

The Charity for People with Glaucoma
Established 1974

Eye Drops & Dispensing Aids

A Guide



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This free booklet is brought to you by the International Glaucoma Association (IGA), the charity for people with glaucoma. We haven't charged for it because we want you to have easy access to information that will help you understand and manage glaucoma.

However, each of our booklets costs about 70p to produce. They are paid for by our supporters – mostly people just like you as we receive no Government or statutory support.

If you find this booklet helpful, please consider making a donation to support our work, or become a member of the IGA. You will find a pull-out application form for membership in the middle of this booklet in order to receive the quarterly IGA News.

To make a donation call 01233 64 81 64 or visit our website at www.glaucoma-association.com. Alternatively, donate up to £10 by texting EIGA11 followed by either 1, 2, 3, 4, 5 or 10 to indicate the amount of your donation, to 70070. The text message is free and all of your donation will be passed to the IGA.

Your feedback is also important to us. Please help us improve our information by sending us your comments about the content and format of this publication at marketing@iga.org.uk or by writing to us at the the address below.

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Eye Drops & Dispensing Aids: A Guide



Most people with glaucoma are treated with eye drops. There are several kinds but all of them reduce the pressure in your eye. Used regularly as prescribed, they help keep the pressure at the right level for you, which reduces the risk that your eyesight will get worse. But nearly everyone finds it difficult to put eye drops in and it is very easy to forget to do it regularly. Some people lose heart and decide it is all too difficult and too much trouble which is not a good idea as glaucoma is usually a slowly progressive condition that can ultimately result in impaired vision or even blindness. You should consider your drops are for life unless your doctor tells you to stop using them.

So we have put this booklet together to help you. It tells you how to put your drops in, and about a variety of different aids, all designed to make putting your own drops in easier. We've also included other useful information, such as our top tips for eye-drop users. There's a section on the different drops you might be prescribed and what they do, and a simple description of how your eye works and its different parts.

Contents



How should I use my eye drops?	page 3
What types of glaucoma drops are there?	page 7
Are you struggling with your eye drops?	page 11
Top tips	page 17
About your eye	page 19
Further help and information	page 21

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followed by either 1, 2, 3, 4, 5 or 10
to indicate the amount of your donation,
and send to 70070.**

**The text message is free and 100%
of the donation will be passed to the IGA.**

Thank you for any support you are able to give.

How should I use my eye drops?

Putting your drops in

There are various ways to put drops in your eye and you will need to decide which is best for you.

Before you begin, make sure your hands are washed and clean. Some drops need to be shaken. If that applies to yours – it should say on the bottle or in the leaflet that comes with it – remember to shake the bottle each time you use it.

One of the simplest ways of putting drops in is to sit or stand in front of a mirror, pull down the lower eyelid with a finger of one hand, with the other hand squeeze or tap the bottle according to the instructions, and let the drop fall into the pocket between your eye and the lower lid (see Figure 1.)



Figure 1 Instilling eye drops

Another method is to tilt your head backwards while sitting, standing or lying down. If your drops are gel and not liquid, it may be easier to lie down in order to help spread the gel along the inside of the lower lid.

After putting the drop in your eye, close your eye gently and press softly on the inside corner of the eye, by the nose, with a finger for one minute (see Figure 2.) This will help to slow the rate at which the drop drains out through the tear duct into your throat, rather than staying in the eye where it is needed. Even if you do this, a small amount may drain through the tear duct and be swallowed. This is not usually harmful but, if the amount of eye drops entering your body through the tear duct is minimised, so too is the potential for side effect problems.



Figure 2 Closing the tear duct

Photo by Rachel Gansczyk

Wait at least five minutes, or however long you have been advised, before putting in any other kind of drop to prevent the first one being washed away by the second drop.

If you use contact lenses, never put a drop in your eye while wearing a lens and allow 15 minutes after using your drops before inserting a lens.

Getting into the routine

Damage to vision caused by glaucoma is permanent and can't be cured. However, treatment can prevent or reduce any future damage by ensuring that the pressure in your eye doesn't get too high. So if you have been diagnosed with glaucoma, it is essential to use your eye drops regularly as prescribed if you want to preserve your eyesight.

So you don't forget to put your drops in, it's worth getting into a routine and sticking to it. For instance, unless the bottle needs to be stored in the fridge, you could keep it by your toothbrush so you are reminded when you brush your teeth. Some people find it helpful to make a chart with the days of the week on it where they can tick off every time they use their drops.

If you use a drop more than once a day, try to ensure the times when you put them in are evenly spaced. For example, if they go in twice a day, aim for 12 hours

apart. The most important thing, though, is to settle on a routine you can manage and remember every day.

Storage

Most drops are stored at ordinary room temperature but some need to be kept in a refrigerator before they are opened. Look at the leaflet that comes with your drops or check with your pharmacist to be sure you know the correct way to store your drops.

Don't continue to use a bottle for more than a month after it has been opened. Start a new one. The safest way to dispose of old bottles is to return them to your pharmacist.

If you have difficulty knowing whether a drop has gone into your eye, you can try keeping the bottle in the door of a refrigerator (not the freezer.) You will then feel the coldness of the drop going into your eye. However, be sure to check in the patient information leaflet or with your pharmacist that your drops can safely be stored this way.

Sometimes you might need to keep your drops cool when the weather is hot, for instance if you are travelling or out for the day. The IGA has cool wallets, available to purchase, that prevent your drops from becoming warm for up to 48 hours. They contain gel crystals which only require soaking in water (no refrigeration) to activate.

There is a large wallet that holds up to four eye-drop bottles or 30 single-dose vials, and a small wallet that takes a single bottle or 10 single-dose vials.

What types of glaucoma drops are there?

The name on the bottle

There are various kinds of pressure lowering eye drops used in the treatment of glaucoma. All the drugs used in them have standard pharmaceutical names, which are not trade marks. If your drops are only labelled with the names of the drug or drugs they contain, they are said to be 'generic'. However, many drops are better known by their trade name, invented by the company that developed the drug and took out a patent. Here is a list of trade names and their generic equivalents.

Trade name	Generic name
Alphagan	brimonidine
Azopt	brinzolomide
Betagan	levobunolol
Betoptic	betaxolol
Iopidine	apraclonidine
Lumigan	bimatoprost
Lumigan UD	bimatoprost
Monopost	latanoprost

Trade name	Generic name
Pilocarpine	pilocarpine
Saflutan	tafluprost
Teoptic	carteolol
Timoptol	timolol
Tiopex	timolol (gel)
Travatan	travoprost
Trusopt	dorzolomide
Xalatan	latanoprost

Combination drops, containing timolol and another drug are also available under different trade names.

Here is a list.

Trade name	Generic name
Azarga	timolol and brinzolomide
Combigan	timolol and brimonidine
Cosopt	timolol and dorzolomide
DuoTrav	timolol and travoprost
Ganfort	timolol and bimatoprost
Xalacom	timolol and latanoprost

Generic substitutes for branded drops

As patents on glaucoma drops expire, more patients are receiving the generic version of their prescription in place of a branded one. The active ingredient(s) are the same and at the same concentration. Other constituents may vary very slightly but the eye drops are essentially similar. The bottle and packaging are likely to be different, and might vary from one prescription to another.

Most people have no trouble with generic drops, but there can be some issues. For example, the design of the bottle might not fit your compliance aid or you may not be able to squeeze the new bottle if the plastic is

too hard. Very rarely the slightly different formulation may not suit you. If you experience any difficulty you should discuss it with your eye specialist, GP or pharmacist. Alternatively the IGA Sightline may be able to help and advise.

Combination drops

If you need two different types of medication, using a combination drop can have advantages over using two drops separately. It saves both time and having to keep two different bottles. It also means that you deliver less preservative into your eye, which may reduce the possibility of developing an allergic reaction to the preservatives. However, all the combination drops available contain timolol, which may not be suitable for some patients because of possible side effects or contra-indications.

Different categories of drops

The drugs used in eye drops to treat glaucoma fall into various categories, according to the way in which they work.

Alpha agonists (apraclonidine and brimonidine)

Their action is to reduce the production of fluid in the eye and possibly to improve the flow of fluid out of the eye. They are usually used two or three times a day. Brimonidine is licensed for the long term treatment of glaucoma but apraclonidine is for short term use

following, or to delay, laser treatment. Brimonidine is contra-indicated for children under the age of two years. Possible side effects include a dry mouth, tiredness and general weakness. Very occasionally a few people may develop a severe allergic reaction to these drops. If this happens, the eye becomes increasingly red, sore and sticky. Sometimes it can take several months for this to happen. If it does develop, you should consult your ophthalmologist or general practitioner without delay.

Beta blockers (betaxolol, carteolol, levobunolol and timolol)

The action of these drops is to reduce the production of fluid in the eye. They are used once in the morning or twice a day, as advised by your ophthalmologist. They are not usually prescribed for anyone susceptible to chest or breathing problems. Possible side effects include a slow pulse, dizziness, asthma, and tiredness. In some people these drops may cause depression, loss of libido or impotence. However, most people have no problems with them.

Carbonic anhydrase inhibitors (brinzolamide and dorzolamide)

The action of these drugs is to reduce production of fluid in the eye. These drops are used two or three times a day on their own, or twice a day if with another drop. Possible side effects include redness of the eye, crusty eyelashes, fatigue and a bitter taste in the mouth.

Cholinergic agonist (pilocarpine)

The action is to improve the flow of fluid out of the eye through its usual route and the drops are used three or four times a day.

Prostaglandin/prostamide analogues (bimatoprost, latanoprost, tafluprost and travoprost)

Their action is to improve the flow of fluid out of the eye through a different way from the usual one. The drops are used once a day, usually at night. Possible side effects include a pink eye that usually improves over a period of time. The iris may darken in colour (more commonly in those with green or hazel eyes and less commonly in blue eyes.) Eyelashes may grow longer and darker and, in a small percentage of patients, the skin around the orbit of the eye may darken.

Are you struggling with your eye drops?

The IGA Sightline often receive calls from people who have difficulty instilling their drops. Many people find it a tiresome and sometimes difficult thing to do. Fortunately there are ways of making it easier so that it does not feel like a chore anymore. This section describes a range of different eye drop dispensing aids available from the IGA. We know that the easier people find it to put their drops in the more likely they

are to stick with their daily routine. We have sourced these products with that in mind. The aids described here are normally available from the IGA. The descriptions are accurate to the best of our knowledge and belief but our Sightline staff will be happy to advise on which dispenser would best suit your needs. All dispensers come with full instructions for use, but you can contact Sightline if you would like to receive enlarged versions of the instructions.

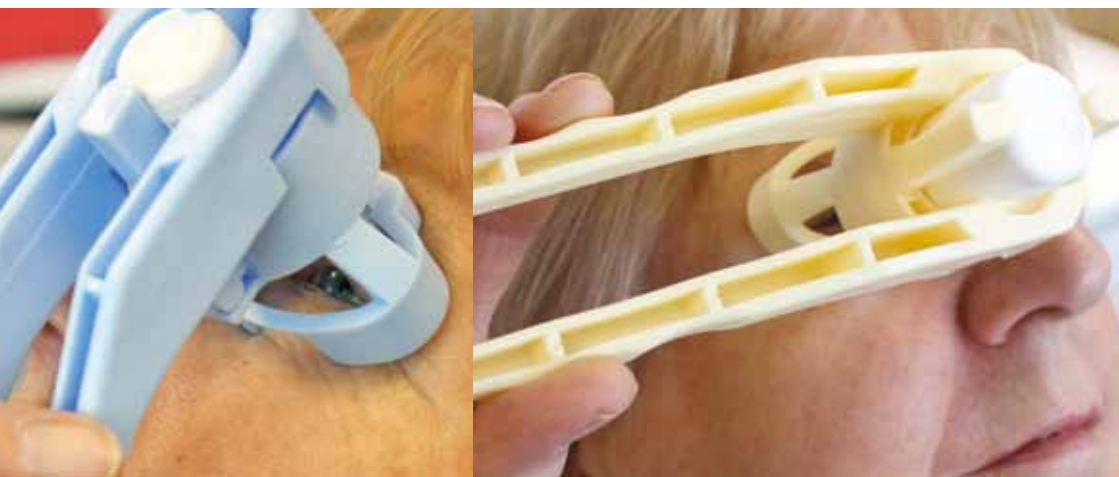
The Opticare® is a hand-sized dispenser with an eye piece for aiming the drop accurately. It has a large squeezable area to make it easy to administer a measured dose. It's available in a range of colours and can be prescribed (free to those who are eligible.) A black rubber 'collar' comes with the Opticare for bottles which may need adjusting to fit. There are some generic drops that may require two collars, both of which are supplied with the Opticare.



Most bottles can be opened and closed without removing them from the Opticare with the exception of Timoptol, Timoptol LA, Cosopt and Trusopt, which have to be inserted in the Opticare without the top and flat side first. The following bottles are very easy to use in this aid:

- Allergan drops: Lumigan 3ml, Betagan 5ml, Alphagan 5ml, Combigan and Ganfort 3ml
- Alcon drops: Betoptic 5ml, Iopidine 5ml and Azopt 5ml.

The Opticare® Arthro has an adjustable eyepiece and long handles for maximum effect with little pressure. It is especially designed for those with hand and arm mobility problems. It's available free on prescription to those who are eligible. The blue coloured Arthro 5 can be used with 2.5ml and 5ml round or oval bottles. The cream coloured Arthro 10 can be used with 10ml, 15ml and 20ml round or oval bottles. Unfortunately



Timoptol, Timoptol LA, Trusopt and Cosopt bottles do not fit in this dispenser.

The Eyot is for use with Duotrav, Travatan and Azarga eye drops. As there is more than one type of Eyot available, please specify the drops you are using when placing an order.



The Eye Care bottle opener, which comes with the Eyot, makes it easy to remove and replace the tops of bottles that are in the Eyot dispenser. It has different sized ends and is made of an easy grip rubber material.





The UD Eyot is aimed at helping people using single dose vials. It is made for accurate positioning and easier grip control.

The Xal-Ease dispenser is for use with Xalatan, Xalacom and the Pfizer brand of generic latanoprost. The eyepiece has a soft feel edge for comfortable positioning. Dosing is via an easy-to-press button. A handy bottle cap opener is included.





The Autodrop®

is another small device suitable for a wide variety of eye drop bottles. It's an eyepiece that holds the bottle and

helps aim the drop into your eye while you squeeze the bottle with your fingers. It works well with most bottles except those containing Cosopt, (unless round) Trusopt, Travatan, Xalatan, Timoptol and Duotrav.

The Autosqueeze® is for use with the Autodrop and is to help people who have difficulty squeezing the bottle. The two parts can be purchased together or separately. The AutoDrop goes on the bottle first, then the AutoSqueeze, which is like a pair of butterfly wings, fits around the bottle neck. The plastic is more pliable than most and this aid may be particularly useful for people with arthritis or limited hand mobility.



Top Tips



- Follow your clinician's instructions. Take your medication on time every time.
- Always wash your hands before using your eye drop bottles.
- Eye drop dispensers are for individual use. They are personal items which shouldn't be shared between patients to avoid any contamination.
- Wash your dispenser regularly in warm soapy water.
- To avoid contamination, never touch the nozzle of the dropper bottle and avoid contact with the eye.
- After putting in a drop, close your eye gently and press softly on the inside corner with a finger for one minute. Then wait five minutes, or according to medical advice, before instilling any further drop, to prevent the first being washed away.
- Never use drops after the expiry date printed on the packaging. Discard a bottle of eye drops four weeks after opening and start a new one. Single dose preservative-free phials should be used once only and discarded.
- Hand in any unused or expired medicines to your local pharmacist.

- If you use soft contact lenses, remove them before instilling eye drops and wait at least 15 minutes before re-inserting them.
- Store eye drops and all medicines out of the reach and sight of children and out of direct sunlight.
- Keep eye drops in the refrigerator (not the freezer) so you can feel them go into your eye more easily (but check the information leaflet or ask your pharmacist to find out whether your drops can be stored in the refrigerator.)

If you sometimes forget your medication:

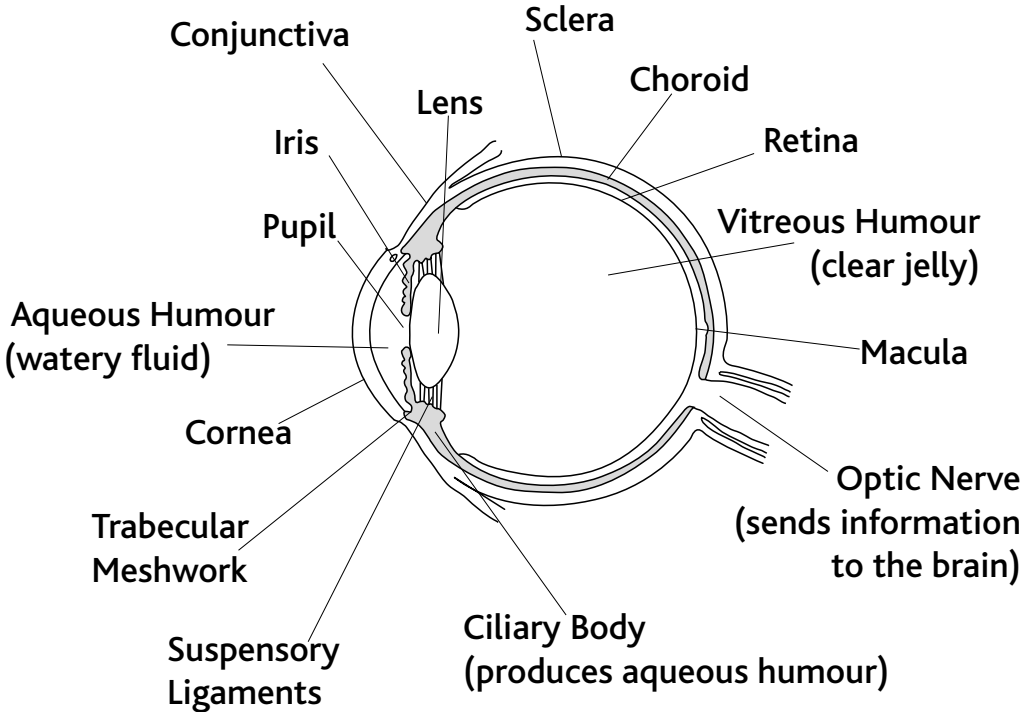
- Create a chart with the days of the week so that each drop can be ticked off.
- Establish a routine and stick to it. For example it might help to put your drops by your toothbrush so that you remember to put them in when you brush your teeth.

If you use more than one kind of drop:

- Use drops in the same order each time, for example by colour or by bottle size, to reduce the possibility of making a mistake.
- If you have difficulty telling the different bottles apart, use elastic bands around the bottles to distinguish them.

About your eye

Patient Pictures
Health Press Limited (Oxford)



The eye is shaped like a ball. The tough white outer coat is called the sclera and its front surface is covered by a thin layer called the conjunctiva which also lines the eyelids. The clear outer layer at the front of the eye is called the cornea and both the cornea and conjunctiva are covered by the tear film. Behind the cornea is the iris – the coloured part of the eye – with the pupil forming a hole in its centre.

The space between the cornea and the lens is filled with a clear fluid, called aqueous humour; this fluid maintains the pressure in the eye (the intraocular pressure.)

The pressure is determined by the balance between the fluid production inside the eye and its drainage out of the eye.

On the inside of the back of the eye is the retina, which is the light sensitive layer onto which an image of what is being seen is focussed by the cornea and the lens working together. The central area of the retina, where the most detailed vision is to be found, is known as the macula and has a very high density of light-sensitive cells. Further away from this central detailed vision area is the area of the retina which also provides our peripheral vision.

Immediately under the retina is the choroid, which is the layer of the eye that provides the blood supply to the cells of the retina and onto which the retina is attached. Light that has passed through the front of the eye and is focussed onto the retina is finally converted into a series of complex electrical impulses by retinal photoreceptor cells known as rods and cones. These signals pass along the optic nerve to the back of the brain, where the final image is processed.

Further help and information



Telephone us

The IGA operates its own free telephone advice line, called Sightline.

If you would like to find out more about any of the information contained in this booklet, or you would like to discuss any concerns you may have about glaucoma, you can call the IGA's Sightline, Monday to Friday 9.30am to 5.00pm. Out of office hours there is an answer phone service where you can leave a message and you will be called back.

All the compliance aids mentioned in this booklet are available from the IGA. For help and advice about the right compliance aid for you, please contact Sightline.

Sightline: 01233 64 81 70

Monday - Friday 9.30am - 5.00pm

Visit our website: www.glaucoma-association.com

for a wide range of information, to order other booklets, leaflets or any of the compliance aids mentioned in this booklet, or to participate in our on-line discussion forum.

Email us at: info@iga.org.uk

Other IGA booklets and leaflets



The IGA produces a range of informational booklets and leaflets. These are constantly being reprinted, reviewed and updated so call Sightline, or visit the website, to find out what is currently available.

Eye Drops & Dispensing Aids: A Guide

Author: David Wright FIAM

Edited by: Lucy Titcomb, Lead Ophthalmic Pharmacist

A full list of references and information sources used in compiling this booklet is available on request.

How to contact us

Telephone: 01233 64 81 64

(donations and general enquiries)

Sightline (help and advice): 01233 64 81 70

Monday-Friday 9.30am - 5.00pm

Email: info@iga.org.uk

International Glaucoma Association

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Are your eye drops losing their cool?

Keeping eye drops at the right temperature when travelling can be a problem.

Take the heat out of holiday travel with our handy Cool Wallets. No refrigeration required – just a bowl of water!

Order from the IGA on
01233 64 81 64 or
www.glaucoma-association.com



The Charity for People with Glaucoma
Established 1974

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cool wallets,
eye drop dispensers
and magnifiers.**

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You agree that we may use any information you supply in the following way:

- To maintain records of donations and requests for information
- To use for future requests for support

Only the IGA will have access to your information. It will not be disclosed to other third parties except to the extent required by the laws of the United Kingdom. If you do not wish us to use your information in this way, please state when calling that you do not consent for your information to be used for this purpose.

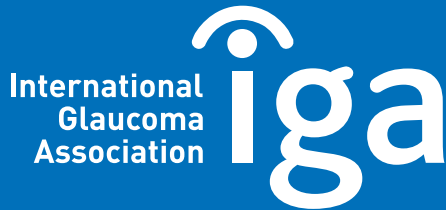


The Charity for People with Glaucoma
Established 1974

Don't forget!

- Use your eye drops as prescribed by your consultant to avoid further sight loss in most cases.
- Tell your close relatives that you have glaucoma. They are at higher risk than average so should be tested regularly, and first degree relatives over the age of 40 are entitled to free eye tests.
- Contact the IGA Sightline if you have any questions. We are here to help you.
- Join us! A membership form is enclosed in the middle of this booklet. If you are a member already, please pass it to a relative or friend. You may save someone's sight:
 - Support leaflets for other patients
 - Support research into the causes and treatment of glaucoma
 - Receive the quarterly IGA News

The information contained in this booklet was correct at the time of printing. However, manufacturers may introduce different shaped bottles at any time which may then not fit the aid recommended. Please contact Sightline for up to date, accurate information.



The Charity for People with Glaucoma
Established 1974

Our Mission and Vision

The International Glaucoma Association is the charity for people with glaucoma. Our mission is to raise awareness of glaucoma, promote research related to early diagnosis and treatment and to provide support to patients and all those who care for them.

Our vision is to ensure that all people with or at risk of glaucoma have the knowledge and access to care that will enable them to maintain a good quality of life.

To donate:

Call 01233 64 81 64 or
visit www.glaucoma-association.com

For help, advice and information
Sightline: 01233 64 81 70 Monday - Friday 9.30am - 5.00pm

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