



Common Drugs & Routes of administration in Ophthalmology

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Disclaimer

- No financial interest involved.
- The images of drugs in this presentation are representational and for educative purpose only.



Route of Administration

➤ **Bio-availability**

➤ Pharmacokinetics

➤ Pharmacodynamics

➤ Common Routes:

- Oral
- Parenteral

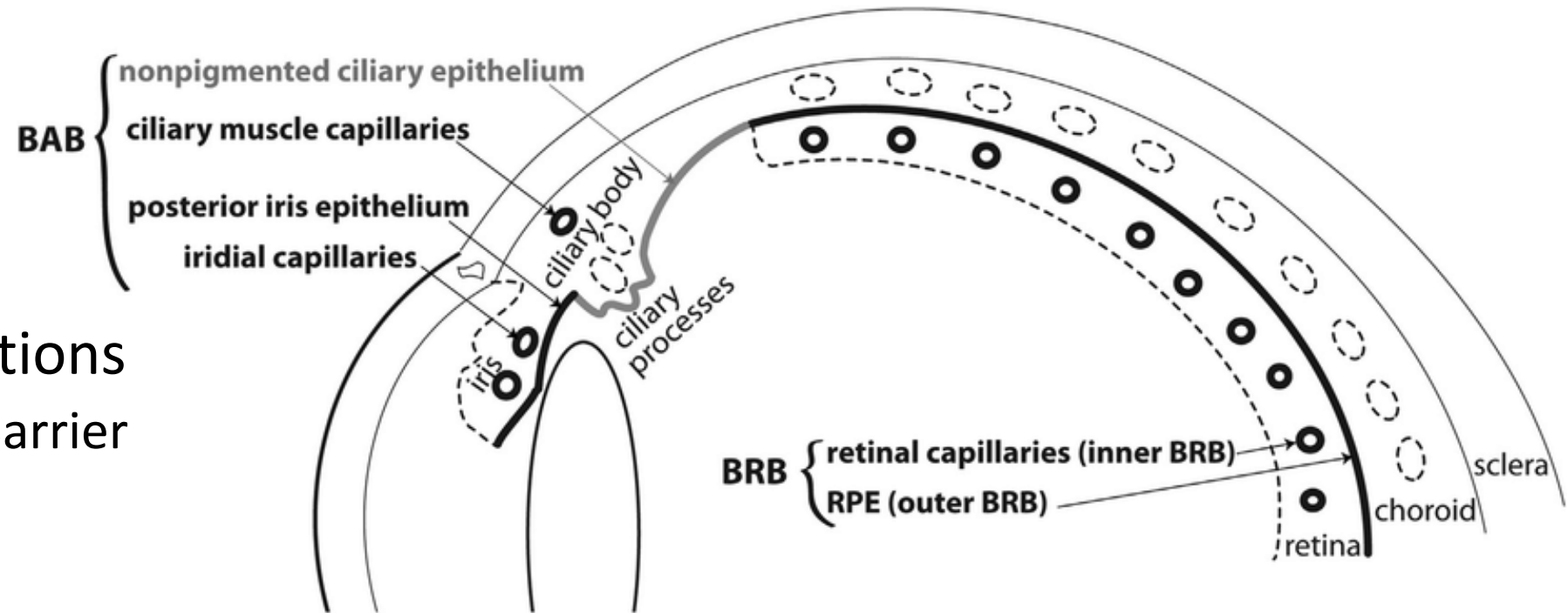
EFFICACY vs TOXICITY



Eye

Special considerations

- Blood Ocular Barrier
- Corneal Physiology (avascular)



BAB: Blood Aqueous Barrier
BRB: Blood Retinal Barrier



Drug Routes:

1. Oral

- I. Antibiotics/NSAIDS
- II. Acetazolamide/Glycerol

2. Parenteral

- I. Intravenous
(Antibiotics/Mannitol)
- II. Intramuscular (rare-Inj.
Botulinum Toxin)

3. Topical (most common)

- I. Eye Drops
- II. Eye Ointment/Gel

4. Subconjunctival Injections

5. Subtenon Injections

6. Retrobulbar

7. Intracorneal (Voriconazole injections)

8. Intracameral (Anterior Chamber)

9. Intra-vitreous (Vitreous)



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Punctal Occlusion



Limitations

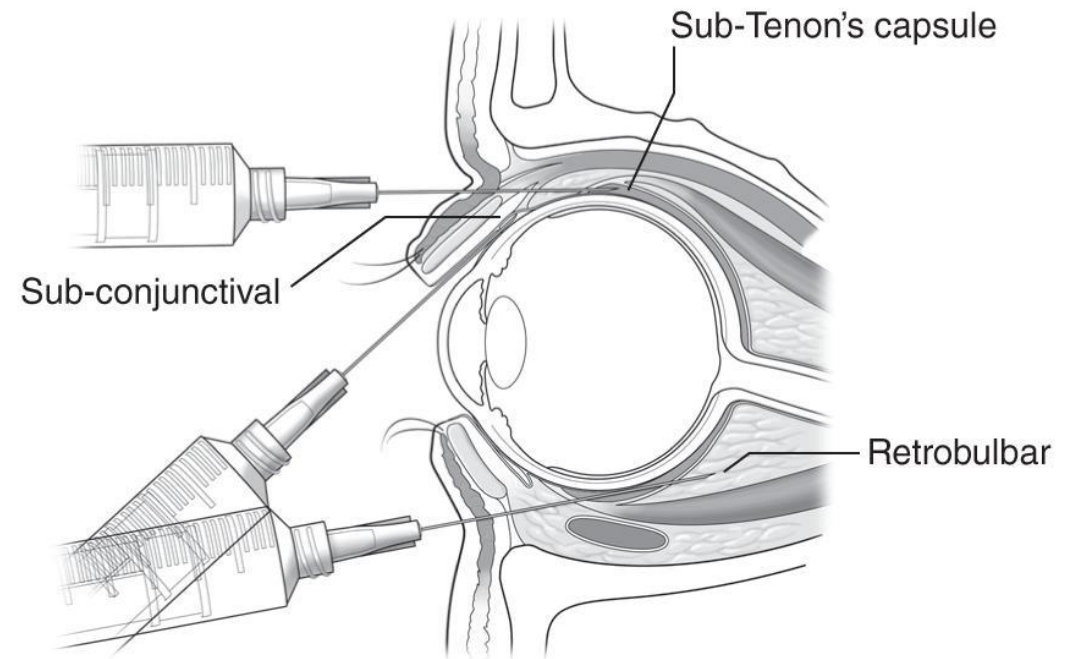
- Reflex Tearing
- Limited Volume
- Naso-lacrimal Passage
- Complex Absorbption
- Compliance



4. Subconjunctival Injections
(antibiotics)

5. Subtenon Injections

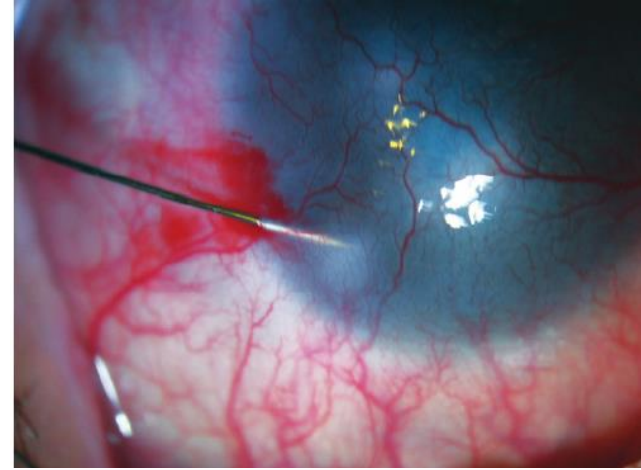
6. Peribulbar/Retrobulbar
Injection (lignocaine)



Bypassing Corneal & Conjunctival Epithelium



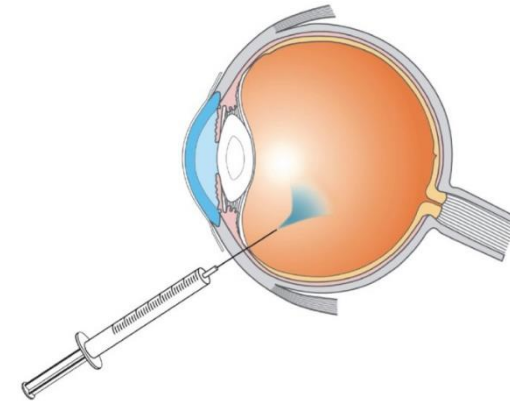
7. Intracorneal (stromal)
(Voriconazole injections)



8. Intracameral
(Anterior Chamber)



9. Intra-vitreous (Vitreous)
(Anti-
VEGF/Triamcinolone/Antibiotics)





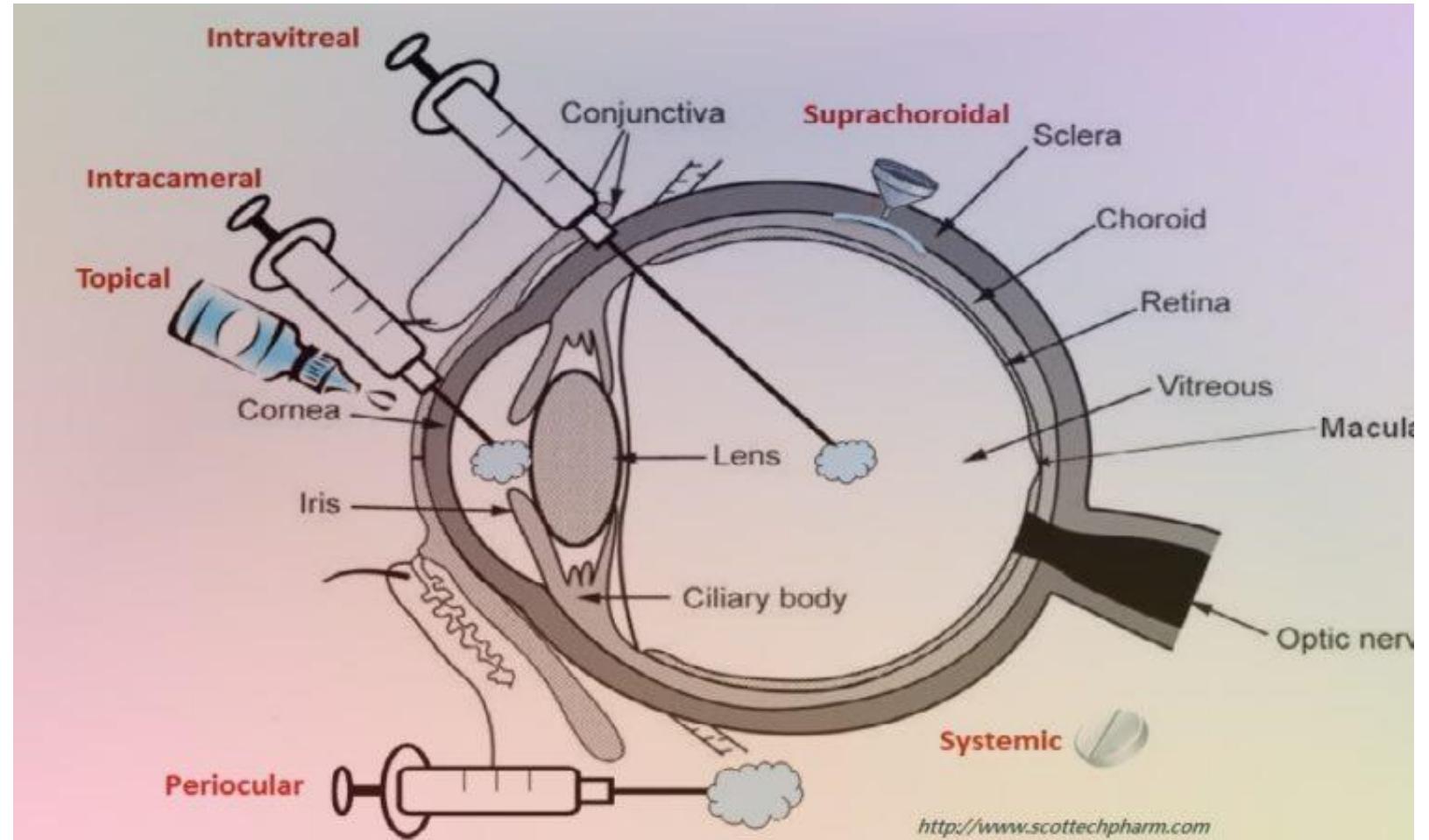
Recent Advancements:

- Supra-choroidal implants (Dexamethasone)
- Subretinal Injections: Gene & Cell therapy
 - Age Related macular Degeneration/ Retinitis pigmentosa
- Intra-vitreous Implants (steroid implants/ ganciclovir implants)





To summarise,





Thank You.

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