

Explain How Meds for Glaucoma Stack Up

Recent guidelines from the American Optometric Association (AOA) are leading to questions about **how meds for open-angle glaucoma compare**.

Treatment is aimed at managing intraocular pressure (IOP)...by using meds that increase fluid outflow or decrease fluid production.

Prostaglandins (latanoprost, etc) are still first-line. They're the most effective...only need to be used once daily in the evening...and there's no evidence that one option is significantly better than another.

Plus prostaglandin drops rarely cause systemic effects. But caution that they can darken the iris, eyelid, and eyelashes.

Beta-blockers (timolol, etc) are usually used second-line or added to a prostaglandin. They're dosed once daily in the morning or bid...and have mild ocular side effects (dryness, etc).

But point out that beta-blocker eye drops can have SYSTEMIC effects. For example, 1 drop of timolol 0.5% in each eye equals about 10 mg of po timolol...and can lead to hypotension, bradycardia, bronchospasm, etc.

Avoid nonselective beta-blockers (timolol, levobunolol, carteolol) in asthma or severe COPD...and all beta-blockers in acute heart failure.

To minimize systemic absorption, advise patients to instill the drop...close the eyes...and press on the inside corner of the eye for about 1 to 2 minutes to limit drainage down the tear duct.

Alpha-agonists (brimonidine, etc) or **carbonic anhydrase inhibitors** (dorzolamide, etc) are saved for when prostaglandins or beta-blockers aren't enough. They may be less effective...and can require tid dosing.

Keep in mind, carbonic anhydrase inhibitors are structurally similar to sulfonamides...and should be avoided in patients allergic to sulfas.

The Rho kinase inhibitor netarsudil is an add-on option. It works well...but more patients stop treatment due to adverse effects (blurred vision, etc) versus first-line meds. And it costs \$130 per 2.5 mL bottle.

Cholinergics (pilocarpine, etc) are often last-line due to frequent dosing and side effects such as constricted pupils and brow aches.

Stay alert for confusion among pilocarpine products. The eye drops for glaucoma come as 1%, 2%, and 4% strengths...and are dosed up to qid. But 1.25% pilocarpine (Vuity) is for presbyopia...and is dosed once daily.

Combo drops may increase convenience or adherence and lower cost.

But if a patient uses separate products, suggest ideally waiting at least 5 minutes in between drops...to ensure adequate absorption.

See our *Drugs for Open-Angle Glaucoma* chart to compare options.

Key References:

- American Optometric Association. Care of the Patient with Primary Open-Angle Glaucoma: First Edition. October 2024. <https://www.aoa.org/a/19461> (Accessed March 4, 2025).
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- Wagner IV, Stewart MW, Dorairaj SK. Updates on the Diagnosis and Management of Glaucoma. Mayo Clin Proc Innov Qual Outcomes. 2022 Nov 16;6(6):618-635.

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