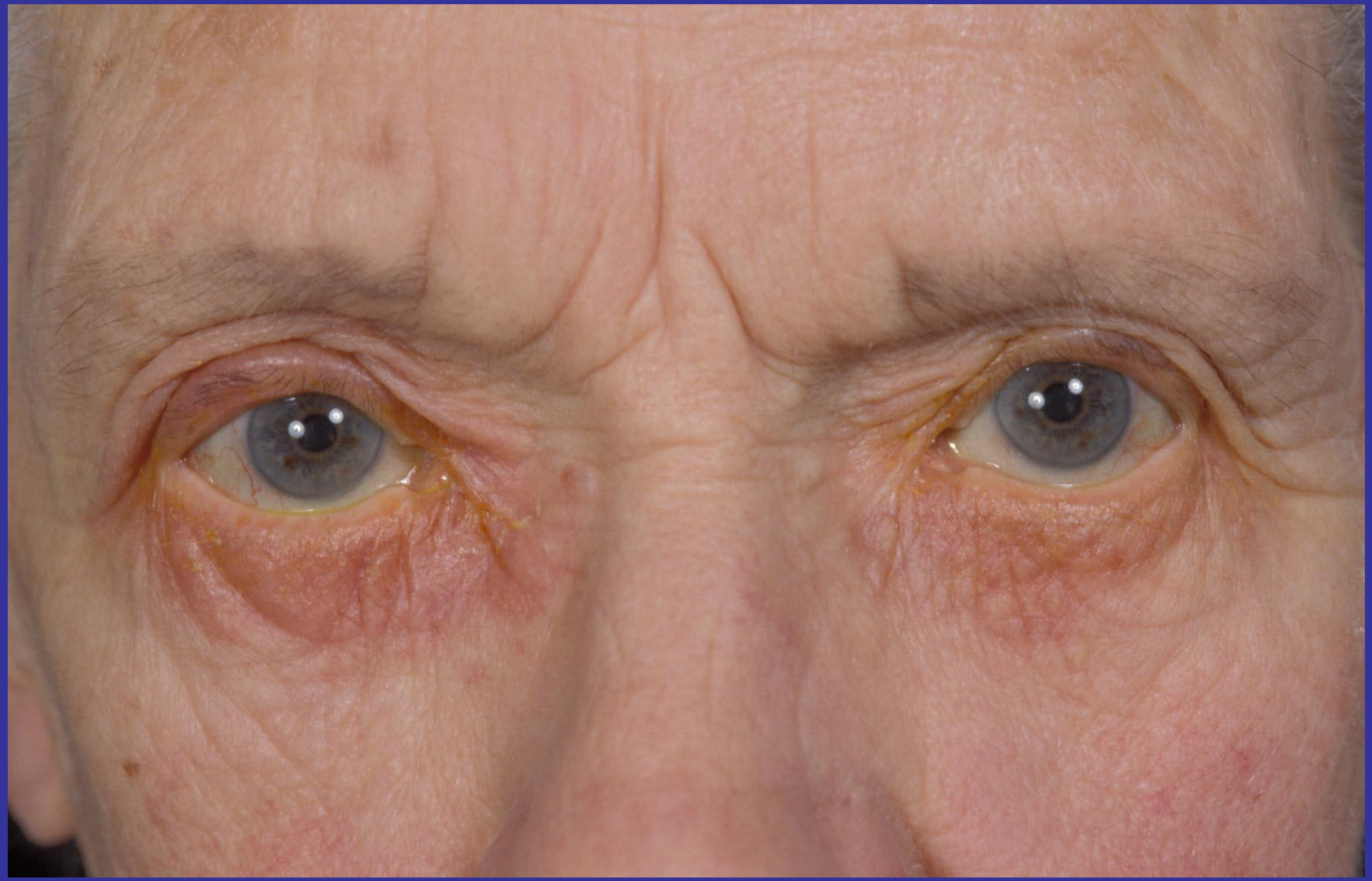


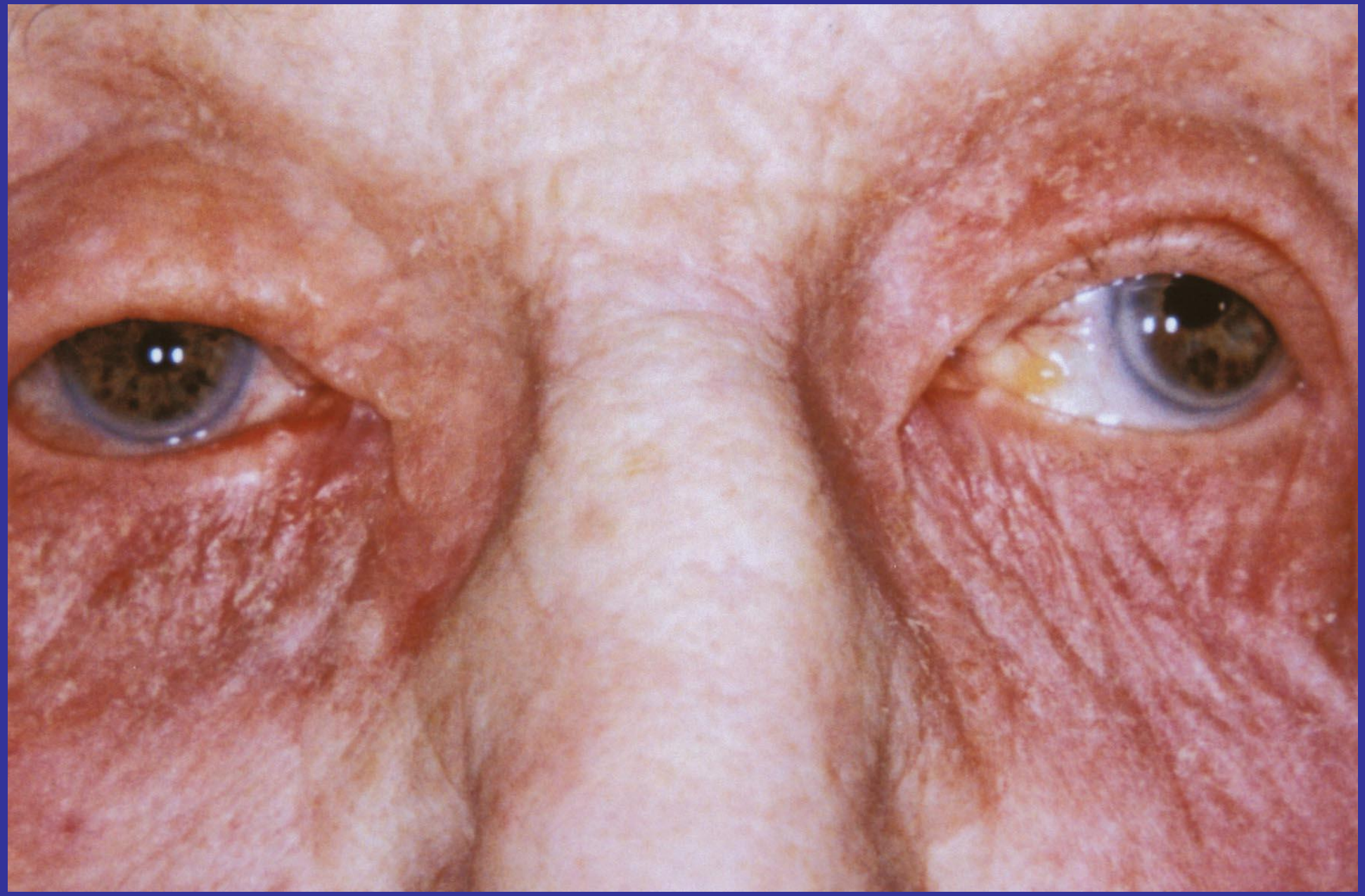
Combo Drops


PRESCRIPTION ONLY MEDICINE
KEEP OUT OF REACH OF CHILDREN
TRUSOPT®
Dorzolamide hydrochloride eye drops. Each 1 mL contains 22.3 mg dorzolamide hydrochloride (equivalent to 20 mg/mL of dorzolamide)
2%
Sterile ophthalmic solution
5 mL
PRESCRIPTION ONLY MEDICINE
KEEP OUT OF REACH OF CHILDREN
Cosopt®
2%/0.5%
Dorzolamide hydrochloride and timolol maleate eye drops. Each 1 mL contains dorzolamide hydrochloride equivalent to 20 mg dorzolamide and timolol maleate equivalent to 5 mg timolol.
Sterile ophthalmic solution
5 mL
PRESCRIPTION MEDICINE
5 mL
APO-TIMOP
TIMOLOL MALEATE OPHTHALMIC SOLUTION
USP
OPHTHALMIC DISPENSER
For External Use Only
Solution contains: timolol maleate equivalent to timolol 0.5%
0.5%
Pharmacode 452955


TIMOPTOL®
0.5%
Usual adult dosage:
One drop in the eye(s) once or twice a day as directed by the Physician.
This product is sterile when manufactured and should be dispensed in the original unopened container. Instruct patient on precautions to avoid contamination.
Do not remove bottle from the carton until immediately prior to use.
PRESCRIPTION ONLY MEDICINE
KEEP OUT OF REACH OF CHILDREN
Combigan™
brimonidine tartrate
2 mg/mL and timolol
5 mg/mL eye drops
AUST R 97690
STERILE
5 mL
ALLERGAN
PRESCRIPTION ONLY MEDICINE
KEEP OUT OF REACH OF CHILDREN
Alphagan®
(brimonidine tartrate 2 mg per mL)
EYE DROPS
AUST R 60297
STERILE
5 mL
ALLERGAN







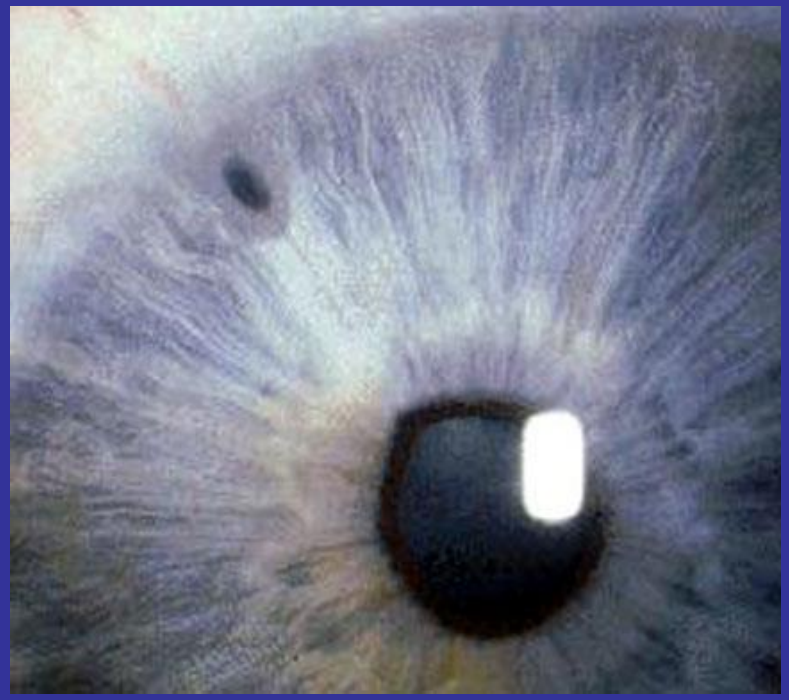
Benzalkonium Chloride (BAK)

- Most commonly used preservative in glaucoma products
- At high concentrations, can accumulate and remain in ocular tissue
- Has been shown to cause cytotoxic effects on the ocular surface in numerous studies

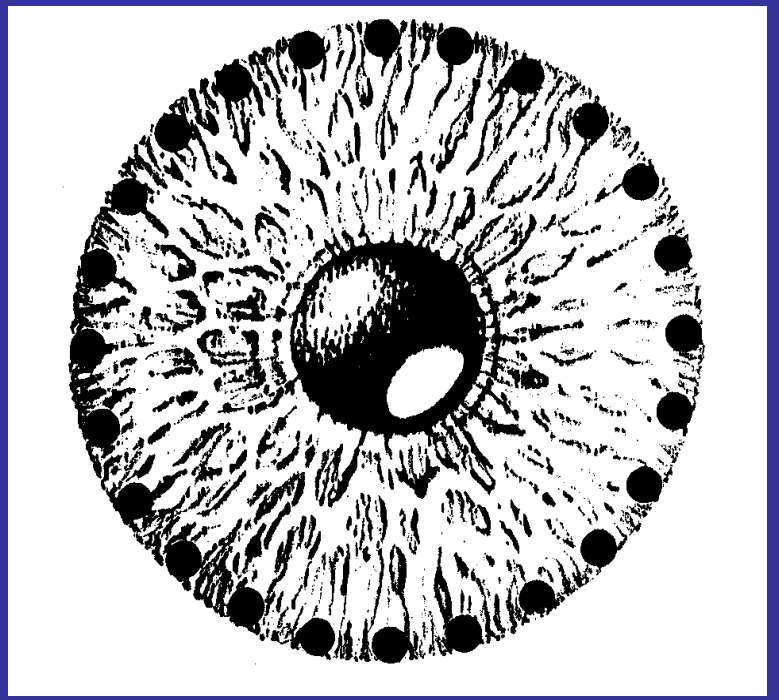
Lasers for glaucoma

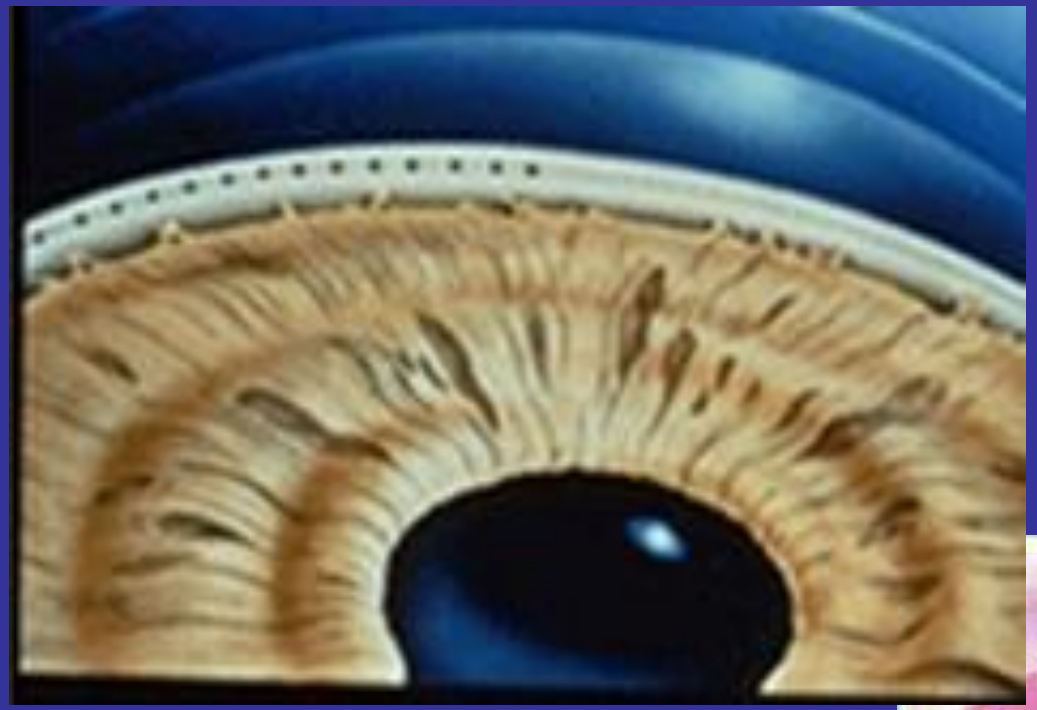
- Laser iridotomy
- Laser iridoplasty
- **Laser trabeculoplasty**
- Laser cyclo-destruction

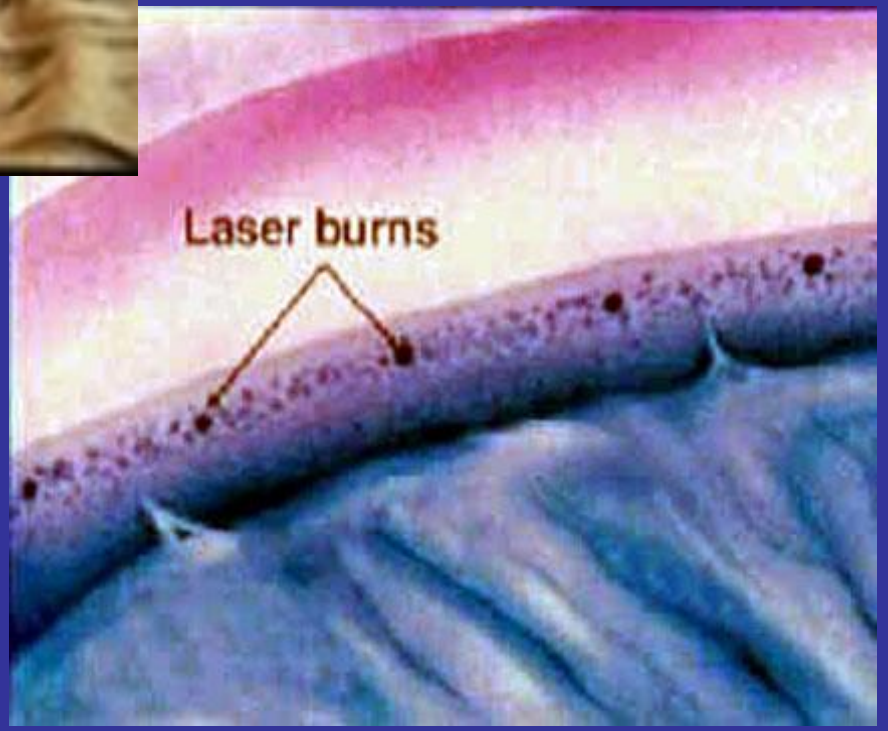
Laser iridotomy



Laser iridoplasty






Laser burns

Selective Laser trabeculoplasty *pros*:

- Easy to perform for the surgeon
- Easy for the patient -*quick with minimal discomfort*
- Very safe
- Can lower eye pressure significantly for several years (50% success rate 5 years)
- Eliminates need for eye-drops

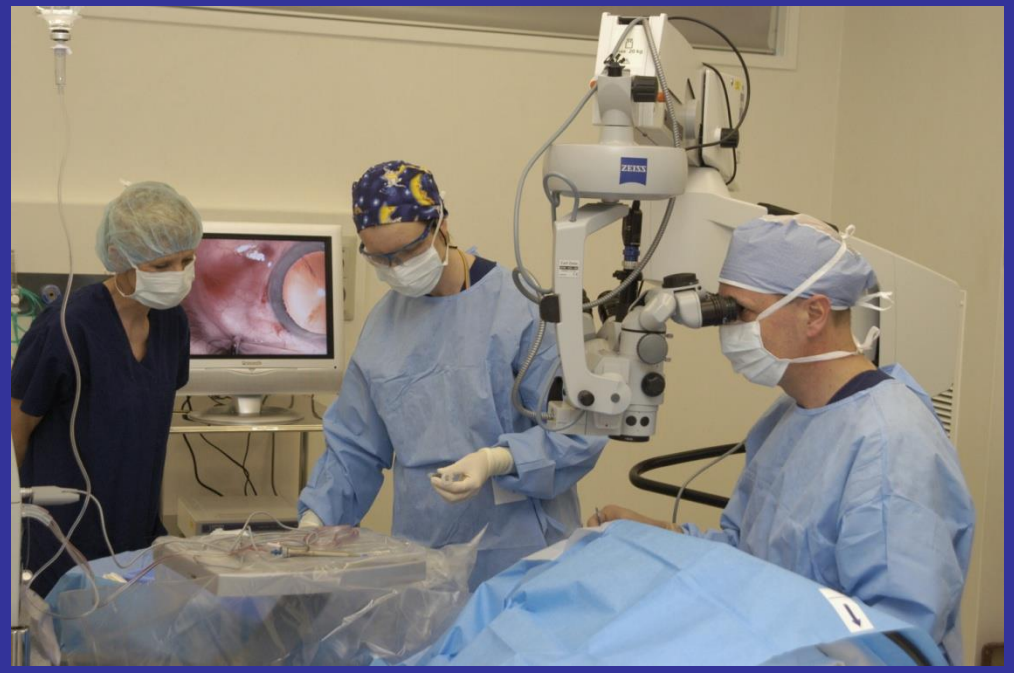
Selective Laser trabeculoplasty
cons:

- Often doesn’t work
- May just lower pressure a little
- May only lower pressure for a limited period

Surgery for glaucoma

Two common procedures:

1. Trabeculectomy
2. Tube shunt, e.g. Molteno drain



Glaucoma surgery *pros*:

- Successful surgery is the best treatment for glaucoma
  - e.g. eye pressure of 9, no eye drops needed, diffuse uninflamed drainage bleb
- Disadvantages of eye-drops:
  - Compliance
  - Cost
  - Complications

Glaucoma surgery *cons*:

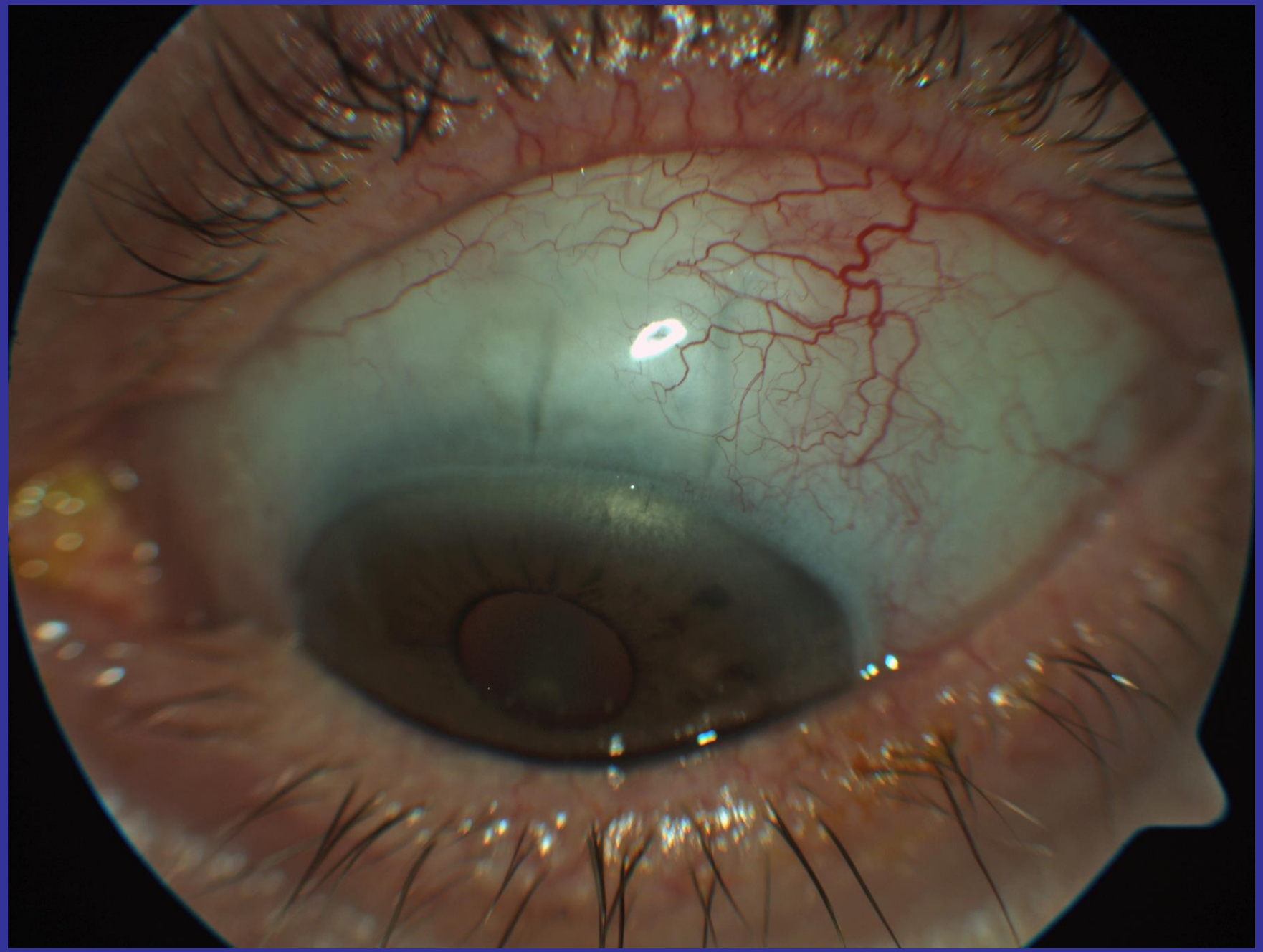
- Serious risks of surgery
- Common problems of surgery
  - Disturbed vision
  - Acceleration of cataract
  - Tear film disturbance
- Many visits - lots of eye-drops
- Blebs can get infected

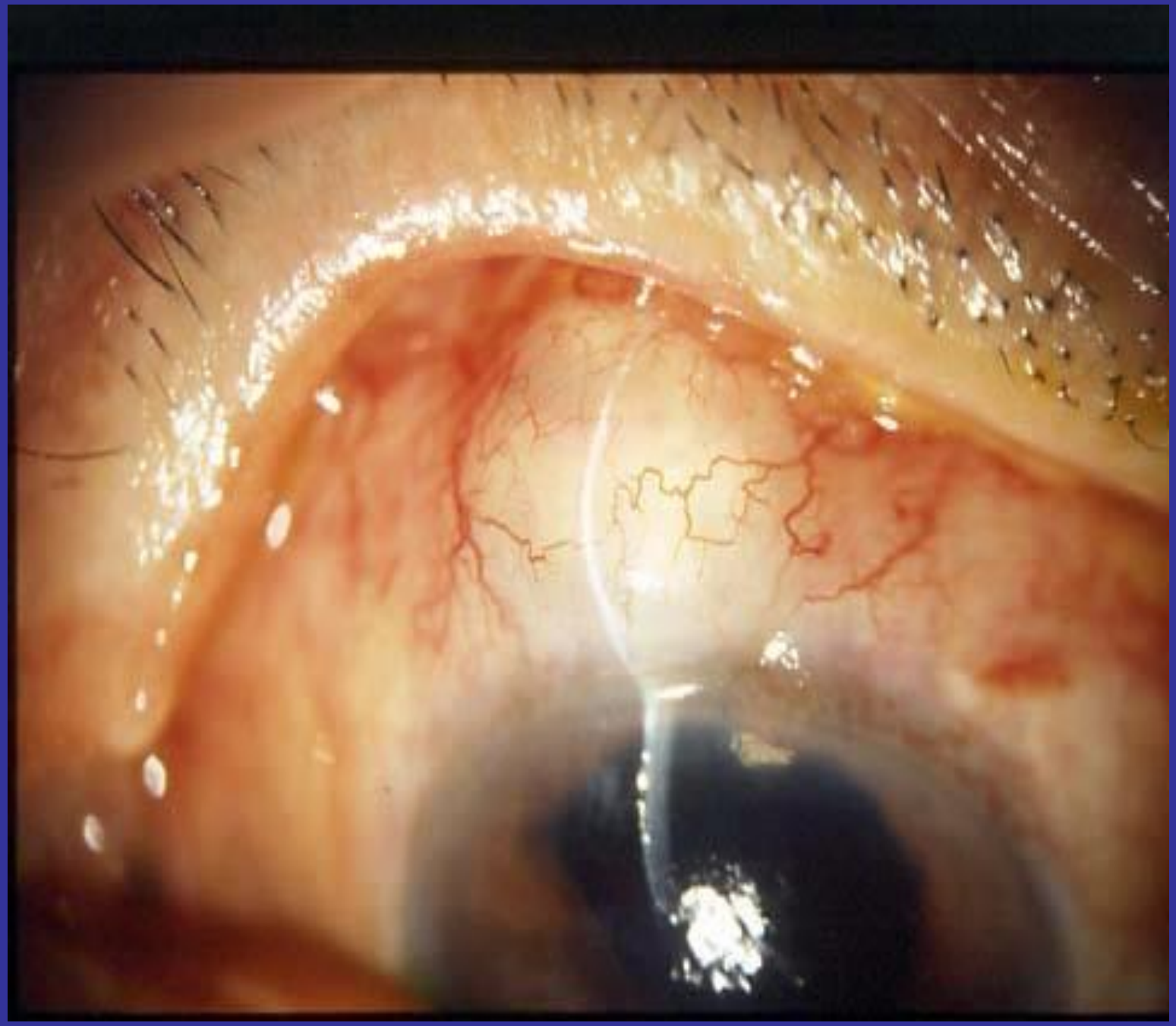
But . . .

Far, far more people have been made blind by glaucoma than by glaucoma operations

Trabeculectomy

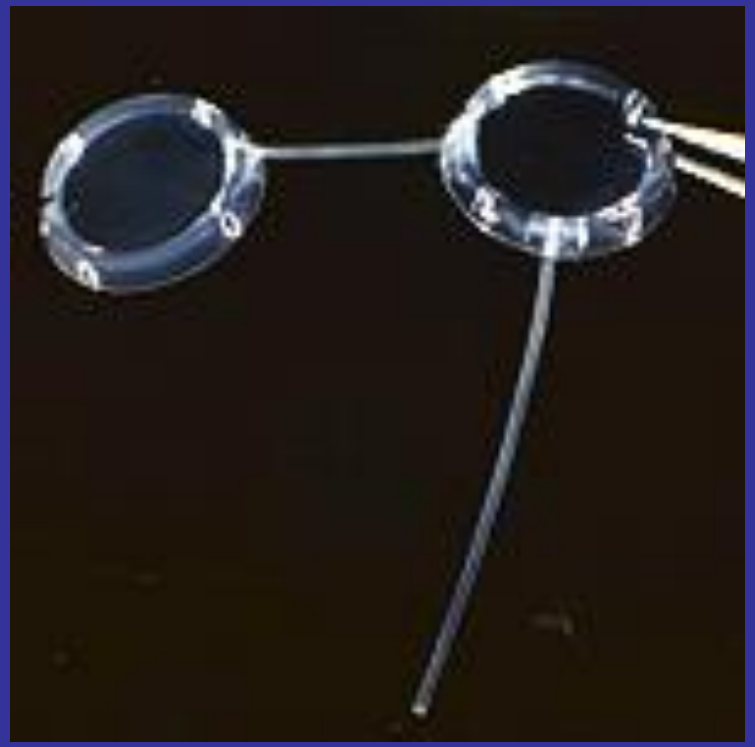
- The standard glaucoma operation since the 1960s
- Aim: to create a flap-valve still maintaining some eye pressure
- Usually use anti-healing drugs like 5FU and Mitomycin C

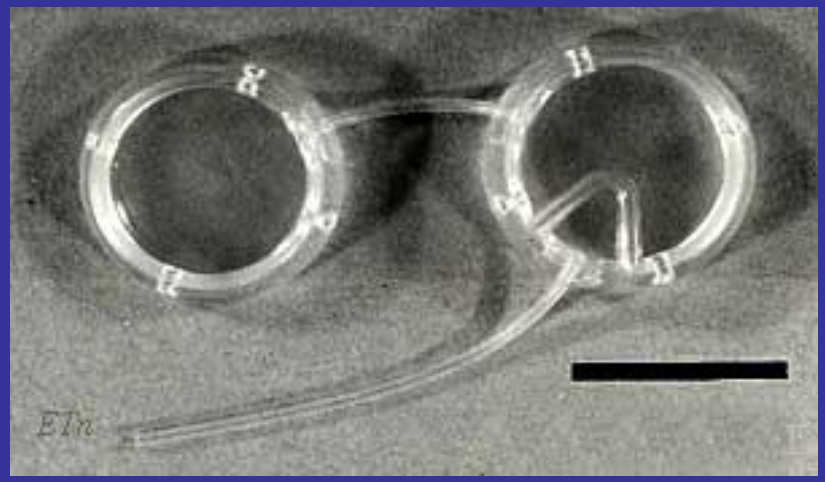


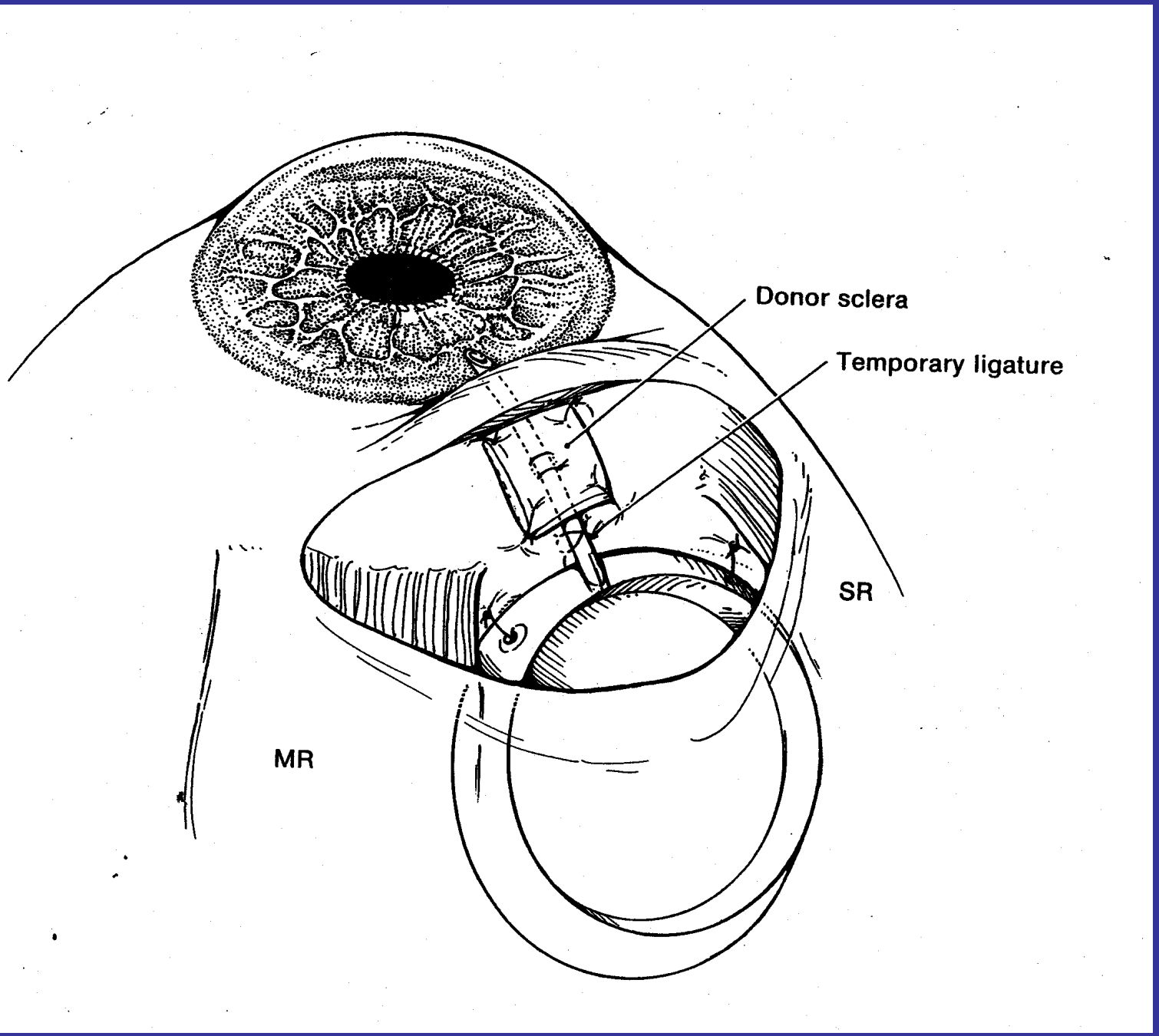


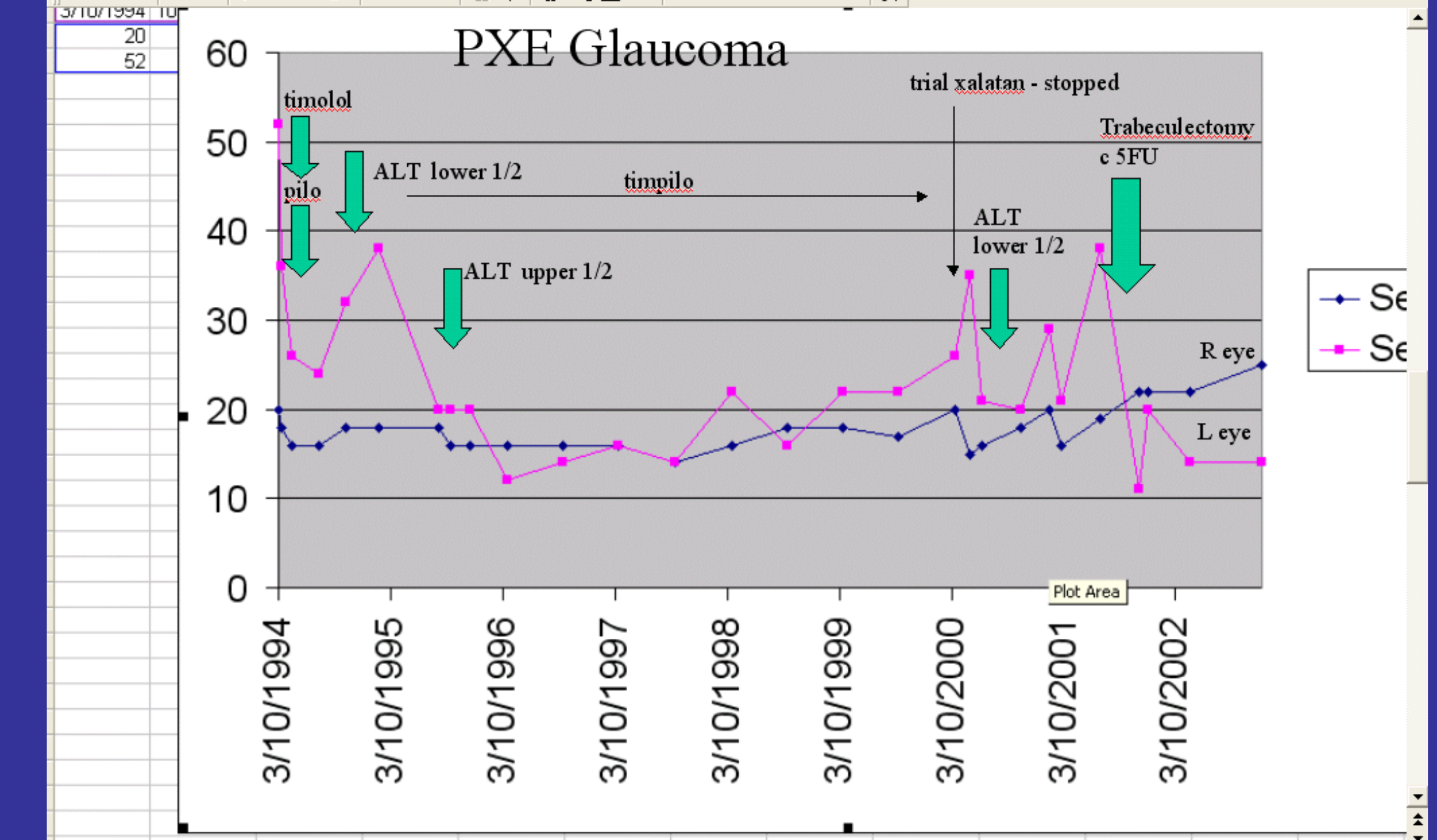
Molteno Drain

The original tube shunt, developed by Professor Molteno






Donor sclera
Temporary ligature
SR
MR


PXE Glaucoma
timolol
pilo
ALT lower 1/2
timpilo
trial xalatan - stopped
Trabeculectomy
c 5FU
ALT
lower 1/2
ALT upper 1/2
R eye
L eye
Plot Area
60
50
40
30
20
10
0
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