Glaucoma is a leading cause of irreversible blindness worldwide. Over the next decade the number of people with glaucoma is predicted to increase considerably, due to our ageing population.

DOCET’s Glaucoma training resource for optometrists defines the different types of glaucoma and the risk factors involved, providing expert advice on diagnosing, investigating, managing and treating this disease. This document accompanies DOCET’s Glaucoma course.

Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1</td>
<td>Introduction</td>
<td>2</td>
</tr>
<tr>
<td>Chapter 2</td>
<td>Definitions and Classification</td>
<td>3</td>
</tr>
<tr>
<td>Chapter 3</td>
<td>Pathophysiology of glaucoma</td>
<td>5</td>
</tr>
<tr>
<td>Chapter 4</td>
<td>Incidence, associations and risk factors</td>
<td>6</td>
</tr>
<tr>
<td>Chapter 5</td>
<td>Assessment, examination and investigation part 1</td>
<td>7</td>
</tr>
<tr>
<td>Chapter 6</td>
<td>Assessment, examination and investigation part 2</td>
<td>13</td>
</tr>
<tr>
<td>Chapter 7</td>
<td>Appropriate referral</td>
<td>23</td>
</tr>
<tr>
<td>Chapter 8</td>
<td>Management and treatment</td>
<td>24</td>
</tr>
<tr>
<td>Chapter 9</td>
<td>Conclusion (&amp; Acknowledgements)</td>
<td>27</td>
</tr>
<tr>
<td>Chapter 10</td>
<td>References, Further Reading and Sources of Information</td>
<td>28</td>
</tr>
</tbody>
</table>
Chapter 1
Introduction

The incidence of glaucoma in the UK is rising. As the population grows and life expectancy increases, the age profile shifts. A greater number of older people means there are more people at high risk of developing glaucoma. Yet we know that roughly half of cases go undetected.

Glaucoma is becoming a serious public health concern. We need to find ways of improving our ability to detect the disease, as well as how we manage and treat it.

Glaucoma can be difficult to detect. No test is perfect. Earlier detection means a better prognosis for the patient. Optometrists play a vital role in identifying patients at risk.

By knowing more about the risk factors, the clinical signs and associations with the disease, the kind of test results to look for, you are more likely to detect early clinical changes associated with glaucoma.

The aim of this training resource is to help you identify patients with glaucoma and those at risk of developing glaucoma and to refer appropriately.

A common misconception is to see the NICE guidelines as a referral guide, whereas in fact it refers to the diagnosis and management of glaucoma. The NICE guidelines do – of course - have significant implications for referral.

In this training resource we’ll be looking at:

- the definition and classification of glaucomas
- their features and causes
- the incidence, associations and risk factors of the disease
- assessment, examination and investigation
- advice on how to manage and refer appropriately; and
- management and treatment of glaucoma, suspected glaucoma and ocular hypertension.
Chapter 2
Definitions and Classification

The term glaucoma refers to a group of diseases. They all result in a progressive optic neuropathy.

Glaucomatous Optic Neuropathy, or GON, causes characteristic changes in the optic nerve and retinal nerve fibre layer. All are potentially blinding if untreated.

There are many different ways of classifying this group of diseases. For our purposes, we need to think about glaucoma in a way which helps us detect the condition early. We need to classify the different types in a way which relates to how we manage and treat them.

Glaucoma can be either primary or secondary.

- **Primary glaucoma** is unrelated to ocular or systemic disease. This type is usually bilateral and probably has a genetic basis.

- **Secondary glaucoma** has a known contribution from ocular or systemic disease and it can be unilateral or bilateral, with some having a genetic basis and others being acquired.

The glaucomas can be either chronic or acute. The most common forms are chronic, characterised by slow changes which can be difficult to detect, and that’s what we’re going to be focusing on in this training resource.

Probably the most useful classification for optometrists divides glaucomas on the basis of the mechanism underlying aqueous outflow obstruction that gives rise to elevated intra-ocular pressure.

The most common form of glaucoma is **chronic open angle glaucoma**, with the high pressure variant being **primary open angle glaucoma**. It is usually seen in patients over forty. There are many factors believed to be involved in causing chronic open angle glaucoma and we consider the main theories about causality in the next chapter.

**Closed angle glaucoma** is when there is a sudden and more complete blockage to the outflow of aqueous fluid. This causes a quick, severe, and painful rise in the pressure within the eye. Angle-closure glaucoma is a medical emergency. It may also present intermittently in a sub-acute form that optometrists need to look out for.
Some glaucoma patients have normal intra-ocular pressure. In these cases, the damage to the optic nerve may be related to abnormal blood flow, or other factors.

Patients with an IOP greater than 21mmHg in one or both eyes on more than two occasions, but where the optic disc and visual field are normal - are classified as having ocular hypertension.

Ocular hypertension isn’t really a disease, it’s simply a term we use to describe individuals who are at increased risk of developing glaucoma. These are patients we need to observe closely and check periodically for signs of glaucoma.

**In summary:**

- Glaucoma is a variable combination of raised intra-ocular pressure, visual field loss and optic nerve head damage.

- Glaucoma usually occurs in people over forty.

- Untreated, glaucoma can cause blindness.

- Because of an ageing population, glaucoma is becoming a real public health concern.
So what causes glaucomatous optic neuropathy, or GON? At a cellular level, damage to retinal ganglion cell axons as they exit the eye to form the optic nerve. We lose axons through ageing and GON is an acceleration of the rate of loss to pathophysiologic levels, resulting in vision loss.

There are three main theories about causes of glaucoma:

- **A mechanical theory** suggests that structural optic nerve head changes cause GON
  - Clinically, we know that raised IOP is significantly associated with glaucoma and that reducing IOP significantly reduces glaucoma development in certain patients
  - IOP may have a direct mechanical impact on nerve fibre bundles or - more likely - an indirect effect via morphological changes in the lamina cribrosa.

- **A vascular theory** which says that glaucoma is caused by abnormal blood flow to ganglion cell axons at the optic nerve head:
  - This either deprives the tissues of oxygen and/or reduces tissue nutrient
  - It is not yet clear whether reduced blood flow is caused by a primary pathological event, or is secondary to raised IOP
  - A number of clinical observations support the vascular theory including the association between some cardiovascular conditions and glaucoma

- **In recent years, it’s been suggested that some glaucomas may represent an auto-immune neuropathy** in which an individual’s immune system is not appropriately regulated, causing a cytotoxic effect
  - Evidence supporting this theory comes from identification of auto-immune biomarkers in the vitreous adjacent to the optic nerve head in post-mortem glaucoma patient’s eyes, and also in the serum of glaucoma patient populations.

So, you can see that there is no single distinct causal pathway leading to the events of GON. For chronic sub-types of glaucoma, it is more likely to be caused by a number of different factors and may be a balance between the different processes.
Chapter 4
Incidence, associations and risk factors

Glaucoma is the leading cause of preventable blindness in the UK.

It is responsible wholly, or in part, for about 13% of those on the blind register in England and Wales. Some form of glaucoma affects about 2% of people over the age of 40 in the UK and about 5% of over 65s.

The earlier the condition is detected, the better the outcome of treatment. So appropriate examinations during routine eye tests are vital to detect glaucoma early and prevent significant sight loss.

Here’s a reminder of the risk factors. The strongest risk factors are:

- Aging
- High intraocular pressure
- Ethnicity (Afro-Caribbean) – earlier onset and more severe in people of African origin
- Positive family history of glaucoma in a first degree relative

Other important risk factors include:

- High myopia
- Central corneal thickness less than 555 microns (0.55 mm)
- Diabetes
- Vascular factors including hypertension, acute hypotension, vasospasm

Although it’s important to gather information about family history, medical history, general health and eye health, you are most likely to detect the clinical signs of glaucoma through a structured examination of the patient.

In other words a patient examination should concentrate on the objective, analysis and planning elements of the SOAP framework.
In this chapter and the next, we’re going to look at each anatomical structure in turn and discuss the relevant signs of abnormality when checking for GON.

Examining the anterior segment of patients with - or at risk of - glaucoma is absolutely essential. It not only helps you identify important signs of glaucoma, it also helps you quantify the relevant risk factors such as IOP, drainage angle status and central corneal thickness.

Looking carefully at the anterior segment can also help you identify co-existing pathologies - whether glaucoma is related or not – and document the physical appearance of the eye as a baseline for future examinations.

It’s important to do a quantitative assessment of the anterior chamber angle using the van Herick technique - to help differentiate between open angle glaucoma and narrow angle pathology. You can see a full description of this technique in the DOCET Developing Clinical Skills course (available at www.docet.info).

Another way of measuring the anterior chamber angle is the Redmond Smith Technique.

The key considerations for the technique are:

- Optometrist views patient from straight ahead
- Patients gaze is in primary position
- Position a thin slit-lamp beam temporally at 60 degrees; orientated horizontally
- Focus the horizontal slit beam on the cornea
- Observe beam reflections from the cornea (temporal reflection) and the lens (nasal reflection)
- Adjust beam length until reflection tips just touch (Fig 1)
- Read off slit ‘height’
- Multiply by 1.4 to obtain estimate of central AC depth
  - Shallow (PACG likely) if <1.8mm;
  - Deep (PACG unlikely) if >2.5mm
Features to look for associated with glaucoma:

- **Krukenberg’s spindle** (*Fig 2*) - Pigment deposition in a vertical spindle shape can be seen on the posterior corneal surface. It is best viewed with very low ambient lighting and high magnification. It is commonly associated with Pigment Dispersion Syndrome.

The lens is best looked at through a dilated pupil so you can see a substantial proportion of the spindle.
- **Pseudoexfoliation** (*Fig 3*) - In Pseudoexfoliation Syndrome exfoliated material can be seen on the anterior surface of the lens. This is rubbed off by iris activity leaving a ring of denuded lens capsule bordered by normal central and peripheral capsule.

*Fig 3*

- **Glaukomflecken** (*Fig 4*) - In Glaukomflecken irregular anterior sub-capsular lens opacities can be seen indicating the patient has had a significant episode of acute raised pressure in the past.

*Fig 4*
An important part of the physical examination in hospital – and increasingly in optometric practice – is examining the anterior chamber angle between the iris and cornea. For this, we use a gonio lens in conjunction with a slit lamp.

**Gonioscopy:**

A gonio lens uses a mirror or prism to see the irideocorneal angle. *(Fig 5)*

**Fig 5**

Gonioscopy helps us to:

- Determine whether the angle is open or not
- Assess the proximity of angle structures
- Determine angle topography
- Identify abnormal angle features that indicate glaucoma or glaucoma risk.

Look for differences between normal and glaucomatous features:

- Pigment dispersion syndrome *(Fig 6)* - The A/C angle is often a little pigmented in normal eyes but look out for an excessive or unusually dense deposition.
Neovascular changes (Fig 7) - Normally blood vessels are not visible in the angle so look for the appearance of fine new vessels crossing between the iris surface and the scleral spur.
• Iris angle encroachment (Fig 8) - In Iris Angle Encroachment the broader peripheral anterior synechiae should be differentiated from fine physiological iris processes commonly found in normal patients.

![Fig 8](image1)

• Angle recession (Fig 9) – An unusually deep angle often following blunt trauma to the eye. It’s easier to detect if it’s regional.

![Fig 9](image2)
In this chapter, we’ll be looking at measuring intra-ocular pressure, central corneal thickness and testing the visual field. We’ll also discuss the different ways of using images to aid our investigation and assessment.

**Intraocular pressure (IOP):**

There is no doubt that high IOP is an important risk factor for primary open angle glaucoma. So what is ‘normal’ IOP:

- Current consensus defines normal IOP as between 10 mmHg and 21 mmHg

- Intraocular pressure varies during night and day.

- Diurnal variation for normal eyes is between 3 and 6 mmHg and the variation may increase in glaucomatous eyes

- During the night, IOP usually decreases due to the slower production of aqueous humour

IOP also varies with factors such as:

- Heart rate

- Respiration

- Exercise

- Fluid intake

- Systemic medication and topical drugs

- Alcohol and caffeine (which can cause a transient decrease in IOP)

The two most widely used applanation tonometers are the Goldmann applanation tonometer (GAT) and non-contact tonometers (NCTs). Here is a reminder of the important things to consider when using a non-contact tonometer.

Make sure the patient is:

- Ready

- Breathing normally

- With no tight clothing around the neck.

Before considering referral, always take four readings per eye and use the mean as the result. Only when the mean of these readings is > 21 mmHg should you consider referring the patient for further assessment assuming this is the only abnormality found.
If a patient has not had non-contact tonometry before and the mean result is >21mmHg for either eye, you should take a new set of readings. This is because research in normal eyes shows that the mean of subsequent sets of four readings will often be within the normal range.

Ideally, you should repeat suspect readings with a Goldmann type tonometer. Goldmann Applanation Tonometry (GAT) tends to be seen as the gold standard against which other tonometers are compared. Full details of GAT can be found on the DOCET Developing Clinical Skills course (available at www.docet.info).

The main points to consider in tonometry are:
- Calibration (to be sure that the instrument is going to measure accurately)
- Hand-washing/hygiene (as with any clinical procedure)
- Drug choice and instillation (appropriate checking, recording if necessary)
- Explaining to patient what will happen and why the measurement is needed
- Instrument set-up and measurement technique (noting the importance of patient comfort etc)
- Accuracy of recorded findings/writing down the result and noting the time of day

The Ocular Hypertension Treatment Study (OHTS) showed central corneal thickness (CCT) to be a powerful predictor of the development of glaucoma. Eyes with corneal thickness of 555 microns or less had a risk of developing glaucoma three times greater than those who had corneal thickness of more than 588 microns.

Reduced CCT is believed to be an independent risk factor in glaucoma. Knowing the corneal thickness helps you assess for tonometry errors and glaucoma risk.

Remember that patients who have undergone refractive laser surgery will have thinner corneas, so there is a danger of under-estimating the IOP.
Optic disc assessment:
Now the optic disc and retinal nerve fibre layers. We’ll talk about clinical examination and then the different ways of capturing images to help us detect glaucomatous changes.

Alteration in the appearance of the optic nerve head is the defining pathological feature of glaucoma, so it’s important to be clear about the appearance of a normal optic disc and how to assess for optic disc size.

The configuration of the neuro-retinal rim in a normal optic disc usually conforms to the ISNT rule. The Inferior rim is wider than the Superior rim, which in turn is wider than the Nasal rim, with the Temporal rim being the thinnest.

Features of the optic disc to investigate are:
- The lamina cribrosa
- The physiological cup
- The optic disc margins
- Disc size and Cup/Disc ratio

Cup Disc Ratio:
- Vertical disc and cup size can be determined at the slit lamp
- Use a thin vertical beam and adjust the slit height to match the cup and disc margins
- Read off the slit height
- A conversion factor is needed when using a BIO lens:
  - Superfield x 1.5
  - 90D x 1.4
  - 78D x 1.1
  - 66D x 1.0

- C/D ratio needs to be considered in the context of disc size:
  - A C/D ratio of 0.5 in a small disc of 1.2 or 1.3 mm would be abnormal
  - A C/D ratio of 0.7 in a disc height of 2.3 mm might be considered normal

- Disc and cup height can be matched to indicate risk (Fig 10)
Characteristic features of glaucomatous optic neuropathy include:

- Enlargement of optic cup and associated loss of neuroretinal rim (Fig 11)
• Loss of neuroretinal rim tissue (*Fig 12*)

*Fig 12*

- Asymmetry between the two eyes

- Vascular changes:
  - Nasal shift in blood vessels
  - Changes in configuration and calibre of disc vessels – bayoneting, fly-over vessels and circumlinear vessels (*Fig 13*)

*Fig 13*
Optic disc haemorrhages (Fig 14)– often infero-temporal and thought to be associated with normal tension glaucoma

- Increased pallor of the neuro-retinal rim (a late sign)
- Peripapillary atrophy
- Retinal nerve fibre layer (RNFL) defects

**Optic Disc Checklist**

- Is the vertical C/D ratio >0.5?
  - Is the C/D ratio consistent with disc size? *(see Fig 10)*
  - Is the cup more vertically oval than the disc?
    - Does rim configuration differ from ‘ISNT’?
      - Are there any notches or pallor regions in the NRR?
    - Are there any disc haemorrhages?
  - Is the inter-eye C/D ratio asymmetry >0.2?
    - Has there been a >0.15 change in C/D ratio?

A copy of this Optic Disc Checklist is available to download as a one-page form on the Glaucoma course page at [www.docet.info](http://www.docet.info).
Nerve fibre analysis

OCT is like ultrasound, with the reflection of waves - in this case light rather than sound - from tissue structures. The reflectance pattern is analysed and the delay in reflected signals measured and converted to depth information.

An image is achieved by scanning the wave laterally and combining a series of axial scans. OCT can measure many glaucoma parameters, including circum-papillary nerve fibre layer thickness and optic nerve topography. All these measurements can help in the diagnosis of glaucoma and in assessing how far it has progressed.

Of particular interest is the circum-papillary nerve fibre layer thickness. An OCT analysis can be presented in the form of a solid line graph showing the NFL thickness in all 4 quadrants compared to age matched norms (Fig 15). NFL thickness measures tend to follow the same ISNT relationship as for neuroretinal rim width. Figure 16 shows a NFL thickness graph from a suspect patient showing reduced thickness in the superior region (Fig 16).

Fig 15
OCT can detect very small changes, so it is particularly powerful in early detection and in managing glaucoma through the years.

Two further ways of looking at the nerve fibre layer are the Heidelberg Retina Tomograph (HRT) and the GDx test. The HRT uses a laser to take 3D photographs of the optic nerve and surrounding retina. Whereas the GDx test uses a type of scanning laser polarimeter to measure the thickness of the nerve fibre layer.

While nerve fibre analysis as a ‘stand alone’ test can’t provide a definitive diagnosis of glaucoma, it does give us useful data.

**Visual field** tests provide key information which can help identify the risk or presence of glaucoma. There are two main types of visual field loss found in glaucoma;

- **Localised**
  - Nerve fibre bundle defects, eg. an Arcuate defect (**Fig 17**)
  - Nasal step (**Fig 18**)
  - Paracentral scotomas (**Fig 19**)

- **Diffuse**
  - Of less diagnostic value
  - May be attributable to other causes, eg. Small pupils, refractive error and cataract
Key characteristics are:

- The depth of the defect – deeper defects are much more likely to be genuine

- The pattern and position of the defect – glaucoma defects occur in characteristic locations

- Clustering – missing a few spots in the same location is more suspicious

- Defects are repeatable – genuine defects are much more likely to be repeatable
Chapter 7
Appropriate referral

So how do you decide whether or not to refer a patient?

If you’re considering referring a patient on IOP grounds alone, ideally you should have used either GAT or Perkins tonometry. If not, you may need to take a mean of four readings, and possibly repeat the pressure measurement. Always take age into account in deciding whether or not to refer.

The general rule is to refer if you observe one or more of the following:

- Optic disc signs consistent with glaucoma in either eye
- IOP in either eye repeatedly exceeding 21mmHg
- A repeatable visual field defect consistent with glaucoma is detected in either eye
- A narrow – or potentially occludable -anterior drainage angle on van Herick testing consistent with a significant risk of chronic or acute angle closure within the foreseeable future
- You find conditions often associated with glaucoma. For example, pigment dispersion syndrome or pseudoexfoliation:
  - It’s important to remember that this is guidance not a protocol. So if you’re confident that in this case disease has been excluded (in this case damage from raised IOP, constant or intermittent) it is reasonable to continue to observe the patient in your practice.

If you do decide to refer a patient, give as much information to the ophthalmologist as you can, in particular your observations of the optic disc and a copy of any visual field assessment.

Much of the information above is taken from guidance which was issued jointly by the College of Optometrists and the Royal College of Ophthalmologists in December 2010. If you’re not already familiar with it, you can download it from the website of The College of Optometrists. See Chapter 10 Further Information, Resources and References for details and links.
All treatment for glaucoma is designed to reduce the level of intraocular pressure to a point at which further damage to the optic nerve is prevented. We reduce it using a variety of means including pharmacological treatment, laser treatment and surgery.

IOP-lowering treatments used to treat primary open angle glaucoma achieve their effect by altering the aqueous dynamics – either suppressing aqueous production or increasing outflow.

The first stage of treatment for glaucoma is usually medical (eye drops) and is generally the first choice of treatment for the majority of glaucoma patients. These drugs are split into 2 main groups:

**Beta-blockers**

- These work by reducing aqueous production
- They can be used in all types of glaucoma
- Advantages: They are effective and have relatively few local side effects
- Disadvantages: They usually needed to be used twice a day and there are possible side-effects when interacting with systemic medications. This may result in hypotension, bradycardia, breathing difficulties or bronchospasm

**Prostaglandin Analogues (PGA)**

- These work by increasing aqueous outflow
- They are very effective producing approximately 25-30% reduction in IOP with 1 daily dose
- The 4 most commonly available, Latanoprost, Travoprost, Bimatoprost, and Tafluprost are the usual drugs of choice
- Local side-effects include burning, stinging and hyperaemia, irreversible iris hyperpigmentation, increased lash length and thickness
- Systemic side-effects rare
In general, laser and surgical treatments are used on patients with specific clinical scenarios and after unsuccessful or unsatisfactory medical management including insufficient IOP control, progressive disease, adverse effects or inadequate compliance with pharmacological therapies.

Laser irradiation of the trabecular meshwork – trabeculoplasty - lowers IOP by mechanical and biological stimulation to lower resistance to aqueous outflow.

- **Argon laser trabeculoplasty** (ALT) – older technique surpassed by newer techniques
- **Selective laser trabeculoplasty** (SLT) – this newer technique is as effective but causes less damage to surrounding tissues and less pain for the patient

**Cyclodiode laser treatment** is a different form of treatment often done in an operating theatre under anaesthesia. In this treatment a laser is applied to the ciliary body with the aim of destroying intraocular producing cells.

There are two main types of surgery for glaucoma – penetrating and non-penetrating surgery.

**Penetrating surgery** - specifically trabeculectomy - is the most common intervention in the UK. Trabeculectomy creates an artificial drainage channel through the sclera that bypasses the trabecular meshwork and connects the anterior chamber to the subconjunctival space.

**Non-penetrative surgery** aims to enhance the existing drainage channel rather than create a new one. It tends to require less intensive follow-up. Options are:

- Viscocanalostomy
- Deep sclerectomy
- Canaloplasty

  These work by enhancing a person’s natural drainage channel.

- **Trabectome**

  This works by removing the resistive film of the drainage channel to increase aqueous outflow

- **iStent**

  This increases outflow by inserting stents into the natural drainage channel
What about managing patients with ocular hypertension?

As a general guide, you decide to treat when the risk factors outweigh the disadvantages of treatment. The main aim is to lower IOP to a level which is safe for that individual patient – at least a 20% reduction.

A constant IOP of >32mmHg merits treatment in view of the risk of mechanical damage to the optic nerve head, but many glaucoma specialists will treat an IOP of consistently 28-30mmHg or more in the absence of risk factors with the decision being based on perceived risk.

The NICE guidelines describe a pathway for the monitoring of people with OHT or who are glaucoma suspects, and a treatment algorithm based on CCT, untreated IOP and age.

Remember to take age into account in your decision, the risk of glaucoma being greater for people over 65.
Conclusion

Given that glaucoma is a significant cause of visual morbidity throughout the world and is the second most common cause of visual impairment in the UK, community optometrists play a vital role in detecting glaucoma early and identifying patients who are at risk.

Treatment for glaucoma is highly effective and in the vast majority of cases useful sight can be retained - for life.

You can ensure patients have access to appropriate information, advice and support such as those produced by the International Glaucoma Association and the RNIB, by giving them leaflets or referring them to websites.

We hope you have found this training resource useful and that it helps you manage your patients more efficiently.

Acknowledgements

DOCET would like to thank the following for their contribution to the Glaucoma programme:

Dr Robert Harper – Optometrist Consultant, Manchester Royal Eye Hospital and Senior Lecturer, University of Manchester

John Tickner – Glaucoma Specialist Optometrist, Howie & Tickner Optometrists

Leon Au – Consultant Glaucoma Specialist, Manchester Royal Eye Hospital

Professor John Lawrenson - Professor of Clinical Optometry and Director of Postgraduate Programme, City University

For a full list of programme credits please visit the Glaucoma course page at www.docet.info

Images

All the images used in this document are taken from DOCET’s Glaucoma course. For a full list of credits for all images go to the Glaucoma course page at www.docet.info
Further useful information about glaucoma, including helpful patient information leaflets, is available from the following sources:

**International Glaucoma Association**

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


**RNIB**

[www.rnib.org.uk](http://www.rnib.org.uk)

The **College of Optometrists** has published a range of professional guidance documents relating to glaucoma, including:

- **Examining patients at risk from Glaucoma**
- **Joint Supplementary College Guidance on Supervision in relation to Glaucoma-related Care by Optometrists**
- **Guidance on the referral of Glaucoma suspects by community optometrists**
- **Clinical management guidelines**
- **Glaucoma (primary angle closure) (PACG)**
- **Ocular Hypertension**

You will find links to all these further resources in the Glaucoma course on the DOCET website [www.docet.info](http://www.docet.info)