

# THE COLLEGE OF OPTOMETRISTS



## HIGHER QUALIFICATIONS INFORMATION PACK

### Glaucoma A

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## The College of Optometrists

<b>Certificate:</b>	Glaucoma A	<b>Module:</b>	1
<b>Module Title:</b>	Epidemiological aspects of glaucoma.		
<b>Module Size:</b>	10 credits		
<b>Assessment:</b>	Modules 1, 2 & 3 of the Certificate in Glaucoma are assessed together.		
<b>Pre-requisites:</b>	None	<b>Co-requisites:</b>	Modules 2 & 3

### **Aims and Objectives:**

To provide a basis for the subsequent modules in glaucoma.

### **Learning Outcomes:**

A level of knowledge and experience sufficient to work in a referral refinement service. A comprehension of the different types of glaucoma; a knowledge of the prevalence of, and risk factors for, the glaucomas; an understanding of the associated visual impairment and of the available welfare support services.

### **Learning Strategies:**

We are not able to offer training for this qualification. However, the following might be useful: distance learning courses, workshops on glaucoma (e.g. DOCET, Royal College of Ophthalmology, etc) and private study.

We also recommend that you attend clinics at Eye Departments.

### **Outline Syllabus:**

#### Classifications

1. Common glaucomas
  - a. Open angle
    - primary open angle
    - ocular hypertension
    - glaucoma suspect,
    - low/normal tension
    - pseudo exfoliation
    - pigmentary dispersion
  - b. Closed angle
    - primary
      - acute angle closure
      - chronic angle closure
    - secondary
      - neovascular
      - inflammatory
      -
2. Less common glaucomas
  - a. Open angle
    - secondary
      - trauma
      - steroid related

- b. Closed angle
  - secondary
    - lens related
- c. Congenital
  - primary
  - secondary
    - Sturge-Weber
- d. Hereditary
  - mesodermal dysgenesis
  - juvenile autosomal dominant

#### Principles and practice of screening

- a. Prevalence
- b. Risk factors
- c. Screening and case detection (WHO criteria)
- d. Sensitivity and specificity of investigative techniques (predictive power)

#### Visual impairment and welfare support services

- a. Definitions and benefits (blindness, partial sight)
- b. Criteria for driving

#### Suggested Reading:

##### ***Glaucoma texts:***

HITCHINGS RA. Glaucoma. BMJ Publishing group, 2000.

RITCH R, SHIELDS MB and KRUPIN T. The Glaucomas (Volumes I, II and III, 2<sup>nd</sup> edition) Mosby (St Louis). 1996.

SALMON, John and Kanski Jack J. Glaucoma: A Colour Manual of Diagnosis and Treatment – 3<sup>rd</sup> ed.

SHIELDS MB. Textbook of Glaucoma (NEW 5<sup>th</sup> Edition) by rand Allingham et al., LWW publ.

STAMPER RL, LIEBERMAN MF, DRAKE MV. Diagnosis and therapy of the glaucomas (seventh edition) Mosby, (St Louis). 1999.

##### ***Selected papers/journals:***

GUTIERREZ P et al. Influence of glaucomatous visual field loss on health-related quality of life. *Arch Ophthalmol* 1997, **115**: 777-784.

FINGERET M, JOHNSON CA, (Eds) Feature issue on Glaucoma. IN: *Optometry and Vision Science* 1999, 76: 515-598.

HARPER R, HENSON DB Eds. Glaucoma (feature issue) *CE Optometry* 2000, **3** (1): 1-44. (Rila Publications Ltd).

TIELSCH J M, KATZ J, SINGH K et al. A population based evaluation of glaucoma screening: The Baltimore Eye Survey. *Am J Epidemiol* 1991; **134**: 1102-10.

## The College of Optometrists

<b>Certificate:</b> Glaucoma A	<b>Module:</b> 2
<b>Module Title:</b> Examination techniques for the glaucomas - diagnosis.	
<b>Module Size:</b> 10 credits	
<b>Assessment:</b> Modules 1, 2 & 3 of the Certificate in Glaucoma are assessed together.	
<b>Pre-requisites:</b> None	<b>Co-requisites:</b> Modules 1 & 3
<p><b>Aims and Objectives:</b></p> <p>To provide a comprehensive learning experience of the examination techniques associated with the glaucomas.</p>	
<p><b>Learning Outcomes:</b></p> <p>A level of knowledge and experience sufficient to work in a referral refinement service. Enhanced standards of expertise in the use of direct ophthalmoscopy, slit-lamp binocular indirect ophthalmoscopy, Goldmann applanation tonometry, gonioscopy, anterior segment slit-lamp examination for the examination of the glaucomas.</p>	
<p><b>Learning Strategies:</b></p> <p>We are not able to offer training for this qualification. However, the following might be useful: distance learning courses, workshops on glaucoma (e.g. DOCET, Royal College of Ophthalmology, etc) and private study.</p> <p>We also recommend that you attend clinics at Eye Departments.</p>	
<p><b>Outline Syllabus:</b></p> <p>Optic disc assessment</p> <ol style="list-style-type: none"> <li>a. Direct ophthalmoscopy</li> <li>b. Slit lamp biomicroscopy             <ol style="list-style-type: none"> <li>1. indirect lenses (+78D, +90D, Hruby)</li> <li>2. Goldmann lenses</li> </ol> </li> <li>c. Descriptive evaluation             <ol style="list-style-type: none"> <li>1. neural rim loss</li> <li>2. cupping                 <ol style="list-style-type: none"> <li>a. focal</li> <li>b. diffuse</li> </ol> </li> <li>3. pallor</li> <li>4. peripapillary atrophy</li> <li>5. vessel displacement</li> <li>6. visibility of lamina</li> <li>7. disc haemorrhage</li> <li>8. peripapillary retinal nerve fibre layer</li> <li>9. asymmetry</li> </ol> </li> <li>d. Semi-quantitative             <ol style="list-style-type: none"> <li>1. vertical cup to disc ratio</li> <li>2. size, shape and tilt.</li> </ol> </li> </ol>	

Tonometry	<ul style="list-style-type: none"> <li>e. Photography/imaging             <ul style="list-style-type: none"> <li>1. retinal tomography</li> </ul> </li> <li>a. Contact (applanation)</li> <li>b. Non-contact</li> <li>c. Recognition of artefact</li> <li>d. Validity/reliability</li> </ul>
Anterior segment slit-lamp examination	<ul style="list-style-type: none"> <li>a. Conventional examination             <ul style="list-style-type: none"> <li>1. pigment dispersion</li> <li>2. pseudo-exfoliation</li> </ul> </li> <li>b. Anterior chamber depth             <ul style="list-style-type: none"> <li>1. central</li> <li>2. peripheral</li> </ul> </li> <li>c. Gonioscopy</li> </ul>
Pupil responses	

**Suggested Reading:**

***Glaucoma texts:***

EDGAR & RUDNICKA, Glaucoma Identification & co Management. Butterworth Heinemann Elsevier (Edinburgh) 2007.

DRANCE, S.M. Optic Nerve in Glaucoma. Kugler Publications, (Amsterdam). 1995.

HITCHINGS, R.A. Glaucoma. BMJ Publishing group, 2000.

JONAS

RITCH, R., SHIELDS, M.B. and KRUPIN, T. The Glaucomas (Volumes I, II and III) Mosby, (St Louis). 1996.

SHIELDS, M.B. Textbook of Glaucoma (4<sup>th</sup> Edition) Williams and Wilkins (Baltimore), 1998.

VARMA, R. and SPAETH, G.L. The Optic Nerve in Glaucoma. Lippincott, (Philadelphia), 1993

ALWARD, WLM, Colour Atlas of Gonioscopy. Foundation of the American Academy of Ophthalmology, 2001 (also available as [www.gonioscopy.org](http://www.gonioscopy.org)).

***Selected papers:***

FENERTY, C. Gonioscopy. Optometry in Parctice 2007; 8(3): 105-114.

JONAS, J.B, BUDDE, W, PANDA-JONES, S. Ophthalmoscopic evaluation of the optic nerve head. *Surv Ophthalmol* 1999; **43**:293-320.

HARDING A, HARPER RA, The glaucomatous disc:taking a closer look. Optometry in Parctice 2007; 8(4): 151-162.

VERNON, S.A. Clinical optic disc assessment. IN: Harper, R., Henson, D.B. Eds. Glaucoma (feature issue) *CE Optometry* 2000, **3** (1): 1-44. (Rila Publications Ltd).

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<b>Certificate:</b>	Glaucoma A	<b>Module:</b>	3
<b>Module Title:</b>	Visual field examination in glaucoma		
<b>Module Size:</b>	10 credits		
<b>Assessment:</b>	Modules 1, 2 & 3 of the Certificate in Glaucoma are assessed together.		
<b>Pre-requisites:</b>	None	<b>Co-requisites:</b>	Modules 1 & 2
<b>Aims and Objectives:</b>			
<p>To gain a comprehensive theoretical and practical knowledge of automated static suprathreshold and threshold perimetric techniques with particular emphasis on examination of the glaucomas. Mandatory attendance at an approved eye department.</p>			
<b>Learning Outcomes:</b>			
<p>A level of knowledge and experience sufficient to work in a referral refinement service. Enhanced standards of expertise in the use of automated static (threshold) perimetry for the detection and follow-up of the glaucomas.</p>			
<b>Learning Strategies:</b>			
<p>We are not able to offer training for this qualification. However, the following might be useful: distance learning courses, workshops on glaucoma (e.g. DOCET, Royal College of Ophthalmology, etc) and private study.</p> <p>We also recommend that you attend clinics at Eye Departments.</p>			
<b>Outline Syllabus:</b>			
Basic concepts			
<ol style="list-style-type: none"> <li>1. principles of perimetry               <ol style="list-style-type: none"> <li>a. examination strategies</li> <li>b. stimulus parameters</li> <li>c. reliability criteria</li> <li>d. derivation of abnormality</li> </ol> </li> <li>2. types of field loss               <ol style="list-style-type: none"> <li>a. location, pattern, (focal/diffuse)</li> <li>b. modes of progressive loss</li> </ol> </li> <li>3. problems with interpretation               <ol style="list-style-type: none"> <li>a. recognition of artefacts</li> <li>b. non-glaucomatous loss</li> </ol> </li> </ol>			
<b>Suggested Reading:</b>			
<b><i>Glaucoma texts:</i></b>			
<p>ANDERSON, D.R. and PATELLA, V. Automated Static Perimetry, Mosby (St Louis) 1998.          BUDENZ, D.L. Atlas of Visual Fields, Lippincott Raven (Philadelphia) 1997.          EDGAR &amp; RUDNICKA, Glaucoma Identification &amp; Co Management.          HENSON, D.B. Visual Fields. Butterworths, (Oxford), 2000.          RITCH, R., SHIELDS, M.B. and KRUPIN, T. The Glaucomas (Vol I, II and III) Mosby, (St Louis). 1995.</p>			

SHIELDS, M.B. Textbook of Glaucoma (4<sup>th</sup> Edition), Williams and Wilkins (Baltimore), 1998.  
WEBER, J. and CAPRIOLI, J. Atlas of computerised perimetry. WB Saunders, 2000.

***Selected papers/journals:***

FINGERET, M, JOHNSON, C.A, (Eds) Feature issue on Glaucoma. IN: *Optometry and Vision Science* 1999, 76: 515-598.

LIEBMANN, J.M, (Ed) Glaucoma diagnosis and management. Ophthalmology series of North America, vol 13 (3), September 2000.

SPONSEL, W.E., RITCH, R., STAMPER, R. et al. Prevent blindness America visual field screening study. *Am J Ophthalmol* 1995; 120: 699-708.

SPRY P.G.D., JOHNSON C A, *Advances in Automated Perimetry*. American Academy of Ophthalmology Focal Point. Vol XX (10) 2002.

SPRY, P.G.D. and JOHNSON, C.A. Identification of progressive glaucomatous visual field loss. *Survey Ophthalmology* 2002, 47:158-173.

WALSH TJ, *Examination and Interpretation* . American Academy of Ophthalmolgy. Ophthalmology Monograph 03: Visual Fields.