

# THE COLLEGE OF OPTOMETRISTS



## HIGHER QUALIFICATIONS INFORMATION PACK

### Rehabilitation of Visual Impairment B

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## The College of Optometrists

<b>Certificate:</b>	Rehabilitation of Visual Impairment B	<b>Module:</b> 1
<b>Module Title:</b>	Disease causing low vision.	
<b>Module Size:</b>	10 credits	
<b>Assessment:</b>	Modules 1, 2 & 3 of Certificate B are assessed together.	
<b>Pre-requisites:</b>	Rehabilitation of Visual Impairment Certificate A	<b>Co-requisites:</b> Modules 2 & 3

### Aims and Objectives:

To be familiar with the most common diseases which result in low vision and to know about their prognosis, genetic basis and available treatments.

### Learning Outcomes:

To be able to provide basic counselling and have an informed viewpoint on the usual progression, visual function impairment, genetic links and up-to-date treatment options for the most common diseases which result in low vision. To determine what changes in a condition constitute the need for a further ophthalmological opinion and how best the patient should be monitored within optometric practice

### Learning Strategies:

Attendance at low vision courses and conferences; placements in low vision rehabilitation centres and ophthalmological clinics; reading the identified text books and academic journals.

### Outline Syllabus:

#### Details of:

- Typical progression
- Endpoint of visual function impairment
- Related conditions
- Effect on an individual and their family/friends
- Genetic basis
- Treatment options and research
- Special rehabilitation strategies
- Ocular and systemic features of the disease
- How to monitor the condition and what changes constitute a further ophthalmological opinion
- Sources of information and disease specific help groups

#### Disease conditions:

- Age-related macular degeneration
- Albinism (ocular and ocutaneous)
- Aniridia
- Coloboma / subluxation of lens
- Cataract (congenital and adult)
- Diabetic retinopathy
- Glaucoma (open and closed angle)

- Optic neuropathy (optic atrophy and neuritis)
- Macular Dystrophies (such as Stargardt's and Best's)
- Multiple sclerosis
- Myopia (pathological)
- Retinal detachment
- Retinitis pigmentosa
- Retrolental Fibroplasia / retinopathy of prematurity
- Vascular retinopathies (cerebral vascular accident, systemic hypertension, retinal artery and vein occlusions)

### Indicative Reading:

#### BOOKS

- BERGER et al , Age-related Macular Degeneration Mosby (St Louis) 1999.  
 DICKINSON, C Low vision – principles and practice. Butterworth Heinemann (Oxford) 1998.  
 FARRALL, H Optometric management of visual handicap. Blackwells (London) 1991.  
 FAYE, EE Clinical low vision. [Ch 13. Case management in twenty-six common conditions 257-325] Little, Brown & Co 1984.  
 KANSKI, JJ Clinical ophthalmology. Butterworth-Heinemann (Oxford) 1992.  
 ROSENTHAL, BP and COLE, RG Functional assessment of low vision. Mosby (St Louis) 1996.  
 TAYLOR, D and HOYT, C Practical paediatric ophthalmology. Blackwell Science (Oxford) 1997.

#### JOURNAL ARTICLES

- General optometric and ophthalmological journals, including:  
 Cleary PA, Beck RW, Bourque LB, Backlund JC, Miskala PH. (1997) Visual symptoms after optic neuritis: results from the optic neuritis treatment trial. *Journal of Neuro-Ophthalmology* **17**:18-28.  
 De-Zheng W, Lezheng W, Fu-Xiang C, Chenjin J, William P. (1995) Visual rehabilitation in low vision patients with ageing macular degeneration. *Journal of the American Optometric Association* **66**:39-41.  
 Donoso, LA Edwards, AO Frost, A Vrabec, T Stone, EM Hageman, GS Perski, T (2001) Autosomal dominant Stargardt-like macular dystrophy. *Survey of Ophthalmology* **46**; 149-163.  
 Lowe, J Drasdo, N (1992) Patients' responses to retinitis pigmentosa. *Optometry and Vision Science* **69**:182-185.  
 Mackenzie,PJ Chang,TS Scott,IU Linder,M Hay,D Feuer,WJ and Chambers,K (2002) Assessment of vision-related function in patients with age-related macular degeneration. *Ophthalmology* **109**;720-729.  
 Mills,RP Drance,SM (1986) Esterman disability rating in severe glaucoma. *Ophthalmology* **93**:371-378.  
 Nelson, LB Spaeth,GL Nowinski,TS Margo,CE Jackson, L (1984) Aniridi – a review. *Survey of Ophthalmology* **28**; 621-642.  
 Nilsson,UL and Nilsson,SEG (1986) Rehabilitation of the visually handicapped with advanced macular degeneration. *Documenta Ophthalmologica* **62**; 345-367.  
 Parrish,RK (1996) Visual impairment, visual functioning, and quality of life assessments in patients with glaucoma. *Transactions of the American Ophthalmological Society* **19**;919-1028.  
 Phelan, JK Bok, D (2000) A brief review of retinitis pigmentosa and the identified retinitis pigmentosa genes. *Molecular Vision* **6**; 116-124.  
 Scott,IU Feuer,WJ and Jacko,JA (2002) Impact of visual function on computer task accuracy and reaction time in a cohort of patients with age-related macular degeneration. *American Journal of Ophthalmology* **133**; 350-357.  
 Temel,A Kazokoglu,H (1991) Low-vision aids in Stargardt's disease. *Ophthalmologica* **202**:142-146.  
 Woodgush, HG (1989) Retinitis pigmentosa research – a review. *Journal of the Royal Society of Medicine* **82**; 355-358.

## The College of Optometrists

<b>Certificate:</b>	Rehabilitation of Visual Impairment B	<b>Module:</b> 2
<b>Module Title:</b>	Non-optical aids and training in low vision rehabilitation.	
<b>Module Size:</b>	10 credits	
<b>Assessment:</b>	Modules 1, 2 & 3 of Certificate B are assessed together.	
<b>Pre-requisites:</b>	Rehabilitation of Visual Impairment Certificate A	<b>Co-requisites:</b> Modules 1 & 3

### **Aims and Objectives:**

To have a knowledge of a wide range of non-optical aids and their integration into rehabilitation of the visually impaired. To comprehend how the home environment differs from the ideal clinical situation. To have a knowledge of mobility, eccentric viewing and activities-of-daily-living training strategies and how these can be taught. To appreciate the psychological aspects of sight loss.

### **Learning Outcomes:**

To be better able to provide or refer appropriate patients for non-optical aid, mobility, eccentric viewing or other activities-of-daily-living training. To be able to advise on visually optimising the home environment. To be able to assess the psychological state of a patient to optimise your rehabilitation.

### **Learning Strategies:**

Attendance at low vision courses and conferences; placements in low vision rehabilitation centres and shadowing rehabilitation or social workers; visiting an charity or hospital adaptive aid centre; reading the identified text books and academic journals.

### **Outline Syllabus:**

#### **Assessment of Patient's Environment**

- Principals of systematic task analysis:
  - person's description of their vision
  - managing in the home (daily living skills)
  - coping with information
  - mobility
  - leisure
  - employment

#### **Adaptations**

- Lighting
- Contrast
- Labelling
- Marking
- Layout

- Non-optical aids
  - use
  - availability
  - improvisation
  - sensory substitution

### **Training**

- Relationship between task performance and measures of visual function
- Benefits and evidence base
- Practical routine:
  - review of goals
  - posture
  - strategies:
    - steady eye
    - eccentric viewing
    - change line
  - maintenance
  - use of lighting

### **Mobility and Orientation**

- Definitions of mobility and orientation
- Use of mobility aids
- Training strategies
- Integration of optical aids into strategy

### **Psychological Status**

- Loss model
- Stress/coping theory
- Relationship to rehabilitation 'success'

### **Indicative Reading:**

#### **BOOKS**

- COLE, RG and ROSENTHAL, BP Remediation and management of low vision. Ed London, R Mosby (St Louis) 1996
- DICKINSON, C Low vision – principles and practice. Butterworth Heinemann (Oxford) 1998.
- FARRALL, H Optometric management of visual handicap. Blackwells (London) 1991.

#### **JOURNAL ARTICLES**

- Abrahamsson, M Carlsson, B Tornqvist, M Sterner, B Sjostrand, J (1996) Changes of visual function and visual ability in daily life following cataract surgery. *Acta Ophthalmologica (Scand)* **74**;69-73.
- Brabyn, JA Haegerstrom-Portnoy, G Schneck, ME Lott, LA (2000) Visual impairments in elderly people under everyday viewing conditions. *Journal of Visual Impairment and Blindness* **94**; 741-755.
- Cullinan, TR Silver, JH Gould, ES Irvine, D (1979) Visual disability and home lighting. *Lancet* **1**; 642-644.
- Dodds, AG Bailey, P Pearson, A Yates, L (1981) Psychological factors in acquired visual impairment: the development of a scale of adjustment. *Journal of Visual Impairment and Blindness* **75**;306-310.

- Frennesson, C Jakobsson, P Nilsson, UL (1995) A computer and video display based system for training eccentric viewing in macular degeneration with an absolute central scotoma. *Documenta Ophthalmologica* **91**; 6-16.
- Goodrich, GL Mehr, EB (1986) Eccentric viewing training and low vision aids – current practice and implications of peripheral retina research. *American Journal of Optometry and Physiological Optics* **63**; 119-126.
- Haymes, S Guest, D Heyes, A Johnston, A (1996) Mobility of people with retinitis pigmentosa as a function of vision and psychological variables. *Optometry and Vision Science* **73**; 621-637.
- Haymes, SA Johnston, AW Heyes, AD (2002) Relationship between vision impairment and ability to perform activities of daily living. *Ophthalmic and Physiological Optics* **22**; 79-91.
- Kuyk, T Elliott, JL (1999) Visual factors and mobility in persons with age-related macular degeneration. *Journal of Rehabilitation Research and Development* **36**; 303-312.
- Kuyk, T Elliott, JL Fuhr, PSW (1998) Visual correlates of mobility in real world settings in older adults with low vision. *Optometry and Vision Science* **75**; 538-547.
- Lindner, H Rinnert, T and Behrens-Baumann, W (2001) Illumination conditions of visually impaired people under private domestic circumstances - clinical study on 91 patients. *Klinische Monatsblätter für Augenheilkunde* **218**; 774-781.
- Nilsson, UL Frennesson, C Nilsson, EG (1998) Location and stability of a newly established eccentric retinal locus suitable for reading, achieved through training of patients with a dense central scotoma. *Optometry and Vision Science* **75**; 873-878.
- Robbins, HG McMurray, NE (1988) Psychological and visual factors in low vision rehabilitation of patients with age related maculopathy. *Journal of Visual Rehabilitation* **2**; 11-21.
- Rovner, BW Casten, RJ and Tasman, WS (2002) Effect of depression on vision function in age-related macular degeneration. *Archives of Ophthalmology* **120**; 1041-1044.
- Rubin, GS Bandeen-Roche, K Huang, GH Munoz, B Schein, OD, Fried, LP West, SK (2001) The association of multiple visual impairments with self-reported visual disability: SEE project. *Investigative Ophthalmology and Visual Science* **42**; 64-72.
- Soong, G Lovie-Kitchin, JE and Brown, B (2001) Does mobility performance of visually impaired adults improve immediately after orientation and mobility training? *Optometry and Vision Science* **78**, 657-666.
- Szlyk, JP Seiple, W Fishman, GA Alexander, KR Grover, S Mahler, CL (2001) Perceived and actual performance of daily tasks: Relationship to visual function tests in individuals with retinitis pigmentosa. *Ophthalmology* **108**; 65-75.
- Tejeria, L Harper, RA Artes, PH Dickinson, CM (2002) Face recognition in age related macular degeneration: perceived disability, measured disability, and performance with a bioptic device. *British Journal of Ophthalmology* **86**; 1019-1026.
- Turano, KA Rubin, GS Quigley, HA (1999) Mobility performance in glaucoma. *Investigative Ophthalmology and Visual Science* **40**; 2803-2809.
- Turano, KA Massof, RW Quigley, HA (2002) A self-assessment instrument designed for measuring independent mobility in RP patients: Generalizability to glaucoma patients. *Investigative Ophthalmology and Visual Science* **43**; 2874-2881.
- Verezen, CA VolkerDieben, HJ Hoyng, CB (1996) Eccentric viewing spectacles in everyday life, for the optimum use of residual functional retinal areas, in patients with age-related macular degeneration. *Optometry and Vision Science* **73**; 413-417.

<b>The College of Optometrists</b>		
<b>Certificate:</b>	Rehabilitation of visual impairment B	<b>Module:</b> 3
<b>Module Title:</b>	Models of rehabilitation and measurement of outcomes	
<b>Module Size:</b>	10 credits	
<b>Assessment:</b>	Modules 1, 2 & 3 of Certificate B are assessed together.	
<b>Pre-requisites:</b>	Rehabilitation of Visual Impairment Certificate A	<b>Co-requisites:</b> Modules 1 & 2
<b>Aims and Objectives:</b>		
<p>To understand the concepts of audit, outcomes and best practice. To comprehend the development and use of quality-of-life instruments in low vision rehabilitation. To have a knowledge of different models of low vision rehabilitation used around the world, together with their strengths and weaknesses</p>		
<b>Learning Outcomes:</b>		
<p>To be better able to develop the most appropriate model of patient care. To be able to develop best practice in the provision of low vision services and to put into place audit procedures. To be able to utilise quality-of-life measurement in the provision of low vision services.</p>		
<b>Learning Strategies:</b>		
<p>Attendance at low vision courses and conferences; placements in low vision rehabilitation centres; reading the identified text books and academic journals.</p>		
<b>Outline Syllabus:</b>		
<b>Audit</b>		
<ul style="list-style-type: none"> <li>- ISO 901;2000: <ul style="list-style-type: none"> <li>- document process manual</li> <li>- continuous monitoring and record cards</li> <li>- non-compliance report highlighting leading to formation of preventative and corrective measures</li> <li>- quality procedure to examine what constitutes best practice</li> <li>- ensure and document personnel (competence, experience, skill and training) and</li> <li>- resources (including workspace, finances and equipment)</li> <li>- quantification of customer satisfaction and communication</li> <li>-</li> </ul> </li> </ul>		
<b>Quality-of Life</b>		
<ul style="list-style-type: none"> <li>- Concept</li> <li>- Instruments: <ul style="list-style-type: none"> <li>• aim and appropriateness</li> <li>• implementation methodology</li> <li>• results analysis and application</li> </ul> </li> </ul>		

## Models of Low Vision Rehabilitation

- Types:
  - hospital
  - charity
  - practice
  - domiciliary
  - multi-disciplinary
- Personnel involved and their role:
  - optometrists
  - ophthalmologists
  - social services
  - rehabilitation officers
  - occupational therapists
  - orthoptists
  - peer workers

## Indicative Reading:

### BOOKS

- COLE, RG and ROSENTHAL, BP Remediation and management of low vision. Ed London, R Mosby (St Louis) 1996
- DICKINSON, C Low vision – principles and practice. Butterworth Heinemann (Oxford) 1998.
- FARRALL, H Optometric management of visual handicap. Blackwells (London) 1991.
- STREINER, DL and NORMAN, GR Health measurement scales. A practical guide to their development and use. Oxford Medical Publications (Oxford) 1996.

### JOURNAL ARTICLES

- Carta, A Braccio, L Belpoliti, M *et al.* (1988) Self-assessment of the quality of vision: association of questionnaire score with objective clinical tests. *Current Eye Research* **17**:506-11.
- Diener-West, M Bass, EB Damiano, AM Steinwachs, DM Sommer, A (1994) An index of functional impairment in patients with cataract. *Archives of Ophthalmology* **112**; 630-638.
- Ellwei, LB Fletcher, A Negrel, AD Thulasiraj, RD (1995) Quality of life assessment in blindness prevention interventions. *International Ophthalmology* **18**;263-268.
- Elliott, DB Hurst, MA Weatherill, J (1990) Comparing clinical tests of visual function in cataract with the patient's perceived visual disability. *Eye* **4**:712-7.
- Frost, NA Sparrow, JM Durant, JS *et al.* (1998) Development of a questionnaire for measurement of vision-related quality of life. *Ophthalmic Epidemiology* **5**:185-210.
- Gutierrez, P Wilson, R Johnston, C *et al.* (1997) Influence of glaucomatous visual field loss on health-related quality of life. *Archives of Ophthalmology* **115**:777-84.
- Harper, R Doorduyn, K Reeves, B *et al.* (1999) Evaluating the outcomes of low vision rehabilitation. *Ophthalmic and Physiological Optics* **19**:3-11.
- Hoppe, E La, K McIntyre, D Toabe, M (1997) Evaluation of Low Vision services. *Optometry and Vision Science* **74**:154.
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- Mangione, CM Lee, PP Pitts, J *et al.* (1998) Psychometric properties of the National Eye Institute Visual Function Questionnaire (NEI-VFQ). *Archives of Ophthalmology* **116**:1496-504.
- Mangione, CM Phillips, RS Seddon, JM *et al.* (1992) Development of the 'activities of daily vision scale'. A measure of visual functional status. *Medical Care* **30**:1111-26.

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Neve,JJ Korten,WEM Jorritsma,FF Kinds,GF and Legein,CP (1992) The visual advice center, Eindhoven, the Netherlands - an intervenient evaluation. *Documenta Ophthalmologica* **82**;15-23.

Parrish,RK (1996) Visual impairment, visual functioning, and quality of life assessments in patients with glaucoma. *Transactions of the American Ophthalmological Society* **19**:919-1028.

Raasch,TW Leat,SJ Kleinstein,RN Bullimore,MA and Cutter,GR (1997) Evaluating the value of low-vision services. *Journal of the American Optometric Association* **68**;287-295.

Russell,W Harper,R Reeves,B Waterman,H Henson,D and McLeod,D (2001) Randomised controlled trial of an integrated versus an optometric low vision rehabilitation service for patients with age-related macular degeneration: study design and methodology. *Ophthalmic and Physiological Optics* **21**; 36-44.

Scott,IU Smiddy,WE Schiffman,J Feuer,WJ and Pappas, CJ (1999) Quality of life of low-vision patients and the impact of low-vision services. *American Journal of Ophthalmology* **128**;54-62.

Shuttleworth,GN Dunlop,A Collins,JK and James,CRH (1995) How effective is an integrated approach to low vision rehabilitation? Two year follow up results from south Devon. *British Journal of Ophthalmology* **79**;719-723.

Steinberg,EP Tielsch,JM Schein,OD, et al. (1994) National study of cataract surgery outcomes: variation in 4-month postoperative outcomes as reflected in multiple outcome measures. *Ophthalmology* **100**:1131-1141.

Steinberg,EP Tielsch,JM Schein,OD Javitt,JC Sharkey,P Cassard,SD Legro,MW (1994) The VF-14. An index of functional impairment in patients with cataract. *Archives of Ophthalmology* **112**; 630-638.

Stelmack,J (2001) Quality of life of low-vision patients and outcomes of low-vision rehabilitation. *Optometry and Vision Science* **78**; 335-342.

Wolffsohn,JS and Cochrane,AL (1999) The changing face of the visually impaired. The Kooyong low vision clinic's past, present and future. *Optometry and Vision Science* **76**; 747-754.

Wolffsohn,JS Cochrane,AL and Watt,NA (2000) Implementation methods for vision-related quality-of-life questionnaires. *British Journal of Ophthalmology* **84**;1035-1040.

Wolffsohn,JS and Cochrane,AL (2000) Design of the low vision quality of life questionnaire (LVQOL) and measuring the outcome of low vision rehabilitation. *American Journal of Ophthalmology* **130**; 793-802.