

BNSSG Glaucoma prescribing guidelines for Primary Care



This document summarises the key messages to support the prescribing of glaucoma drugs in primary care for patients with suspected/confirmed glaucoma and for patients with ocular hypertension. Only drugs included in the [BNSSG Formulary](#) should be prescribed. These guidelines should be adhered to for all new patients.

The drugs that reduce intra-ocular pressure act by different mechanisms and are prescribed on a patient-by-patient basis. Most are offered **selective laser trabeculoplasty (SLT) 360°** or receive treatment with a **prostaglandin analogue initially** and treatment is adjusted according to response. The drugs have an additive effect and many patients need more than one type to lower their intra-ocular pressure to target. For all eye drops prescribe generically unless there is proven sensitivity/allergy to the generic and a brand is indicated or a ScriptSwitch message in Primary Care recommends use of a specific brand.

Drug	Place in therapy	Formulary choice	Preservative-free (PF) option (see general prescribing advice)	Prescribing notes
Selective laser trabeculoplasty (SLT) 360° *(excluding cases associated with pigment dispersion syndrome)	1 st line	Not suitable for all patients. Please assess on a case-by-case basis for individual patients as per patient characteristics and patient preference.	N/A	A second treatment course of SLT 360° laser may be performed should the patient show initial response to the first.
Prostaglandin analogue	2 nd line	1st choice: Latanoprost 50mcg/ml drops or travoprost 40 micrograms/ml eye drops (ensure this is prescribed generically) 2nd choice: Bimatoprost 100mcg/ml or 300 mcg/ml drops (if latanoprost ineffective/confirmed allergy present)	1st choice if PF required: Latanoprost 50mcg/ml PF eye drops or travoprost 40 micrograms/ml PF eye drops 2nd choice if PF required: Bimatoprost 300 mcg/ml PF eye drops 3rd choice if PF required: Tafluprost 15 mcg/ml PF eye drops	Often used as an alternative to SLT where patients refuse treatment. May also be prescribed for patients who require interim treatment or for patients that are not appropriate candidates for SLT.
Carbonic anhydrase inhibitors	3 rd line	1st choice: Brinzolamide 1% eye drops 2nd choice: Dorzolamide 2% eye drops	1st choice if PF required: Dorzolamide 2% PF eye drops	Oral Acetazolamide is associated with high risk of side effects. Patients taking acetazolamide for over 2 weeks require monitoring – FBC and plasma

		<p>Oral acetazolamide immediate release or modified release only to be prescribed for rapid management of severely elevated intraocular pressure (>40 mmHg) – on specialist advice only.</p>		<p>electrolytes (to detect bone marrow suppression and electrolyte disturbances) If abnormal results detected, GPs should consider stopping medication and contacting an Ophthalmologist for advice.</p>
<p>Beta blocker (combination eye drops preferred)</p>	<p>4th line</p>	<p>1st choice Timolol 0.25% or 0.5% eye drops</p> <p>2nd choice Timolol 0.25% or 0.5% Long Acting eye drops</p>	<p>1st choice of PF required: Timolol 0.1% PF Long Acting drops</p>	<p>Caution in history of bronchospasm. Monitor for wheezing and discontinue immediately.</p> <p>If a long acting beta blocker is required the most cost effective is Timolol LA 0.25% or 0.5%</p> <p>0.25% as effective as 0.5% with lower systemic side effects.</p>
<p>Sympathomimetic (combination eye drops preferred)</p>	<p>Usually reserved for use when other agents have not worked due to higher risk of side effects</p>	<p>1st choice: Brimonidine 0.2% drops</p> <p>2nd choice: Apraclonidine 0.5% to be started on specialist recommendation. Short term use only; please note no shared care protocol present.</p>		<p>Sensitivity to these agents is very common and they have a tendency to cause red eye.</p>
<p>Miotics</p>	<p>Indicated for primary angle closure. Usually at request of Ophthalmologist</p>	<p>1st choice: Pilocarpine 1%, 2% or 4% drops</p>		<p>Indicated for primary angle closure as per recommendation of ophthalmologist.</p>

General prescribing advice in glaucoma

Preservative-free (PF) drops should only usually be used if the patient is known to be allergic to benzalkonium chloride (the preservative included in most eye drops), is an extended wear contact lens wearer, has ocular surface disease or is at increased risk of developing sensitivity. Risk of sensitivity is increased:

- When the eye surface is damaged and immediately following eye surgery - *Preservative-free drops recommended until healed*
- When large numbers of drops containing benzalkonium chloride are being used (Use of 6 or more [benzalkonium chloride-containing] drops per eye per day not recommended) - *combination drops or preservative-free drops reduce the likelihood of sensitivity developing and may be used for this group.*

Many PF drops are now available in multi-dose as well as unit dose containers. The product with lowest acquisition cost should be prescribed first line.

Consider all relevant allergies, co-morbidities and interactions before prescribing.

Prescribe in a step-wise fashion, checking response to treatment before adding new treatments.

It is recommended that **compliance** and **technique** are checked before treatment is changed in any way.

Ensure patient is using **correct eye drop installation techniques**, assess accordingly and provide an information leaflet. Patients using more than one eye drop should be advised to leave at least **5 minutes between applying each drug** for maximum benefit.

For **pregnant** or **breastfeeding** patients please refer to a specialist as treatment may change.

Combination products may be recommended to reduce exposure to preservatives or where more cost-effective: Latanoprost 50micrograms & timolol 5mg/ml (brands include Xalacom but please prescribe generically)

Bimatoprost 0.03% & timolol 0.5% eye drops (prescribe generically)
Travoprost 40 micrograms & timolol 5mg/ml eye drops (prescribe generically)

Brimonidine 0.2% & timolol 0.5% eye drops (prescribe generically)
Brinzolamide 10mg & timolol 5mg/ml eye drops (prescribe generically)
Dorzolamide 2% & timolol 0.5% eye drops (prescribe generically)

Brinzolamide 10mg/ml & Brimonidine 2mg/ml eye drops (brand Simbrinza®)
Eye drop **compliance aids** such as the Opticare device can be used if there are dexterity problems. Some product specific compliance aids are also available. Useful patient information can be found at <https://www.glaucoma-association.com/about-glaucoma/treatments/eye-drops/taking-your-eye-drops>

Monthly quantity of eye drop bottle required

3 ml bottle = 60 drops per bottle	1 EYE				2 EYES			
	1 week	2 weeks	3 weeks	4 weeks	1 week	2 weeks	3 weeks	4 weeks
Dose								
OD	7	14	21	28	14	28	42	56
BD	14	28	42	56	28	56	84	112
TDS	21	42	63	84	42	84	126	168
QDS	28	56	84	112	56	112	168	224
5x/day	35	70	105	140	70	140	210	280
6x/day	42	84	126	168	84	168	252	336
Every 3 h (Day)	35	70	105	140	70	140	210	280
Every 2 h (Day)	56	112	168	224	112	224	336	448
Every 2 h (Day + night)	84	168	252	336	168	336	504	672

5 ml bottle = 100 drops per bottle	1 EYE				2 EYES			
	1 week	2 weeks	3 weeks	4 weeks	1 week	2 weeks	3 weeks	4 weeks
Dose								
OD	7	14	21	28	14	28	42	56
BD	14	28	42	56	28	56	84	112
TDS	21	42	63	84	42	84	126	168
QDS	28	56	84	112	56	112	168	224
5x/day	35	70	105	140	70	140	210	280
6x/day	42	84	126	168	84	168	252	336
Every 3 h (Day)	35	70	105	140	70	140	210	280
Every 2 h (Day)	56	112	168	224	112	224	336	448
Every 2 h (Day + night)	84	168	252	336	168	336	504	672

10 ml bottle = 200 drops per bottle	1 EYE				2 EYES			
	1 week	2 weeks	3 weeks	4 weeks	1 week	2 weeks	3 weeks	4 weeks
Dose								
OD	7	14	21	28	14	28	42	56
BD	14	28	42	56	28	56	84	112
TDS	21	42	63	84	42	84	126	168
QDS	28	56	84	112	56	112	168	224
5x/day	35	70	105	140	70	140	210	280
6x/day	42	84	126	168	84	168	252	336
Every 3 h (Day)	35	70	105	140	70	140	210	280
Every 2 h (Day)	56	112	168	224	112	224	336	448
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KEY: Number of eye drop bottles to be dispensed:

1 Bottle (Green) 2 Bottles (Yellow)

Calculations of the quantity of eye drop bottles are based on rounding up or down the total number of drops to be instilled to the nearest whole bottle.

****CAUTION (abnormal directions, check dose!!!)**