

**LARGE  
PRINT**

# GLAUCOMA

Referral and safe discharge

A booklet for patients, their families and carers





Corporate member of  
Plain English Campaign  
Committed to clearer communication.

**317**

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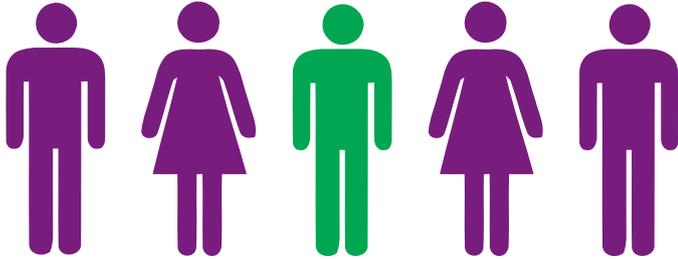
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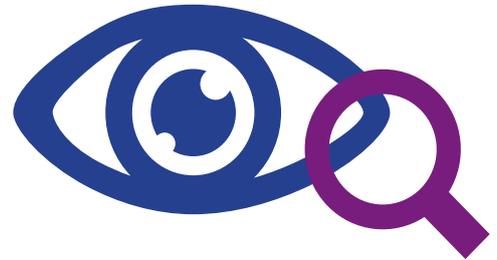
# Who is this booklet for?

**This booklet is for you if:**

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**you have a high risk  
of getting glaucoma**  
**See page 8**



**your optometrist thinks  
you might have glaucoma**  
**See page 15**

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**you have glaucoma and are being  
looked after by your optometrist  
or hospital eye specialist.**

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## **This booklet explains:**

Risk factors for glaucoma **(see page 8)**

Examinations and assessments **(see page 12-14)**

Being referred to hospital eye-care services **(see page 15-17)**

Being discharged from hospital eye-care services **(see page 20-22)**

# What is this booklet about?

**This booklet explains the recommendations in a clinical guideline, produced by the Scottish Intercollegiate Guidelines Network (SIGN), about being referred for glaucoma and then being discharged safely from hospital. It gives you information about the care you are likely to get but it does not give a lot of information on glaucoma itself.**

**The booklet does not give advice on the treatment of raised eye pressure (ocular hypertension) or glaucoma.** On page 23 there are details of organisations who can give you information about glaucoma.

The clinical guideline is based on what we know from current medical research. It also gives advice based on the opinion of healthcare professionals who are trained to check your eyesight and look for signs of eye disease. On page 24 you can find more about us at SIGN and how we produce guidelines.

**There are three different types of recommendations in this booklet.**



**Strong recommendation**  
based on the research evidence.



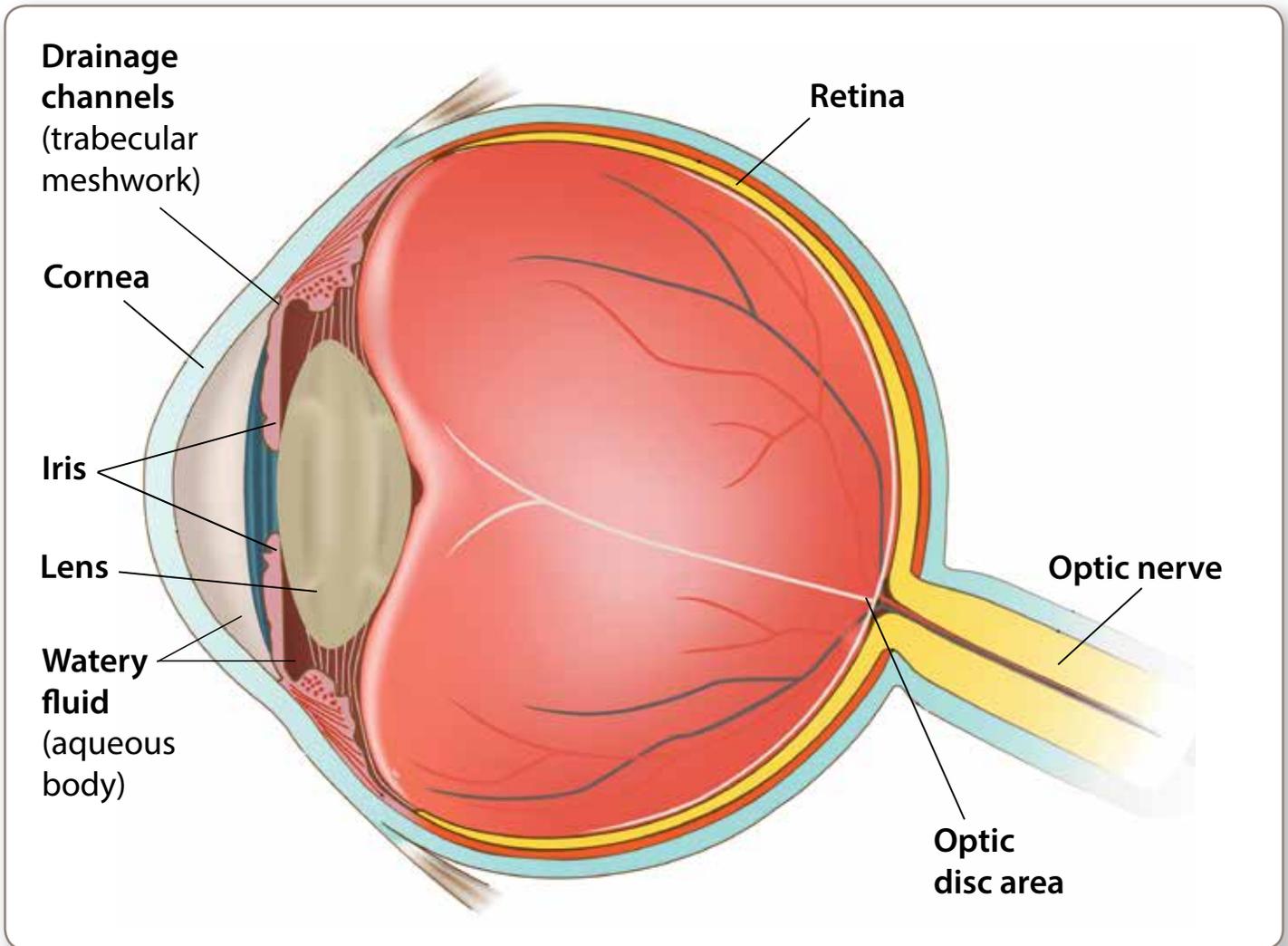
**Recommendation**  
based on clinical experience.



**Not enough research evidence**  
to tell us if something is of benefit.

If you would like to see the clinical guideline, please visit **[www.sign.ac.uk](http://www.sign.ac.uk)**.

## Normal Eye



# Your eye

**Your eye needs a certain amount of pressure inside it to keep a proper eyeball shape so you can see. If you have too much pressure in your eye, the optic nerve becomes damaged. Some people have normal eye pressure but damage to the optic nerve can still develop.**

The watery fluid in your eye passes through your pupil into the space in front of your iris. It leaves your eye through tiny drainage channels called trabecular meshwork. These drainage channels are in the space between the front of your eye (the cornea) and your iris, and they return the fluid to the bloodstream. Normally, the amount of fluid produced is balanced by the fluid draining out. If the fluid cannot drain properly, or if too much is produced, your eye pressure will rise. The name given to increased eye pressure is ocular hypertension. Ocular hypertension can increase your risk of getting glaucoma.

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## Eye pressure

Eye pressure is measured in millimetres of mercury (mm Hg), the same unit of measurement used in measuring your blood pressure. Normal eye pressure ranges from 12 to 25 mm Hg. Your optometrist may want to repeat pressure measurements if your measurement is at the higher end of the range.



**Normal**

**Eye pressure ranges from 12-25 mm Hg.**



**Higher**

**Eye pressure is anything more than 22 mm Hg.**

# What is glaucoma?

Glaucoma is the name for a group of eye conditions that involve damage to the optic nerve in your eye. It is the leading cause of blindness worldwide. In the UK, glaucoma is the second most common cause of sight loss. The risk of glaucoma increases as you get older so it is important for you to get your eyes tested regularly. If glaucoma is not treated, it can cause you to lose your sight. A small number of people with glaucoma will eventually go blind. **If it is diagnosed and treated early enough, further damage to your sight can be prevented. Usually, people have to have treatment for glaucoma for the rest of their lives.**

## Types of glaucoma

### Open-angle glaucoma

There are different types of glaucoma but the most common one is chronic open-angle glaucoma. 'Angle' refers to the drainage area in your eye from where fluid leaves it via drainage channels (see page 4). In open-angle glaucoma, the drainage channels within your eye become slightly blocked, stopping fluid from draining properly. This type of glaucoma develops slowly. People who have this also have increased pressure in their eye. However, some people will have glaucoma even with normal eye pressure.

### **Angle-closure glaucoma**

This type of glaucoma happens when your iris has moved forward causing your drainage angle to close. Since the fluid cannot escape from your eye, there is a sudden and painful build-up of pressure in your eye. This type of glaucoma is much less common.

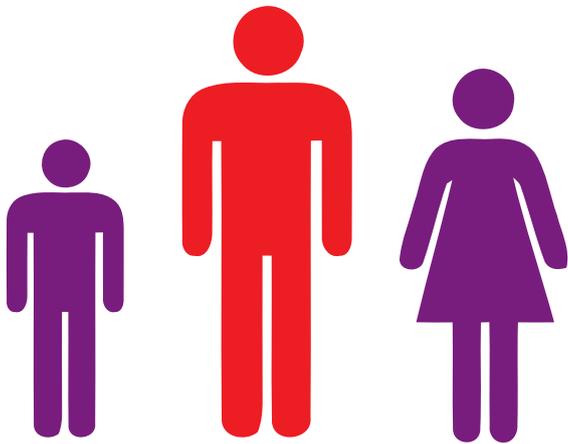
### **Secondary glaucoma**

This type of glaucoma can be open angle or closed angle. It may happen because of an eye injury or another eye condition.

### **Developmental glaucoma**

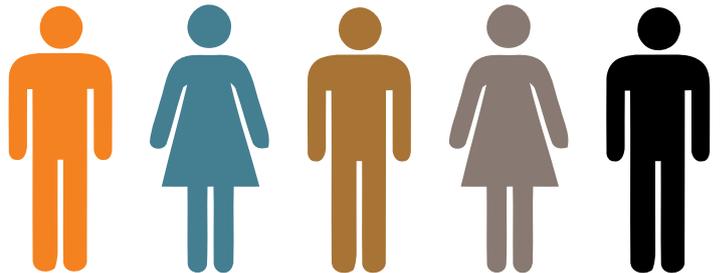
Developmental glaucoma happens when the eye does not form properly. It may be there at birth or develop shortly after birth. This type of glaucoma is rare.

# What are the risk factors for glaucoma?



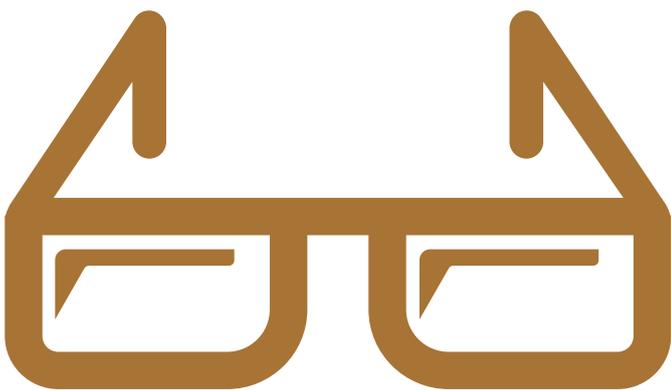
## Age

Glaucoma becomes more likely as you get older (over 40).



## Ethnic background

People of African, Afro-Caribbean and Asian origin, have a greater chance of getting glaucoma.



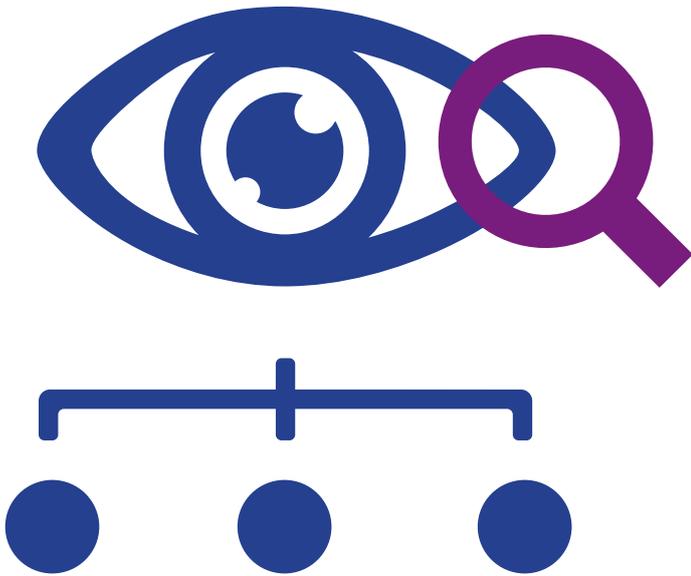
## Short-sightedness

People who are short-sighted are more at risk of getting glaucoma.



## Medical history

If you have diabetes or high blood pressure, you are at more risk of getting glaucoma



## Family history

If you have a close relative, such as a parent, brother or sister, who has glaucoma, you may also have an increased chance of getting glaucoma yourself.

If you are diagnosed with glaucoma, your close relatives should visit an optometrist for an eye examination. This is because they are at increased risk of developing glaucoma. In Scotland the cost of this eye examination is covered by the NHS so it will be free for your relative to have it. See page 10 about having regular eye tests.

“Following diagnosis I discovered that it was a hereditary disease and that all the family knew about our risk except me. My brother and my sister had been having regular tests for some time”. **Roy, age 78**

# What can I do to help myself?

## Have your eyes tested regularly

Glaucoma is often picked up by a routine eye test so you should have your eyes checked regularly. When you have an eye test, your optometrist will check your sight and will look for signs of eye disease such as glaucoma. You should have the routine tests described on page 13. The cost of an eye test is covered by the NHS so **it is FREE when you have it.**



*A slit-lamp that illuminates structures of your eye and then magnifies them to allow your optometrists to view the structures in detail.*

**Don't delay, act immediately.** I was diagnosed with glaucoma at the age of 62 following some months of thinking that I needed new glasses but was always too busy to go to the opticians. The pressure in both eyes was extremely high and the optician arranged a hospital appointment. **Roy, age 78**

## How often should I have my eyes checked?

### Increased eye pressure?

If eye tests have shown that you have increased eye pressure, you should have your eyes **checked every two years** to make sure there is no glaucoma.

**Strong recommendation**



### Close relative has glaucoma?

If you have a close relative (eg brother, sister, mother or father) who has glaucoma, you should have a **review every two years**.

If you also have other risk factors (outlined on page 8), you should have your eyes checked for signs of glaucoma every year.

**Recommendation**



I discovered that one direct relative had also suffered from glaucoma.

**William, age 74**

### Should I have a patient-held record?

There is not enough research evidence to tell us if a patient-held record (a patient's personal copy of their glaucoma medical records) is of benefit to patients who have or are at risk of glaucoma. Some people may find having one helpful, but other people may not.

**Not enough research evidence to tell us if something is of benefit**

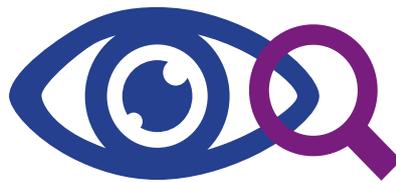


# How will I know if I have glaucoma?

## Routine tests

All patients who have an eye test are given three routine tests (shown opposite). You will have all these tests on the same day. These tests will help your optometrist to look for signs of glaucoma. These tests often need to be repeated at future visits before a diagnosis of glaucoma can be made.

**Depending on the results of your tests,  
your optometrist will either:**



### **Monitor you**

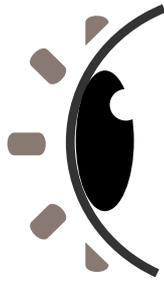
by repeating the appropriate tests as necessary  
**or**



### **Refer you**

to a hospital eye specialist (ophthalmologist)

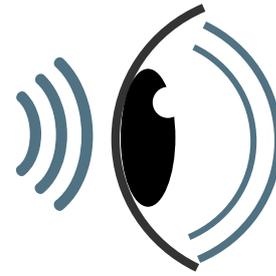
I just went to my optometrist for a regular eye test. I said are you sure I might have glaucoma? I was shocked. **Harry, aged 76**



### **An intraocular pressure test**

Your optometrist blows a gentle puff of air across the surface of your open eye. An instrument called a tonometer measures the eye's resistance to the air, and works out your eye pressure. Your optometrist should do at least two eye pressure tests using the same tonometer.

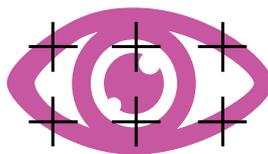
**Strong recommendation**



### **An optic disc appearance test**

This uses a special torch and magnifier to look at the optic nerve at the back of your eye. If you have suspected glaucoma, your optic discs should be assessed using a slit lamp (page 10). Your pupil should be enlarged (dilated) using eye drops. This will help your optometrist decide if you need to be referred to an eye specialist.

**Strong recommendation**

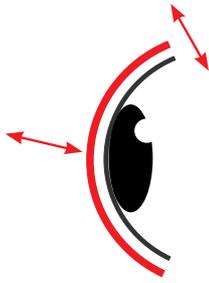


### **A visual field test**

This test checks for missing areas of vision. Your optometrist should use a computerised machine to test your field of vision. Your optometrist should do at least two visual field tests before referring you to hospital eye services.

**Strong recommendation**





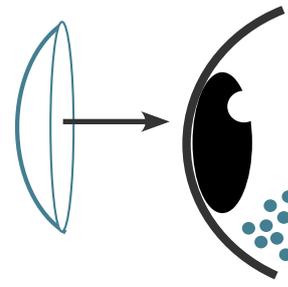
## Measuring the thickness of your cornea using pachymetry

If you have high pressure or your optometrist thinks you might have glaucoma, they should measure the thickness of your cornea. This measurement should be stated on the referral letter when you are referred to an eye specialist.

### Strong recommendation



I took my wife with me to the appointment as my letter said that I wouldn't be able to drive immediately afterwards. The drops make your vision fuzzy. **James, age 79**



## Assessing the drainage area of your eye

This helps to find out if the drainage area of your eye (called the angle) is open or closed (blocked).

The techniques called slit-lamp biomicroscopy and gonioscopy are both suitable. Slit-lamp biomicroscopy uses only a slit lamp to assess the drainage area of your eye.

Gonioscopy involves placing a contact lens on the surface of your eye while you sit at the slit-lamp. You will be given anaesthetic eye drops to make this procedure comfortable.

### Strong recommendation



# Referral to hospital eye care

**When should I be referred to a hospital eye specialist?**



## Recommendation

**If your eye pressure is more than 25 mm Hg, your optometrist may consider referring you to a hospital eye specialist.**

You should be referred to an eye specialist if you have one or more of the following findings from the tests on page 13.

- The appearance of your optic discs suggests that you may have glaucoma.
- You are suffering from loss of vision.
- The drainage area of your eye is at risk of becoming blocked.

## What information should my optometrist offer me when referring me to a hospital eye specialist?



### Recommendation

#### Your optometrist should offer:

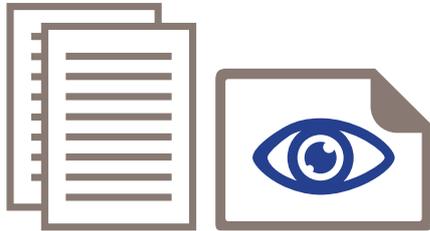
- Information about why you shouldn't drive to your appointment as it is likely that you will get drops in your eyes to dilate your pupils;
- Reasons for your referral to a specialist and the expected waiting times;
- An explanation of suspected glaucoma and what to expect at your appointment with the specialist; and
- Reassurance that if diagnosed early and treated, you will not go blind.

Your optometrist should emphasise the importance of going to this appointment and that it might be helpful to note down any questions and concerns you may want answered at your appointment.

**The information should be in a language and format that suits you, for example a leaflet or a face-to-face discussion.**

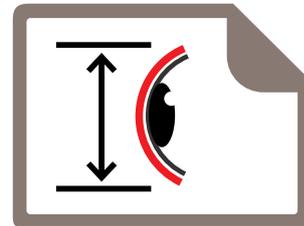
# What information should my optometrist include in referral letter to eye specialist?

The referral letter should include:



**Photographs and measurements**  
of your optic discs

**Strong recommendation**



**Measurements**  
of thickness of the  
your cornea

**Strong recommendation**



## Recommendation

### The referral letter should:

- Highlight the presence of any glaucoma risk factors;
- Highlight the findings of the tests on page 13–14;
- State the type of tonometer used for your eye-pressure test and the time of measurement; and
- State the type of pachymeter used to measure corneal thickness.

# Hospital eye care

## What information should my eye specialist offer me?

 <b>Recommendations based on clinical experience</b>	 <b>Where can I find out more?</b>
<p>The procedures used during your eye test should be explained</p>	<p><a href="http://www.nhsinform.co.uk">www.nhsinform.co.uk</a></p>
<p>The importance of monitoring and treatment to preserve your sight should be made clear.</p>	<p><a href="http://www.glaucoma-association.com">www.glaucoma-association.com</a>  <b>Phone: 01233 64 81 70</b></p>
<p>You should be given information on local sight-support services.</p> <p>You should be given advice on rights and responsibilities in line with current DVLA requirements.</p>	<p><a href="http://www.rnib.org.uk">www.rnib.org.uk</a>  <a href="http://www.glaucoma-association.com">www.glaucoma-association.com</a>  <b>Phone: 01233 64 81 70</b></p>
<p>The Certificate of Blindness or Defective Vision should be explained as appropriate.</p> <p>You should be offered face-to-face and written information.</p> <p>You should be made aware that glaucoma runs in families and that your close family members over the age of 40 might want to have eye tests.</p> <p>You should be offered the opportunity to ask questions.</p>	<p><a href="http://www.gov.uk/glaucoma-and-driving">www.gov.uk/glaucoma-and-driving</a>  <b>Phone: 0300 790 6806</b></p> <p><a href="http://www.rnib.org.uk">www.rnib.org.uk</a>  <a href="http://www.glaucoma-association.com">www.glaucoma-association.com</a>  <b>Phone: 01233 64 81 70</b></p>

I knew nothing about glaucoma.  
I got a leaflet given to me and  
it helped me to understand it.

**Nancy, age 69**

**You can use this space to write down any questions you have.**

# Being discharged from hospital

Most patients with glaucoma will be monitored by hospital eye-care services. Sometimes, people may have follow-up appointments with an appropriately qualified optometrist outwith the hospital. If it is right for you, the hospital specialist will discuss this with you and discharge you to the care of an optometrist.

## What are the reasons for being discharged from an eye specialist?



### Recommendation

- Your eye pressure is at a level that does not need treatment and your eyes when examined are otherwise normal.
- Your eye pressure is at a level that does not need treatment. Your eyes when examined are otherwise normal and you are at low risk of vision loss caused by glaucoma.
- Your eye pressure is at a level that needs treatment and is now stable. It is possible for you to be monitored through follow-up appointments with your optometrist.
- You have primary-angle closure after surgery to your eye. You are not on any medication and there is no sign of glaucoma.
- You are being treated for glaucoma which is working well. After discussion with your hospital eye specialist, they have decided that it is best for you, at the moment, to go to a local optometrist with special skills in glaucoma.

## What information should be in my discharge letter?



### Recommendation

#### Your discharge letter should contain:

- Information about you, such as your date of birth and address;
- Details about your condition, including the type of glaucoma and results of the latest tests outlined on page 13;
- Information about your medication;
- Information on allergies or reactions to medication;
- Details of why and when to refer you back to the eye specialist, for example defined eye pressure; and
- Contact details for being referred back to an eye specialist in case you need to go back to hospital eye services again.

The hospital should send a copy of your discharge letter to your optometrist and your GP. It is useful for you to have a copy of your discharge letter in case you visit a different optometrist in the future.

You can imagine my shock when one day my consultant said to me that maybe I shouldn't be driving. **Derek, aged 65**

## What information should I be offered when I'm discharged?



### Information

#### **You should be offered:**

- Written information on glaucoma
- Instructions on when and how to use your medication
- An explanation of the importance of eye hygiene
- A chance to talk about the side effects of any medication and how your medication should be stored
- A chance to discuss driving when you have glaucoma
- A clear explanation of the importance of going to your follow-up appointments.

**You can use this space to write down information about your medication.**

# Where can I get more help?

## **Driver and Vehicle Licensing Agency (DVLA)**

Phone: **03007 906 8806**

**[www.gov.uk/driving-medical-conditions](http://www.gov.uk/driving-medical-conditions)**

The DVLA issues driving licences and keeps a database of drivers and vehicles. It has information on driving when you have a medical condition.

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## **IGA – International Glaucoma Association**

Woodcote House, 15 Highpoint  
Business Village, Henwood,  
Ashford, Kent TN24 8DH

Phone: **01233 648 179**

Helpline: **01233 648 170**

(open Monday to Friday  
from 9.30am to 5pm)

Email: **[info@iga.org.uk](mailto:info@iga.org.uk)**

**[www.glaucoma-association.com](http://www.glaucoma-association.com)**

IGA is a UK charity which works to prevent glaucoma blindness by providing information, literature, advice and support groups. You can find details of support groups in Scotland by contacting the helpline.

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## **NHS Inform**

**[www.nhsinform.co.uk](http://www.nhsinform.co.uk)**

NHS Inform provides quality-assured health information for the public.

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## **Royal College of Ophthalmologists**

**[www.rcophth.ac.uk/patients/](http://www.rcophth.ac.uk/patients/)**

This organisation produces a range of patient booklets which you can download from the internet.

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## **Royal National Institute of Blind People (RNIB)**

Phone: **0303 123 9999**

Email: **[helpline@rnib.org.uk](mailto:helpline@rnib.org.uk)**

RNIB provides practical and emotional support for people affected by sight loss.

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## **Sightline**

**[www.sightlinedirectory.org.uk](http://www.sightlinedirectory.org.uk)**

Sightline is an online directory of services and organisations that help blind and partially sighted people in the UK.

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# How are SIGN guidelines produced?

Our guidelines are based on the most up-to-date scientific evidence. We read research papers to find evidence for the best way to diagnose, treat and care for patients. If we cannot find this out from the research evidence, we ask healthcare professionals to use their clinical experience and judgment to suggest treatments.



1

Identify questions



4

Make judgements  
& recommendations



2

Search for evidence



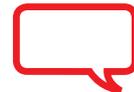
5

Publish



3

Look at the evidence



6

Let everybody know  
about our guidelines

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You can read more about us by visiting [www.sign.ac.uk](http://www.sign.ac.uk) or you can phone **0131 623 4720** and ask for a copy of our booklet '*SIGN guidelines: information for patients, carers and the public*'.

**The Scottish Intercollegiate Guidelines Network (SIGN) writes guidelines which give advice for healthcare professionals, patients and carers about the best treatments that are available.**

We write these guidelines by working with healthcare professionals, other NHS staff, patients, carers and members of the public. If you would like a copy of this booklet in another language or format, please phone Karen Graham, Patient Involvement Officer, on **0131 623 4740**, or email her at [karen.graham2@nhs.net](mailto:karen.graham2@nhs.net).



[www.sign.ac.uk](http://www.sign.ac.uk)

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[www.healthcareimprovementscotland.org](http://www.healthcareimprovementscotland.org)

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The Healthcare Environment Inspectorate, the Scottish Health Council, the Scottish Health Technologies Group, the Scottish Intercollegiate Guidelines Network (SIGN) and the Scottish Medicines Consortium are key components of our organisation.

