Remedi SeniorCare®
EDUCATION Rx

MONTHLY RESOURCE

Glaucoma Medication Comparison

Glaucoma is the leading cause of blindness in the United States, affecting over 3 million Americans. There are several classes of medications available to treat glaucoma, each with a different mechanism of action. Staff administering glaucoma medications should understand basic drug information in order to:

- Provide safe and proper care to residents with glaucoma
- Avoid medication errors by complying with manufacturer guidelines
- Appropriately monitor residents for possible medication adverse reactions

Glaucoma Medication Comparison chart will review:

- Drug classes and medications within the drug class
- Percent of intraocular pressure reduction with each drug class
- Prioritization of Use in treatment
- Dosing
- Side effects
- Additional product information

Please do not hesitate to contact your Remedi pharmacist for more information or if you have any questions.

GLAUCOMA MEDICATIONS

Drug Class	Drug Name	% IOP Reduction	Use in Treatment	Dosing	Adverse Reactions	Product Notes
β-blockers	1. Betaxolol (Betoptic S) 0.25%, 0.5% 2. Timolol (Timoptic, GFS) 0.25%, 0.5% 3. Carteolol (Ocupress) 1% 4. Levobunolol (Betagan) 0.25%, 0.5% 5. Metipranolol (OptPranolol) 0.3%	20-30%	1st line	1-2 drop(s) affected eye(s) Daily-BID	**Local**: conjunctival hyperemia, eye pain, vision disturbance, stinging/burning **Systemic**: bradycardia, hypotension	- Lacrimal occlusion for 1 minute after administration - Timoptic XE: Instill 10 mins after all other eye drops
α2-agonists	1. Brimonidine (Alphagan, Alphagan P) 0.2%; P 0.1%, 0.15% 2. Apraclonidine (Iopidine) 0.5%, 1%	14-28%	1st or 2nd line	1 drop affected eye(s) BID to TID	**Local:** blurred vision, blepharoconjuctivitis **Systemic:** HA, dry mouth, fatigue	Nasolacrimal occlusion reduces frequency (from 8 - 12 hours), systemic effects, improves efficacy
Topical and Systemic Carbonic Anhydrase Inhibitors (CAIs)	**Local:** 1. Brinzolamide (Azopt) 1% 2. Dorzolamide (Trusopt) 2% **Systemic:** 3. Acetazolamide* (Diamox Sequels) 125 mg, 250 mg, 500 mg	15-26%	**Local:** 2nd or 3rd line **Systemic:** 4th line	**Local:** 1 drop affected eye(s) TID **Systemic:** 250 mg Daily-QID 500 mg ER BID (with food)	**Local:** blurred vision, conjunctivitis, dry eye, burning (may be less with brinzolamide), blepharitis, eye discharge/pain/ discomfort, altered taste, HA, rhinitis **Systemic:** flushing, skin reactions, electrolyte changes, HA	**Local**: - Shake well - Trusopt: instill 5 mins after all other eye drops - Cosopt: instill 10 mins after all other eye drops **Systemic:** - Take with food - Avoid in renal impairment
Prostaglandin Analogs	1. Latanoprost (Xalatan) 0.005% 2. Brimatoprost (Lumigan) 0.03% 3. Travoprost (Travatan) 0.004%	25-35%	1st or 2nd line	1 drop affected eye(s) QPM	**Local:** conjunctival hyperemia, burning/stinging, blurred vision, dry eye, iris pigmentation, hypertrichosis, eyelash darkening	- Effective for nocturnal IOP - BID may reduce effectiveness - Latanoprost stable at room temp x6 weeks
Cholinergics	1. Pilocarpine (Isopto® Carpine) 0.5%, 1-4%, 6% 2. Carbachol (Isopto® Carbachol) 1.5%, 3%	20-30%	3rd line 4th line	1 drop affected eye(s) BID-TID	**Local:** burning, irritation, cataracts, iritis, inflammation **Systemic:** HA, N/V/D, sweating, hypotension, syncope, asthma	Nasolacrimal occlusion improves response, decreases systemic effects
Cholinesterase Inhibitors	Echothiophate iodide (Phospholine Iodide) 0.125%	May last 1-4 weeks	3rd line	1 drop affected eye(s) BID (one dose prior to HS)	**Local:** blurred vision, burning, redness **Systemic:** bradycardia, hypotension, N/V/D	- Nasolacrimal occlusion 1-2 minutes - Refrigerate undiluted vials - Mixed solution stable at room temperature x30 days - Tachyphylaxis (drug holiday restores response)

References:
Beizer, J. L., Higbee, M. D., Semla, T. P. (2013). Geriatric dosage handbook. American pharmacists association. 18th Ed. Wolters Kluwer.
DiPiro, J. T., Talbert, R. L., Yee, G. C., Matzke G. R., Wells, B. G., & Posey, L. M. (2005). Pharmacotherapy a Pathophysiology.

Sep 2015