



Beta Blockers for the Treatment of Glaucoma

While there is no cure for glaucoma, it can be controlled.

Elevated intraocular pressure (IOP) may damage the optic nerve, which can lead to vision loss. Treatment for glaucoma focuses on lowering the IOP to a level that is less likely to cause further optic nerve damage. This is known as the "target pressure" or "goal pressure." The target pressure differs from individual to individual. Your target pressure may change during your course of treatment if the progression of glaucoma is not arrested.

If you have glaucoma, medication may be prescribed to lower your eye pressure. There are many more choices for topical treatment today than there were only a few years ago. I have chosen a beta blocker medication to treat your glaucoma:

How Do Beta Blockers Work?

Beta blocker (beta adrenergic antagonists) medications are reliable for lowering intraocular pressure. They work by decreasing the amount of fluid that the eye continually produces, called the aqueous humor. For many years, beta blockers were the mainstay of treatment. Hence, we have a lot of experience with this medication for the treatment of glaucoma.

Types of Beta Blocker Medication

There are two general classes of beta blockers: nonselective and selective. Nonselective beta blockers have more effects on the body's beta receptors system-wide, and are associated with more side effects. The nonselective beta-blockers are also more effective at lowering intraocular pressure.

The **nonselective** beta blockers include:

- Levobunolol (Betagan)
- Timolol hemihydrate (Betimol)
- Carteolol (Ocupress)
- Metipranolol (Optipranolol)
- Timolol maleate (Timoptic) and Timolol maleate gel (Timoptic XE)

(Generic versions most beta blockers are now available. Check with your ophthalmologist to make sure that a generic product is an acceptable alternative for you.)

The only available **selective** beta blocker medication is:

- Betaxolol (Betoptic-S)

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While a selective beta blocker eye drop has a better safety profile, especially in terms of breathing symptoms, it still must be used with caution in patients with asthma or emphysema. The eye pressure lowering effect is slightly less with selective beta blockers. There is only a minimal additive effect in terms of lowering eye pressure in patients already taking oral beta blockers and there is the risk of further additive side effects. If you are already taking a beta blocker medication by mouth or if your primary care doctor newly prescribes a beta blocker, please notify our office.

Possible Side Effects of Beta Blockers

All medications, including eye drops, have not only benefits but may also have side effects. Some people taking beta blocker eye drops may experience:

- Increased or worse asthma or emphysema
- Slow or irregular heart beat and/or decreased response of heart rate to exercise
- Increased risk for heart failure
- Depression or change in sex drive (impotence)
- Headache or dizziness or weakness
- In diabetics, difficulty sensing blood sugar changes
- Eye irritation or allergy

Medication Tips

For glaucoma medications to work, you must take them regularly and continuously as prescribed. Systemic complications from eye drops are rare. Although not mandatory, one can decrease these risks as follows. After putting in eye drops, blot away any excess drops with a tissue. Close your eyes for three minutes without blinking, then resume normal activities. Feel free to call Dr. Beck's office to report any concerns.