



British and Irish Orthoptic Society

**Competency Standards
and
Professional Practice Guidelines for the
Extended Role of the Orthoptist¹**

2006

British & Irish Orthoptic Society
Tavistock House North
Tavistock Square
London. WC1H 9HX

¹ Ratified by Council of The British & Irish Orthoptic Society January 2006
Published: June 2006
Review Date: January 2009

Contents

	Pages
Introduction	v
Acknowledgements	vi-vii
Section 1 Glaucoma diagnostics and monitoring services	Section 1
Patient Care	2
1.1 Patient Interview	3
1.2 Patient Assessment	4
1.3 Diagnosis	6
1.4 Management	7
1.5 Recording of Clinical Data	8
1.6 Glaucoma/Ophthalmic Investigative Procedures	10
1.7 Assessment and Management of primary open angle glaucoma, normal tension glaucoma, secondary open angle glaucoma and narrow angle glaucoma	11
1.8 Assessment and management of Ocular hypertension and glaucoma suspects	12
1.9 Assessment and management of acute angle closure glaucoma	13
Section 2 Stroke assessment and rehabilitation	Section 2
Patient Care	2
2.1 Patient Interview	3
2.2 Patient Assessment	4
2.3 Diagnosis	5
2.4 Management	6
2.5 Recording of Clinical Data	7
2.6 Stroke Investigative Procedures	9
2.7 Assessment and Management of vision disorders	11
2.8 Assessment and Management of Ocular Motility Disorders	13
2.9 Assessment and Management of Binocular Vision Defects	14
2.10 Assessment and Management of Visual Field Defects	15
2.11 Assessment and Management of Visual Inattention	16
2.12 Awareness of Driving and Vehicle Licensing Agency (DVLA) Driving Requirements	17
Section 3 Retinoscopy and Refraction	Section 3
Patient Care	2
3.1 Patient Interview	3
3.2 Instillation of Cycloplegics	4
3.3 Patient Assessment Retinoscopy and Refraction	6
3.4 Management	8
3.5 Recording of Clinical Data	10
3.6 Pre Refraction Requirements	12

3.7	Examination	13
3.8	Management of Refractive Error	14
Section 4	Visual Field Assessment	Section 4
	Patient Care	2
4.1	Patient Interview	3
4.2	Patient Assessment	4
4.3	Diagnosis	5
4.4	Recording of Clinical Data	6
4.5	Visual Field Assessment Procedures	8
4.6	Assessment with Manual Perimetry Techniques	10
4.7	Assessment with Automated Perimetry Techniques	11
Section 5	Visual Assessment of Children with Special Needs	Section 5
	Patient Care	2
5.1	Patient Interview	3
5.2	Patient Assessment	4
5.3	Diagnosis	6
5.4	Management	7
5.5	Recording of Clinical Data	9
5.6	Orthoptic Investigative Procedures for Children with Special Needs	12
Section 6	Cataract Assessment	Section 6
	Patient Care	2
6.1	Patient Interview	3
6.2	Patient Assessment	4
6.3	Diagnosis	6
6.4	Management	7
6.5	Post Operative Assessment	8
6.6	Recording of Clinical Data	10
6.7	Ophthalmic investigative procedures in the Assessment	12
6.8	Assessment and Management of Adult Patients referred to the Investigate of Cataract	13
Section 7	Specific Learning Difficulties	Section 7
	Patient Care	2
7.1	Patient Interview	3
7.2	Patient Assessment	5
7.3	Diagnosis	7
7.4	Management	8
7.5	Recording of Clinical Data	10
7.6	Orthoptic Investigative Procedures in Specific Learning Difficulties	13
7.7	Assessment and Management of Patients with Specific Learning Difficulties	14

Section 8	Neuro Ophthalmology/Neuro Orthoptics	Section 8
	Patient Care	2
8.1	Patient Interview	3
8.2	Patient Assessment	4
8.3	Diagnosis	5
8.4	Management	6
8.5	Recording of Clinical Data	8
8.6	Neuro Ophthalmology Assessment Procedures	10
8.7	Assessment and Management of Visual Pathway Disorders	13
8.8	Assessment and Management of Cranial Nerve Abnormalities	14
8.9	Assessment and Management of Eye Movement Abnormalities	15
8.10	Assessment and Management of Pupil and Lid Abnormalities	16
8.11	Assessment and Management of Headaches	17
8.12	Assessment and Management of Orbital Abnormalities	18

Section 9	Low Vision Assessment and Low Vision Aids	Section 9
	Patient Care	2
9.1	Patient Interview	3
9.2	Patient Assessment	4
9.3	Diagnosis	5
9.4	Management and Visual Training	6
9.5	Recording of Clinical Data	7
9.6	Low Vision Investigative Procedures	9
9.7	Assessment and Management of Low Vision due to Central Visual Field Loss	10
9.8	Assessment and Management of Patients with Low Vision due to Peripheral Field Loss	11
9.9	Assessment and Management of Patients with Low Vision due to General Reduction of Visual Acuity	12
9.10	Assessment and Management of Paediatric Low Vision Patients	13
9.11	Awareness of Driving and Vehicle Licensing Agency (DVLA) Driving Requirements	14

Introduction

The Competency Standards and Professional Practice Guidelines for the British Orthoptic Society (as it was then) were published in 1999. The application of these Competency Standards and Professional Practice Guidelines have enhanced Orthoptic practice and have assisted in the professional development of the individual clinician. Consequently, the quality of care given to patients has been improved.

The role of the Orthoptist has expanded significantly in recent years into the following areas:

- Glaucoma diagnostics and monitoring services
- Stroke assessment and rehabilitation
- Retinoscopy and refraction
- Visual field assessment
- Visual assessment of children with special needs
- Cataract assessment
- Specific learning difficulties
- Neuro ophthalmology
- Low vision assessment and low vision aids

The publication of these new Competency Standards and Professional Practice Guidelines for the Extended Role of the Orthoptist is to ensure that the quality of the provision of these professional clinical services is not compromised and they provide a benchmark against which the Orthoptist can measure their competence.

In addition, the implementation of the NHS Knowledge and Skills Framework and the Development Review Process, the Health Professions Council's registration requirements and proposals for continual professional development make it essential that such a document is available to Orthoptists to ensure that these specific extended roles are delivered to a high standard and that Orthoptists keep abreast of such requirements and developments.

The process of development of these standards and guidelines has involved the identification of extended roles within the profession as a consequence of the Workforce Planning Survey. The expertise and advice of the BIOS Special Interest Groups (SIGs) and those Orthoptists with specific expertise in these areas was sought. The Competency Standards and Professional Practice Guidelines for the Extended Role of the Orthoptist have been approved by the Professional Development Committee and ratified by the Council of the British and Irish Orthoptic Society.

Where these extended roles are undertaken by Orthoptists, these Standards and Guidelines must be adhered to in order to ensure competent and good practice. The Standards and Guidelines have been developed from an evidence-base and best practice and provide a framework within which professional judgement and professional development can be exercised. It is worth noting that not all objectives are always applicable and hence achievable by every Orthoptist since there are wide variations in the type of service offered at a local level.

The publication of this document is in individual sections, as not all services will be offered by each Orthoptist and their Department. However, it is imperative that where the service is available, that each Orthoptist and Department involved access the sections relevant to their practice.

It is hoped that as Orthoptists diversify into these specified extended roles and more, they will find these and future Standards and Guidelines invaluable to their practice to ensure both competent and good practice.

Lorna McKay

Knowledge and Skills Framework Project Lead

Acknowledgements

The document has been put together from information and specialist advice from the following people of whom I am extremely grateful for their dedicated time and contribution.

	Main Contributors	Thanks to
Glaucoma diagnostics and monitoring services	Lorna McKay - Lead Orthoptist for Glaucoma Services South Glasgow Hospitals Karen Phillips – Orthoptist specialising in Glaucoma Princess of Wales Hospital, Bridgend	Dr Sikander Sidiki Consultant Ophthalmologist and Head of Glaucoma Services -South Glasgow Hospitals BIOS Glaucoma Special Interest Group
Stroke assessment and rehabilitation	Fanny Freeman - Senior Orthoptist Worcestershire Royal Hospital Dr Fiona Rowe – Lecturer in Orthoptics University of Liverpool Shirley Harrison – Senior Orthoptist Bury Primary care Trust	Paula Callaghan, Hairmyres Hospital Claire MacIntosh, Oxford Eye Hospital Sonia MacDiarmid, Royal Albert Edward Infirmary Rachel McKay, South Glasgow Hospitals North West Stroke Special Interest Group
Retinoscopy and refraction	Garth Johnston Head Orthoptist Kings College Hospital, London Bronach Cooper Head Orthoptist Royal Group of Hospitals Belfast Sue Osley Head Orthoptist HM Stanley Hospital, North Wales	Caroline Byrne, Kings College Hospital Anna Horwood, Royal Berkshire Hospital Helen Jones, HM Stanley Hospital Emma Williams, HM Stanley Hospital BIOS Retinoscopy Special Interest Group
Visual field assessment	Dr Fiona Rowe, Lecturer in Orthoptics University of Liverpool	Veronica Henshall, Royal Albert Edward Infirmary Tracy Wood, Tameside General Hospital
Visual assessment of children with special needs	Alison Wilson – Senior Orthoptist Royal Bolton Hospital Laura Tuff - Senior Orthoptist Leeds General Infirmary	Annette Dillon, Warrington Hospital
Cataract assessment	Isabel Ash – Head Orthoptist Nottingham University Hospital Jean Voller – Head Orthoptist Leicester Royal Infirmary	Vaishali Mehta, Nottingham University Hospital Johanna Ware, Nottingham University Hospital
Specific learning difficulties	Dr Nadia Northway Glasgow Caledonian University Judith Downs – Senior Orthoptist Princess of Wales Hospital, Bridgend Linda Mottram – Specialist Orthoptist Royal Shrewsbury Hospital, Shrewsbury Vikki Betty – Senior Orthoptist Diana Princess of Wales Hospital, Grimsby	Diana Coxon, Ipswich Hospital Nikki Rudge, Gloucester Royal Hospital BIOS Specific Learning Difficulties Special Interest Group
Neuro ophthalmology	Dr Marie Cleary – Senior Orthoptist Gartnavel General Hospital, Glasgow	Dr Fiona Rowe, University of Liverpool Alison Price, Birmingham and Midland Eye Hospital
Low vision and low vision aids	Alison Bruce – Head Orthoptist Bradford Royal Infirmary Madeline Sutcliffe – Senior Orthoptist Bradford Royal Infirmary	Lindsey Hughes, Royal Hallamshire Hospital BIOS Low Vision Special Interest Group

Acknowledgements continued..

With additional thanks to: Jean Voller, Head Orthoptist, Leicester
Sandra Medforth, Senior Orthoptist, Hull
Lisa Cowan, Optometrist, South Glasgow

The acknowledgments would not be complete without specific mention to the following for their continued guidance, advise and support:

The British and Irish Orthoptic Society's Professional Development Committee

Lindsey Hughes Chair of the Professional Development Committee

Dr Fiona Rowe BIOS Research Lead

SECTION 1

GLAUCOMA DIAGNOSTICS AND MONITORING SERVICES

SECTION 1

GLAUCOMA DIAGNOSTICS AND MONITORING SERVICES

PATIENT CARE

Aim Appropriate and accurate evaluation and intervention are necessary to provide quality patient care.

- 1.1 Patient interview
- 1.2 Patient assessment
- 1.3 Diagnosis
- 1.4 Management
- 1.5 Recording of clinical data

The following competency guidelines have been written with a view to best practice under ideal clinical conditions. It is recognised that not all Orthoptists have access to certain pieces of equipment and that their role as a team member may not allow them the freedom to act in individual practice situations.

Nevertheless, it is incumbent on all Orthoptists working in the area of glaucoma to ensure that they are meeting best practice criteria within their own workplace limitations and with reference to local policy guidelines.

Paediatric glaucoma is a highly specialised area. As such children with glaucoma should be assessed and managed by the ophthalmologist until such time as it is agreed that they are suitable to be followed up with in the multi-disciplinary shared care environment.

It should be noted that for the purpose of this document the term glaucoma covers primary open angle glaucoma, normal tension glaucoma, secondary glaucoma, narrow angle glaucoma, acute angle closure glaucoma, ocular hypertension and glaucoma suspects unless otherwise stated.

1.1 PATIENT INTERVIEW

Overview

The patient interview is an integral part of glaucoma practice whereby an Orthoptist gains essential information, which will form the focus/basis of further assessment. This involves the attributes of communication and interpersonal skills. The case history may be the first point of contact between the patient, carer and Orthoptist.

1.1.1 Essential standards

1.1.1.1 The intellectual needs of the patient are considered and communication techniques adjusted accordingly to best meet the patient's needs.

1.1.1.2 Questions and statements are phrased so that adequate information can be elicited.

1.1.1.3 Information gained in interview is recorded accurately and concisely and may include:

- 1.1.1.3.1 Name, address, date of birth
- 1.1.1.3.2 GP name and address
- 1.1.1.3.3 Relationship of carer to patient
- 1.1.1.3.4 Occupation
- 1.1.1.3.5 Source of referral
- 1.1.1.3.6 Reason for attendance
- 1.1.1.3.7 Family history with particular reference to glaucoma & severity of disease/ age of onset
- 1.1.1.3.8 General health with particular reference to: diabetes mellitus, hypertension, cerebro-vascular accident (stroke), myocardial infarct, angina, migraine, raynauds, sudden blood loss, chronic obstructive pulmonary disease, asthma, eczema and steroidal use
- 1.1.1.3.9 Social history including occupation, driving and smoking
- 1.1.1.3.10 Previous eye history including ocular injury
- 1.1.1.3.11 Symptoms of blurred vision, asthenopia, pain/headache with particular reference to angle closure symptoms including onset and duration

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- General statement of intent during investigation and communication
- Patient questionnaire
- Audit of documented information in case notes

1.2 PATIENT ASSESSMENT

Overview

This involves the application of the attributes of knowledge, investigative and technical skills in the area of glaucoma. Through patient assessment all information relevant to the case is efficiently and safely acquired.

1.2.1 Essential standards

1.2.1.1 The Orthoptist will undertake specialised ophthalmic testing procedures in the area of glaucoma in which the Orthoptist has been competently trained and assessed. These procedures may include:

- 1.2.1.1.1 Visual acuity
- 1.2.1.1.2 Pupil reactions
- 1.2.1.1.3 Anterior segment and media assessment
- 1.2.1.1.4 Angle assessment
- 1.2.1.1.5 Contact tonometry
- 1.2.1.1.6 Optic disc assessment
- 1.2.1.1.7 Visual field assessment & interpretation
- 1.2.1.1.8 Ocular adnexa

1.2.1.2 The Orthoptist uses knowledge of the visual system and its abnormalities to formulate strategies to assess the patient.

1.2.1.3 The Orthoptist varies testing procedures according to the patient's responses and selects testing procedures applicable to the level of ability of the patient.

1.2.1.4 The Orthoptist correctly uses quantitative and qualitative tests to investigate further the ophthalmic status of the patient which determines:

- 1.2.1.4.1 The sensory state of the eyes and visual pathway
- 1.2.1.4.2 The pathogenesis of glaucomatous disease progression

1.2.1.5 The testing sequence is modified according to the results gained.

1.2.1.6 Accurate observations about the patient's responses to the tests are made and patterns of normal and abnormal responses to testing procedures recorded and evaluated for accuracy.

1.2.1.7 The test results are critically evaluated for differential diagnosis.

1.2.2 Desirable objectives

1.2.2.1 The Orthoptist may undertake specialised ophthalmic testing procedures in the ophthalmic setting in which the Orthoptist has been trained, including;

- 1.2.2.1.1 Gonioscopy
- 1.2.2.1.2 Anterior Chamber Depth
- 1.2.2.1.3 Pachymetry
- 1.2.2.1.4 Slit lamp biomicroscopy
- 1.2.2.1.5 Fundus assessment
- 1.2.2.1.6 Fundus photography
- 1.2.2.1.7 Optic Disc imaging techniques

1.2.2.2 The Orthoptist uses interpersonal and communicative skills to indicate to the patient/carer the purpose of the tests and to obtain appropriate responses to the tests.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Written department statements regarding additional specialised testing skills and policies and procedures applicable to these
- Audit of practice
- Evidence of clinical protocols
- Competence Statement

1.3 DIAGNOSIS

Overview

A diagnosis is made following appropriate interview and assessment of the patient using available ophthalmic techniques and equipment.

1.3.1 Essential standards

The Orthoptist

- 1.3.1.1 Interprets information gained in patient assessment to suggest glaucoma diagnoses.
- 1.3.1.2 Selects or identifies additional tests to further investigate possible diagnoses.
- 1.3.1.3 Is able to recognise when clinical findings reveal a possible change in direction of patient management.
- 1.3.1.4 Establishes area of intervention that will be required, for example, inadequate intraocular pressure control.
- 1.3.1.5 When inconsistencies arise, is able to highlight the most important information gained in the assessment.
- 1.3.1.6 Considers the ocular and general history in conjunction with test results in summarising the findings with regard to the diagnosis and management.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Audit of practice
- Peer review
- Case presentations and discussions
- Competence Statement

1.4 MANAGEMENT

Overview

Each patient has a care programme developed specific to their diagnosis.

1.4.1 Essential standards

The Orthoptist

- 1.4.1.1 In conjunction with the ophthalmologist designs and implements treatment plans with the patient's involvement and consent (which may be verbal for non-invasive treatment).
- 1.4.1.2 Demonstrates knowledge of the practical, surgical and therapeutic aspects of glaucoma management including:
 - 1.4.1.2.1 Topical eye drops with reference to mode of action, dosage regime, side effects, contraindications and pharmacological effect on visual function
 - 1.4.1.2.2 Systemic preparations
 - 1.4.1.2.3 Surgical intervention
 - 1.4.1.2.4 Laser intervention
- 1.4.1.3 Explains the diagnosis in appropriate terminology to the patient or carer.
- 1.4.1.4 Considers all treatment options in liaison with the ophthalmologist and patient taking into account prognostic indicators, available resources, any adverse side effects and level of patient involvement that will be required.
- 1.4.1.5 In conjunction with the ophthalmologist advises and structures the specific treatment with respect to the general condition of the patient.
- 1.4.1.6 Provides details of verbal or written instructions/information regarding Orthoptic and Ophthalmic procedures and care.
- 1.4.1.7 Reviews the progress of the treatment plan regularly and evaluates the need for modification or alternative treatment plans.
- 1.4.1.8 Assists in the management of patient's postoperative care.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Policies and procedures relating to treatment and care plans
- Random review of case notes
- Patient questionnaire
- Case presentation and discussion
- Competence Statement

1.5 RECORDING OF CLINICAL DATA

Overview

This involves the method of correct documentation of information gathered during the patient interview and assessment.

1.5.1 Essential standards

The Orthoptist

- 1.5.1.1 Ensures that accurate patient records and ophthalmic assessments are organised in a legible, secure, accessible, permanent (ink copy) and clear manner, including relevant test results filed in an appropriate manner. All entries should be dated, signed and follow local guidelines.
- 1.5.1.2 Ensures permanent copies of records are kept of every consultation.
- 1.5.1.3 Uses abbreviations and diagrams that are recognised by the ophthalmic team.
- 1.5.1.4 Maintains confidentiality of patient records.
- 1.5.1.5 Ensures department records and case notes being held in the department are kept in a secure place and access is only available to authorised personnel.
- 1.5.1.6 Ensures documentation of informed consent is gained before releasing case records and personal histories to services outside the hospital/Trust (dependent on local policy) such as educational providers and non health care professions.

1.5.2 Desirable standards (dependent on local referral policy)

The Orthoptist

- 1.5.2.1 Refers patient for appropriate additional ophthalmic assessment and treatment to team members in a timely manner.
- 1.5.2.2 Refers the patient to an ophthalmologist as per local protocol.
- 1.5.2.3 Refers the patient back to the ophthalmologist if clinical judgement indicates possible additional pathology.
- 1.5.2.4 Documents follow-up arrangements and referral/attendance/discharge details.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Audit of clinical practice
- Policies and procedures for referrals and data handling (case notes)
- Random review of case notes

PROFESSIONAL PRACTICE GUIDELINES FOR ORTHOPTIC PRACTICE WITHIN GLAUCOMA

Aim A standardised approach to the investigation of glaucoma patients is important for the provision of quality patient care and the development of appropriate care plans for the management of patients.

- 1.6 Glaucoma/Ophthalmic investigative procedures
- 1.7 Assessment and management of primary open angle glaucoma, normal tension glaucoma, secondary open angle glaucoma & narrow angle glaucoma
- 1.8 Assessment and management of ocular hypertension and glaucoma suspects
- 1.9 Assessment and management of acute angle closure glaucoma

1.6 GLAUCOMA/OPHTHALMIC INVESTIGATIVE PROCEDURES

Assessment of visual acuity should be quantitative and with appropriate refractive correction in situ.

Unocular VA is tested for distance and where required for near. A pinhole is used in appropriate patients where VA is reduced and refractive error is suspected.

Anterior segment and ocular media examination should be carried out on initial assessment and on follow up when suggested by clinical findings. This assessment is optimally performed with the slit lamp biomicroscope. Particular attention should be paid to anterior chamber depth, corneal pathologies, pigmentation dispersion syndromes and pseudo-exfoliation. Significant lens opacities should also be noted.

Assessment of pupil reactions should be performed in order to determine the presence of a relative afferent pupillary defect (RAPD).

Gonioscopy or angle assessment should be performed for diagnostic purposes and prior to pupil dilation. Grading systems should be implemented as per local procedures.

Applanation tonometry following local anaesthesia should be performed on every visit; the gold standard procedure is Goldmann applanation tonometry. Results should be documented using standard ophthalmic notation including the exact time of testing (due to diurnal variation of IOP). Factors affecting tonometry measurements should be fully considered.

Optic disc assessment should be carried out with binocular indirect ophthalmoscopy using the slit lamp biomicroscope. Where this is not possible appropriate stereoscopic fundus photography can be substituted. The optic disc should be recorded diagrammatically with particular reference to the vertical cup disc ratio, neural-retinal rim anomalies, haemorrhages, acquired pits of the optic nerve and other nerve fibre layer defects.

Visual fields should be performed with threshold programs as per local policies. Utilisation of specialised glaucoma assessment techniques should be implemented where possible.

Pachymetry should be performed on initial assessment with intraocular pressure corrected appropriately and relevance of central corneal thickness to diagnosis and prognosis clearly identified.

Optic disc imaging systems can be utilised as a supplementary measurement to aid in diagnosis and identification of disease progression.

1.7 ASSESSMENT AND MANAGEMENT OF PRIMARY OPEN ANGLE GLAUCOMA, NORMAL TENSION GLAUCOMA, SECONDARY OPEN ANGLE GLAUCOMA AND NARROW ANGLE GLAUCOMA

All patients have a relevant ophthalmic investigation from which a diagnosis is formed and an appropriate care plan implemented.

The aim is to achieve good control of intraocular pressure and minimise disease progression taking into consideration the patient's general health and lifestyle.

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits.

- Case history
- Visual acuity
- Anterior segment and media assessment
- Tonometry
- Gonioscopy
- Optic disc assessment
- Visual field assessment and interpretation
- Pachymetry
- Imaging techniques

Management

The Orthoptist

- Initiates treatment in conjunction with the ophthalmologist, local policies and procedures and Patient Group Directions where appropriate.
- Reviews the progress of the treatment plans regularly and evaluates the need for modification or alteration.
- Assesses compliance at every visit and initiates appropriate counselling and/or intervention.
- Identifies changes to the general health of all patients and considers contraindications with respect to treatment plans, and advises the patient/ophthalmologist as required.
- Initiates onward referral to the ophthalmologist as required.

1.8 ASSESSMENT AND MANAGEMENT OF OCULAR HYPERTENSION AND GLAUCOMA SUSPECTS

All patients have a relevant ophthalmic investigation from which a diagnosis is formed and an appropriate care plan implemented.

The aim is to monitor whether glaucomatous progression has occurred and to ensure, if identified, it is treated at an early stage.

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits.

- Case history
- Visual acuity
- Anterior segment and media assessment
- Tonometry
- Gonioscopy
- Optic disc assessment
- Visual field assessment and interpretation
- Pachymetry
- Imaging techniques

Management

The Orthoptist

- Ensures that the initial decision to treat and/or observe is made with consideration of all test results and initiates appropriate treatment in conjunction with the ophthalmologist, local policies and procedures and Patient Group Directions where appropriate.
- Reviews the progress of the treatment plans regularly and evaluates the need for modification or alteration.
- Assesses compliance at every visit and initiates appropriate counselling and/or intervention.
- Identifies changes to the general health of all patients and considers contraindications with respect to treatment plans, and advises the patient/ophthalmologist as required.
- Initiates onward referral to the ophthalmologist as required.

1.9 ASSESSMENT AND MANAGEMENT OF ACUTE ANGLE CLOSURE GLAUCOMA

All patients have a relevant ophthalmic investigation from which a diagnosis is formed and an appropriate care plan implemented.

The aim is to prevent acute vision loss and establish stable control of intraocular pressure thus minimising disease progression.

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits.

- Case history
- Visual acuity
- Anterior segment and media assessment
- Tonometry
- Gonioscopy
- Optic disc assessment
- Visual field assessment and interpretation
- Pachymetry
- Imaging techniques

Management

The Orthoptist

- Initiates immediate urgent referral to the ophthalmologist

SECTION 2

STROKE ASSESSMENT & REHABILITATION

SECTION 2

STROKE ASSESSMENT & REHABILITATION

PATIENT CARE

Aim Appropriate and accurate evaluation is necessary to provide quality patient care. Patients may be seen in the acute or rehabilitation stage. In-patient assessment may be performed on the ward, either with the patient in or beside the bed, or if possible in a quiet room. If required the patient may be seen in the Orthoptic Department for more detailed investigations. When necessary the patient can be followed-up either as an in-patient or outpatient. Referral for Orthoptic review can be made by any health professional working with these patients and should be done so in line with local procedure. The overall responsibility, however, is with the patient's stroke consultant.

- 2.1 Patient interview
- 2.2 Patient assessment
- 2.3 Diagnosis
- 2.4 Management
- 2.5 Recording of clinical data

It should be noted that for the purpose of this document the term stroke means any Cerebral Vascular Accident (CVA) due to infarct or haemorrhage. Visual inattention or neglect relates to a patient's inability to recognise the presence of objects or general aspects to one side of their environment.

2.1 PATIENT INTERVIEW

Overview

The patient interview /recording from hospital notes is a part of the assessment whereby an Orthoptist gains essential information, which will form the focus/basis of further assessment. This involves the attributes of communication and interpersonal skills, in a patient group who may have profound problems with comprehension and communication. The case history will give an overview of the site of the stroke, the effects of the stroke and if recorded, the previous ocular history. The history may be taken from a carer or other health professional if unable to gain adequate information from the patient.

2.1.1 Essential standards

- 2.1.1.1 The intellectual abilities of the patient are considered and communication techniques adjusted accordingly to best meet the patient's needs.
- 2.1.1.2 Questions and statements are phrased so that adequate information can be elicited.
- 2.1.1.3 Information gained in interview/hospital notes is recorded accurately and concisely and may include:
 - 2.1.1.3.1 Name, address, date of birth
 - 2.1.1.3.2 GP name and address
 - 2.1.1.3.3 Relationship of carer to patient
 - 2.1.1.3.4 Occupation
 - 2.1.1.3.5 Source of referral
 - 2.1.1.3.6 Reason for referral
 - 2.1.1.3.7 Family history of visual defects
 - 2.1.1.3.8 General health with particular reference to present site of stroke, previous CVA and effects on visual system
 - 2.1.1.3.9 Previous eye history including any ongoing optical and ocular treatment
 - 2.1.1.3.10 Symptoms; being aware that many patients with stroke are unaware or have little insight into their visual defects
 - 2.1.1.3.11 Ocular Signs; as noted by others e.g. closes one eye, ignores objects to one side of vision

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- General statement of intent during investigation and communication
- Patient questionnaire
- Audit of documented information in case notes

2.2 PATIENT ASSESSMENT

Overview

This involves the application of the attributes of knowledge, investigative and technical skills in the areas of concomitant and incomitant strabismus, visual fields and visual inattention, together with a thorough knowledge of stroke and its effects. Through patient assessment all information relevant to the case is efficiently and safely acquired.

2.2.1 Essential standards

2.2.1.1 The Orthoptist will undertake specialised Orthoptic testing procedures in the area of stroke, in which the Orthoptist has been competently trained and assessed.

2.2.1.2 The Orthoptist uses knowledge of the visual system and the brain and their associated pathologies to formulate strategies to assess the patient.

2.2.1.3 The Orthoptist varies testing procedures according to the patient's responses and selects testing procedures applicable to the level of ability of the patient. Where tests are not possible due to poor ability or attention this is documented in the Orthoptic report.

2.2.1.4 The Orthoptist correctly uses quantitative and qualitative tests to investigate further the visual status of the patient, which determines:

2.2.1.4.1 Diagnosis of condition

2.2.1.4.2 Whether the ocular defects are due to the recent stroke or pre-existing pathology

2.2.1.4.3 The possible prognosis

2.2.1.5 The Orthoptist should enquire as to whether the patient was previously a vehicle driver. Where clinical assessment demonstrates a visual deficit the patient should be informed of their legal obligation to inform the Driver and Vehicle Licensing Agency (DVLA).

2.2.1.6 Accurate observations about the patient's responses to the tests are made, and patterns of normal and abnormal responses to testing procedures recorded and evaluated for accuracy.

2.2.1.7 The test results are critically evaluated for differential diagnosis.

2.2.2 Desirable objectives

2.2.2.1 The Orthoptist may undertake specialised stroke testing procedures.

2.2.2.2 The Orthoptist uses interpersonal and communicative skills to indicate to the patient/carer the purpose of the tests and to obtain appropriate responses to the tests.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Audit of practice
- Evidence of clinical protocols
- Competence Statement

2.3 DIAGNOSIS

Overview

A diagnosis is made following appropriate interview and assessment of the patient using available Orthoptic techniques, equipment and assessment.

2.3.1 Essential standards

The Orthoptist

- 2.3.1.1 Interprets information gained in patient assessment to give a diagnosis of ocular status.
- 2.3.1.2 Selects or identifies additional tests to further investigate possible diagnoses.
- 2.3.1.3 Is able to recognise when clinical findings reveal a possible change in direction of patient's management.
- 2.3.1.4 Establishes area of intervention that will be required, for example use of occlusion or prisms.
- 2.3.1.5 Where inconsistencies arise, is able to highlight the most important information gained in the assessment and alert the consultant in charge of the patient (especially when the site of the defect does not relate to the ocular defect found).
- 2.3.1.6 Considers the ocular and general history in conjunction with test results in summarising the findings with regard to the diagnosis and management.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Audit of practice
- Peer review
- Case presentations and discussions
- Competence Statement

2.4 MANAGEMENT

Overview

The results are recorded in the hospital notes in appropriate terminology and when further management is required a care programme is developed and recorded.

2.4.1 Essential standards

The Orthoptist

- 2.4.1.1 As part of the multi-disciplinary stroke team, designs and implements treatment plans with the patient's involvement and consent (which may be verbal for non-invasive treatment) where appropriate.
- 2.4.1.2 Demonstrates knowledge of the management of stroke, and rehabilitation including:
 - 2.4.1.2.1 Causes of stroke
 - 2.4.1.2.2 Effects of stroke
 - 2.4.1.2.3 Role of stroke Consultant, Nurses, Physiotherapists, Occupational Therapists, Speech and language Therapists and how visual defects impact on rehabilitation
 - 2.4.1.2.4 Prevention of stroke
- 2.4.1.3 Explains the diagnosis in appropriate terminology to the patient, carer and other health professionals working with the patient.
- 2.4.1.4 Considers all treatment options in liaison with the stroke team and patient taking into account prognostic indicators, available resources, any adverse side effects and level of patient involvement that will be required.
- 2.4.1.5 In conjunction with the stroke team advises and structures the specific treatment with respect to the general condition of the patient.
- 2.4.1.6 Provides details of verbal or written instructions/information regarding Orthoptic, optical and, if required, ophthalmic procedures and care.
- 2.4.1.7 Provides information regarding passive treatment options e.g. advice on utilisation of residual functional vision with adoption of head posture and/or exaggerated head movements.
- 2.4.1.8 Reviews the progress of the treatment plan regularly and evaluates the need for modification or alternative treatment plans.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Policies and procedures relating to treatment and care plans
- Random review of case notes
- Patient questionnaire
- Case presentation and discussion
- Competence Statement
- Shadowing of Health professionals to observe their role
- Attendance at Stroke Study Day for Orthoptists

2.5 RECORDING OF CLINICAL DATA

Overview

This involves the method of correct documentation of information gathered during the patient interview and assessment.

2.5.1 Essential standards

The Orthoptist

- 2.5.1.1 Ensures that accurate patient records and ophthalmic assessments are organised in a legible, secure, accessible, permanent (ink copy) and clear manner, including relevant test results filed in an appropriate manner. All entries should be dated, signed and follow local guidelines. A locally produced proforma is recommended with a summary to be written in the patient's notes.
- 2.5.1.2 Ensures permanent copies of records are kept for every consultation.
- 2.5.1.3 Only uses abbreviations and diagrams in the Orthoptic report that are recognised by the ophthalmic team. Appropriate jargon free terminology should be used when recording summaries in non-ophthalmic general notes.
- 2.5.1.4 Maintains confidentiality of patient records.
- 2.5.1.5 Ensures department records and case notes being held in the department are kept in a secure place and access is only available to authorised personnel.
- 2.5.1.6 Ensures documentation of informed consent is gained before releasing case records and personal histories to services outside the hospital/Trust (dependent on local policy) such as educational providers and non-health care professions.

2.5.2 Desirable Standards

The Orthoptist

- 2.5.2.1 Refers the patient back to their stroke Consultant as per local protocol.
- 2.5.2.2 Refers the patient to an ophthalmologist as per local protocol.
- 2.5.2.3 Refers the patient to an optometrist as per local protocol.
- 2.5.2.4 Documents follow-up arrangements and referral/attendance/discharge details.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Audit of clinical practice
- Policies and procedures for referrals and data handling (case notes)
- Random review of case notes

PROFESSIONAL PRACTICE GUIDELINES FOR ORTHOPTIC PRACTICE IN STROKE

Aim A standardised approach to the investigation of stroke is important to the provision of quality patient care and the development of appropriate care plans for the management of patients.

- 2.6 Stroke investigative procedures
- 2.7 Assessment and management of vision disorders
- 2.8 Assessment and management of ocular motility disorders
- 2.9 Assessment and management of binocular vision defects
- 2.10 Assessment and management of visual field defects
- 2.11 Assessment and management of visual inattention
- 2.12 Awareness of DVLA driving requirements

2.6 STROKE INVESTIGATIVE PROCEDURES

Initial observation of patient will include assessment of physical state of health noting whether bed-bound, wheelchair dependent or mobile; the affected side if hemiplegia is present and any associated body positioning. Recording is made of any abnormal head posture, facial palsy, visible nystagmus, direction of patient's gaze, pupil anomalies, abnormal lid position such as ptosis, lid retraction or ectropion and other ocular adnexa problems e.g. significant blepharitis.

Impression of the patient's mental state is recorded, noting level of alertness, comprehension and communication skills, any confusion, agitation or distress. Determination is made of whether glasses are worn or available to be worn, the condition and fit of the glasses, and if being appropriately used.

It should be noted that in all cases, tests performed and results obtained will be dependent on the physical and cognitive state of the patient at the time of assessment.

Assessment of vision should be quantitative using verbal or non-verbal tests tailored to the patient's condition, and with appropriate refractive correction worn, if available. Note should be made of any abnormal head posture adopted during vision testing or tendency to exclude certain visual targets, which may indicate field loss or neglect. When assessing patients with gaze palsies the position of the vision chart during assessment should be documented.

Unocular visual acuity is tested for distance. A pinhole is used in appropriate patients where visual acuity is reduced and refractive error is suspected. Binocular visual acuity should be recorded in the presence of nystagmus.

Near visual acuity and reading ability should be tested binocularly with the patient's near refractive correction in situ, using text where possible and noting; size of print, accuracy, fluency and speed, unusual head movements and whether any text is excluded.

Contrast sensitivity testing should be carried out if associated symptoms are suspected and judged to be of clinical value within stroke assessment.

In the case of pre-presbyopic stroke patients, accommodative function should be evaluated.

The cover test should be performed for near and distance, with and without refractive correction if worn. The presence or absence of manifest strabismus, its type and size, whether concomitant or incomitant and the type, size, control and recovery of any latent deviation should be noted. The patient should be asked as to the presence or absence of diplopia, with differentiation made between unocular and binocular diplopia.

The presence and classification of nystagmus should be recorded ascertaining whether the patient appreciates oscillopsia.

Where an abnormal or compensatory head posture is adopted during fixation this should be noted and the cover test performed with and without the head posture for comparison and to assist in determining the aetiology. For example, compensation for a visual field defect or visual inattention, to alleviate diplopia or to improve vision or reduce symptoms in the presence of nystagmus and possible oscillopsia.

The Orthoptist will assess the ocular movements and determine whether a defect is pre-existing or onset associated with the stroke.

Testing of ocular movements should be performed when possible in nine positions of gaze with a pen torch and occluder, testing ductions and versions, noting any palsy, paresis or other limitation of movement and any nystagmus or lid dysfunction.

Recording of any cranial nerve palsy can be made by use of prism cover test in 9 positions of gaze or a Hess chart where accessible, providing the patient is fit and able to do so.

Testing of smooth pursuit function can be assessed vertically and horizontally using a slow moving target and/or vestibular/doll's head testing (providing there are no contraindications to passive head movement such as known neck problems).

Testing of saccadic function should be performed vertically and horizontally using 2 targets, noting any abnormality in the speed and accuracy of saccades.

Testing of optokinetic nystagmus responses can be performed to demonstrate the integrity of supranuclear pathways, noting any defect in smooth pursuit or saccadic movement.

Testing of convergence and divergence should be assessed, noting any significant reduction, the presence or absence of diplopia, and the ability to relax after convergence.

In the presence of nystagmus the type, direction, amplitude and position of gaze should be recorded and used in formulating a diagnosis of the defect sustained, and related to management of symptoms arising from it.

Evaluation of the patient's binocular status includes the presence of suppression, sensory fusion, motor fusion and stereopsis.

Stereopsis should be assessed using a suitable stereoacuity test applicable to the patient's comprehension. In addition patients should be questioned as to their spatial awareness, e.g. judging floor boundaries between rooms, as spatial awareness may be impaired even when stereoacuity appears normal.

Red/Green filters are a useful tool to assess the presence of diplopia and suppression at a bedside examination.

Motor fusion may be assessed using a 20 dioptre base out prism or full range using a prism bar, dependent on the patient's physical and mental state.

2.7 ASSESSMENT AND MANAGEMENT OF VISION DISORDERS

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits.

- Case history
- Visual disorders
- Abnormal head posture
- Visual acuity
- Cover test
- Ocular movements
- Vergence
- Accommodation
- Contrast sensitivity
- Visual field assessment

The Orthoptist

- Evaluates the level of vision, taking into consideration previous ocular history and current accepted parameters of age related norms for older people's visual function.
- Accesses, if available, the patient's optometric/ophthalmic record for details of the patient's previously recorded vision and pertinent ocular information.
- Records abnormal pupillary responses noting pupil inequality and direct and consensual pupil responses.
- Uses pupil responses in the determination of a diagnosis, with particular care when associated with a III Cranial Nerve palsy (refer to ocular motility section 2.8).
- Assesses ocular adnexa including lid function.

Management

The Orthoptist

- Provides a written report in the case notes identifying the nature of any ocular motility disorder and its effect on the patient. This is available to all stroke rehabilitation team members, with an explanation given to the patient and/or their carer.
- In cases of reduced vision from that which would be expected given the patient's history and refractive error, monitors the patient's vision in the short-term, ensuring that the patient has received an ocular fundus examination to exclude papilloedema or other significant pathology and alerting medical staff should any significant deterioration occur.
- Where significant discrepancy occurs between the level of vision obtained and that expected makes onward referral to Ophthalmology and/or Optometry in line with local protocols and in a timely manner.
- Prior to referral to visual impaired or low vision services, allows an appropriate time in line with local policies to account for spontaneous recovery, typically 3-4 months post stroke.
- Evaluates the likely cause(s) of reading difficulties and advises on positioning, appropriate use of glasses, reading strategies and reading aids such as typoscopes.
- In rare cases where photosensitivity results from a dilated pupil and where symptoms persist, arranges onward referral to Ophthalmology/Optometry for advice on photochromatic lenses.
- In the presence of a facial palsy, ensures that the patient is able to close the eye on the affected side to prevent corneal exposure and where necessary alerts medical staff so that appropriate monitoring and care can be implemented.

- Where ectropion and epiphora results from facial palsy or develops with increasing age, alerts medical staff where symptoms persist, with consideration of referral to Ophthalmology if judged clinically necessary.

2.8 ASSESSMENT AND MANAGEMENT OF OCULAR MOTILITY DISORDERS

Stroke can result in:

- Cranial nerve palsies
- Internuclear disorders
- Supranuclear disorders and skew deviations
- Convergence or divergence dysfunction
- Nystagmus

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits.

- Case history
- Abnormal head posture
- Visual acuity
- Cover test
- Ocular movements
- Vergence
- Accommodation

Management

The Orthoptist

- Advises, in the presence of ocular motility disorders and in particular gaze palsies, on how to utilize residual visual functions including compensatory head postures/movements and positioning of objects.
- Provides a written report in the case notes identifying the nature of any ocular motility disorder and its effect on the patient. This is available to all stroke rehabilitation team members, with an explanation given to the patient and/or their carer.
- Helps to alleviate symptoms of diplopia using prisms, occlusion or advice on use of a compensatory head posture and positioning as appropriate, and monitors accordingly.
- Provides explanation and advice regarding the presence of nystagmus as appropriate, regarding the use of a compensatory head posture or positioning to lessen symptoms of oscillopsia, vertigo or blurring.
- Considers Orthoptic knowledge of associated aetiologies in relation to the site of the CVA, when making a diagnosis of an ocular motility defect and associated syndrome, ensuring medical staff are alerted of any existing discrepancy or change whilst the patient is under Orthoptic supervision.
- Where local policies allow, monitors the progress of any cranial or binocular gaze dysfunction with referral to Ophthalmology after a period of 3 to 6 months where no further clinical improvement is likely and further management including surgical intervention, botulinum toxin injection or prismatic incorporation is likely to be required.
- Monitors all cases of ischaemic III cranial nerve palsies with extra vigilance alerting medical staff if pupillary dilation occurs in the initial 5 days or if no significant improvement is noted after 3 months.

2.9 ASSESSMENT AND MANAGEMENT OF BINOCULAR VISION DEFECTS

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits.

- Case history
- Abnormal head posture
- Visual acuity
- Cover test
- Ocular movements
- Vergence
- Accommodation
- Retinal correspondence
- Sensory and motor fusional vergence
- Stereopsis

Management

The Orthoptist has various treatment options to consider:

- Prisms may be employed in suitable cases to restore binocular vision or utilise an area of suppression to relieve symptoms of diplopia.
- Where stereopsis is newly impaired following a stroke, it will impact on a patient's hand/eye coordination skills and potential mobility; it is useful to provide this information to the patient, other therapists and carers.
- Where motor fusion is defective, such as in symptomatic reduced convergence, rarely Orthoptic exercises may be employed but given the poor general health of stroke patients, it is more usual to employ temporary prisms.
- In cases of insuperable diplopia, occlusion may be used as required.
- Advice on the use of a compensatory head posture or positioning can be given to maximise the use of any intact binocular field. This should be clearly documented and discussed with other professionals involved in the patient's rehabilitation.
- Measurements of the angle of a manifest or significant latent squint provide useful information to monitor the patient and guide as to prismatic correction that can be tried.
- Monitoring of the patient as appropriate.

2.10 ASSESSMENT AND MANAGEMENT OF VISUAL FIELD DEFECTS

Assessment

Visual field assessment can be performed using confrontation testing. Alternatively, formal visual field testing can be arranged, dependent on the patient's general health status, mobility and availability and access to facilities. Automated or manual programmes can be utilised dependant on the patient's comprehension.

The nature and extent of any field loss should be recorded, noting the patient's awareness of any deficit and its possible impact on rehabilitation.

Management

The Orthoptist

- Advises the patient of the presence of any visual field loss sustained. This should be recorded in the case notes to inform members of the stroke team and carers.
- Advises on the strategies available to cope with visual field loss such as positioning, scanning and exaggerated head movements.
- Advises on various techniques of prism application although the efficacy of prisms in cases of visual field loss is not yet clear and evidence is contradictory.
- Arranges formal visual field assessment (if not already performed) where visual field loss is detected by confrontation testing and recovery is not evident by 3-4 months post stroke.
- Provides the patients with the option of referral to Ophthalmology for consideration for partially sighted registration where applicable and dependent on local policies.
- Completes Certificate of Visual Impairment if requested by the patient.
- Arranges a formal visual field assessment for all patients who are vehicle drivers. Refer to section 2.12.

2.11 ASSESSMENT AND MANAGEMENT OF VISUAL INATTENTION

Assessment

Depending on local practise and in particular if no previous assessment has been made by the Occupational Therapist, the Orthoptist should assess for the presence of visual inattention using one or more of the following:

- Albert's test
- Line Bisection test
- Two pen test
- Balloon's test
- Patient observation

All results should be recorded in the patient's notes.

It is important for the Orthoptist to make an evaluation of the presence of visual inattention and its differential diagnosis from a visual field defect. When present in isolation visual inattention is treated differently to visual field loss. However if visual inattention exists in conjunction with visual field loss rehabilitation can be adversely affected.

Management

The Orthoptist

- Identifies visual inattention, as it has implications for the patient's safety and mobility and it impacts on activities of daily living.
- Informs members of the stroke team and carers, as the patient is unaware of the problem.
- Provides advice in cases of isolated visual inattention without field loss, to try to make the patient aware of the neglected side.
- Provides information for patients with both visual field loss and visual inattention who are severely visually disabled, that approach should be made from the unaffected side and awareness of the problem communicated to all members of the stroke team and carers advising on supervision, safety and care.
- Provides advice on the use of prisms in cases of neglect and field loss; various prism application methods have been advocated and may be used at the Orthoptist's discretion.
- Arranges further Orthoptic monitoring where deemed clinically necessary on an individual basis.
- Completes Certificate of Visual Impairment if requested by the patient.

2.11 AWARENESS OF DRIVING AND VEHICLE LICENSING AGENCY (DVLA) DRIVING REQUIREMENTS

The Orthoptist should be aware of the current UK driving visual standards as determined by the DVLA.

The Orthoptist should inform the patient at an appropriate time when the presence of insuperable diplopia, reduced visual acuity or visual field loss will affect driving eligibility; patients should be advised of the legal requirement for them to notify the driver's medical branch of the DVLA of any relevant medical condition. The Orthoptist should also notify the patient's physician-in-charge of any visual defect that would affect driving eligibility.

SECTION 3

RETINOSCOPY AND REFRACTION

SECTION 3

RETINOSCOPY AND REFRACTION

PATIENT CARE

Aim: Appropriate and accurate refraction is an integral component of Orthoptic diagnosis and management. It is central to evaluation and design of patient care plans and the delivery of effective Orthoptic treatment. The correction of refractive error should maximise vision potential.

- 3.1 Patient interview
- 3.2 Instillation of cycloplegia
- 3.3 Patient assessment
- 3.4 Management
- 3.5 Recording of clinical data

It should be noted that for the purpose of this document the term refractive error will cover myopia, hypermetropia, anisometropia, astigmatism, aphakia, pseudophakia, and presbyopia. Retinoscopy is the objective technique of measuring refractive error. Refraction covers the clinical technique and decision-making process in the determination of the strength of lenses that should be prescribed.

Prior to proceeding to retinoscopy, the Orthoptist should ensure that a full orthoptic investigation has been carried out and that pupillary reactions have been assessed in order to determine the presence of Relative Afferent Pupillary Defect (RAPD).

3.1 PATIENT INTERVIEW

Overview

The patient interview is an integral part of refractive practice whereby an Orthoptist gains essential information, which will form the focus/basis of further assessment. This involves the attributes of communication and interpersonal skills. The case history may be the first point of contact between the patient, carer and Orthoptist.

3.1.1 Essential standards

3.1.1.1 The intellectual needs of the patient are considered and communication techniques adjusted accordingly to best meet the patient's needs.

3.1.1.2 Questions and statements are phrased so that adequate information can be elicited.

3.1.1.3 Information gained in interview is recorded accurately and concisely and may include:

- 3.1.1.3.1 Name, address, date of birth
- 3.1.1.3.2 GP name and address
- 3.1.1.3.3 Relationship of carer to patient
- 3.1.1.3.4 Occupation
- 3.1.1.3.5 Source of referral
- 3.1.1.3.6 Reason for attendance
- 3.1.1.3.7 Family history with particular reference to strabismus, amblyopia and spectacle wear, severity of condition and age of onset
- 3.1.1.3.8 General health with particular reference to the presence of neuro-developmental syndromes and relevant systemic and medical conditions
- 3.1.1.3.9 Birth history with particular reference to prematurity, mode of delivery and birth weight
- 3.1.1.3.10 Previous eye history
- 3.1.1.3.11 Symptoms of diplopia, blurred vision, asthenopia, pain/headache, difficulties reading or mannerisms characteristic of refractive error

3.1.1.4 Where the patient has previously attended the Orthoptic clinic the above need only be verified.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- General statement of intent during investigation and communication
- Patient questionnaire
- Audit of documented information in case notes

3.2 INSTILLATION OF CYCLOPLEGICS

Overview

Refraction in children is usually carried out under cycloplegia in the first instance and subsequently, until the child is of age to be co-operative for subjective refraction. The most commonly used cycloplegics are in drop form and may be administered at home, prior to attending the clinic, or in the clinic instilled by the Orthoptist or nursing staff.

3.2.1 Essential standards

The Orthoptist

3.2.1.1 Instils drops in line with local policies and procedures, agreed by the ophthalmologist and/or following Patient Group or Patient Specific Directions. This includes the understanding of:

- 3.2.1.1.1 the pharmacology and mode of action of each drug
- 3.2.1.1.2 the contraindications for use of each drug
- 3.2.1.1.3 the side effects of each drug and how these are treated
- 3.2.1.1.4 precautions to be taken
- 3.2.1.1.5 methods of instillation

3.2.1.2 Appropriately selects which patients require cycloplegic refraction.

3.2.1.3 Appropriately selects follow-up patients requiring repeat cycloplegic refraction.

3.2.1.4 Selects the appropriate cycloplegic drug to be used.

3.2.1.5 Explains the need and process of refraction to the patient and carer on a level appropriate to their comprehension.

3.2.1.6 Obtains verbal consent to the examination and assists in their choice of either instilling the drops at home or in the clinic.

3.2.1.7 Provides written information on how to instil drops if they are to be instilled at home.

3.2.1.8 This should include:

- 3.2.1.8.1 The name of the patient
- 3.2.1.8.2 The name of the cycloplegic
- 3.2.1.8.3 The effect of the cycloplegic
- 3.2.1.8.4 Duration of the effects of cycloplegia
- 3.2.1.8.5 Possible side effects and what to do should they occur
- 3.2.1.8.6 Contact details e.g. the telephone number and name of contact in the Orthoptic department
- 3.2.1.8.7 Advice that all medications are stored safely and out of reach of children, the timing and number of drops to be instilled

3.2.1.9 Instillation of cycloplegic drops should follow accepted techniques and local guidelines. The well being of the child should be taken into account and procedures in place to reduce the stress inherent.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Review of patient information leaflets
- Review of Patient Group and/or Patient Specific Directions every two years and in line with local policies
- Audit
- Random review of case notes
- Patient questionnaires and surveys
- Competency statement

3.3 PATIENT ASSESSMENT RETINOSCOPY AND REFRACTION

Overview

Objective static retinoscopy, using suitable cycloplegia, is the standard procedure used to determine the level of refractive error present.

Retinoscopy and refraction require the application of the attributes of knowledge, investigative and technical skills. Through patient assessment all information relevant to the patient is efficiently and effectively acquired.

3.3.1 Essential standards

3.3.1.1 The Orthoptist will have undertaken post-graduate specialist training in the area of retinoscopy and refraction following which, and before commencing unsupervised practice, the Orthoptist will be assessed and deemed competent by an appropriate Consultant Ophthalmologist.

3.3.1.2 Additional knowledge should include:

- 3.3.1.2.1 Fitting and measuring of glasses
- 3.3.1.2.2 Centration of lenses and prismatic effects

3.3.1.3 The Orthoptist uses knowledge of the visual system and its abnormalities to formulate strategies to assess the patient.

3.3.1.4 The Orthoptist varies testing procedures according to the patient's responses and selects testing procedures applicable to the level of ability of the patient.

3.3.1.5 The testing sequence is modified according to the result gained.

3.3.1.6 The test results are critically evaluated for diagnosis.

3.3.2 Desirable objectives

3.3.2.1 Orthoptists should understand the principles of the following techniques:

- 3.3.2.1.1 Near (Mohindra) retinoscopy
- 3.3.2.1.2 Dynamic retinoscopy
- 3.3.2.1.3 Refractive screening procedures (e.g. photorefractive screening, Brückner testing)
- 3.3.2.1.4 Subjective refraction techniques in order to verify or refine the results of previous retinoscopy
- 3.3.2.1.5 Auto refraction

3.5.2.2 The Orthoptist uses interpersonal and communicative skills to indicate to the patient/carer the purpose of the tests and to obtain appropriate responses.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Written departmental statements regarding additional specialised testing skills and policies and procedures applicable to these
- Audit of practice
- Evidence of clinical protocols
- Bi-annual evaluation of competency to practise
- Competency statement

3.4 MANAGEMENT

Overview

The aim of treatment is to achieve maximum levels of vision through compliance with glasses wear. Each patient has a care programme developed specific to his or her ocular condition.

3.4.1 Essential standards

The Orthoptist

- 3.4.1.1 Designs and implements orthoptic treatment plans with the patient and carer's involvement and consent.
- 3.4.1.2 Demonstrates knowledge of the practical and technical aspects of the therapy for Orthoptic and refractive treatment including:
 - 3.4.1.2.1 Principles of prescription including regard for working distances
 - 3.4.1.2.2 Spectacle correction
 - 3.4.1.2.3 Tolerance issues
 - 3.4.1.2.4 Contact lens correction
 - 3.4.1.2.5 Bifocals and varifocals
 - 3.4.1.2.6 Sunglasses and tints
 - 3.4.1.2.7 Laser interventions (e.g. LASIK)
- 3.4.1.3 Explains the diagnosis in appropriate terminology to the patient and carer.
- 3.4.1.4 Issues prescriptions for glasses on the basis of retinoscopy results in line with protocols that have been agreed and signed by the appropriate Ophthalmologist, taking account of the age and diagnosis of the patient considering binocular status and the emmetropisation process.
- 3.4.1.5 Advises the patient and carer on the appropriate use of glasses.
- 3.4.1.6 Selects patients for contact lens wear and arranges referral.
- 3.4.1.7 Allows time to elapse to ensure appropriate spectacle adaptation.
- 3.4.1.8 Considers all appropriate treatment options in liaison with the ophthalmologist and patient and carer.
- 3.4.1.9 Structures specific treatment with respect to the general condition of the patient.
- 3.4.1.10 Provides details of verbal or written instructions/information regarding Orthoptic and Ophthalmic procedures and care.
- 3.4.1.11 Regularly reviews the progress of the treatment plan and evaluates the need for change.
- 3.4.1.12 Refers the patient for appropriate ophthalmic assessment and treatment in a timely manner.
- 3.4.1.13 Refers the patient back to the Ophthalmologist if clinical judgment indicates additional pathology or if an unexpected result is obtained.
- 3.4.1.14 Arranges follow up appointments as necessary.
- 3.4.1.15 Where appropriate terminates the treatment at an appropriate time.

3.4.1.16 Is aware of the financial aspects of glasses prescription.

3.4.1.17 Ensures patients have an appropriate up to date pair of glasses according to local guidelines.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Policies and procedures relating to treatment and care plans
- Random review of case notes
- Patient questionnaire
- Case presentation and discussion
- Competency evaluation

3.5 RECORDING OF CLINICAL DATA

Overview

This involves the method of correct documentation of information gathered during the patient interview and assessment.

3.5.1 Essential standards

The Orthoptist

3.5.1.1 Ensures that accurate patient records and ophthalmic assessments are organised in a legible, secure, accessible, permanent (ink copy) and clear manner, including relevant test results filed in an appropriate manner. All entries should be dated, signed and follow local guidelines.

3.5.1.2 Ensures permanent copies of records are kept of every consultation.

3.5.1.3 Uses abbreviations and diagrams that are recognised by the ophthalmic team.

3.5.1.4 Maintains confidentiality of patient records.

3.5.1.5 Following refraction the Orthoptist ensures that the following are recorded in the patient's record:

3.5.1.5.1 Date of refraction

3.5.1.5.2 Type of cycloplegia

3.5.1.5.3 The signature of the prescriber (ophthalmologist/optometrist) should be included in the notes unless covered by a patient group/patient specific directive

3.5.1.5.4 The signature of the person who instills the eye drops if instilled in the department/clinic

3.5.1.5.5 Time of instillation in the 24hour clock

3.5.1.5.6 Working distance

3.5.1.5.7 Refraction result is recorded in an appropriate format to represent the principal meridians of the eye under examination

3.5.1.5.8 Where necessary the working distance is accounted when prescribing glasses

3.5.1.6 Ensures that refraction with and without cycloplegia are clearly differentiated.

3.5.1.7 Ensures that departmental records and case notes held in the department are kept in a secure place with access only by authorised personnel.

3.5.1.8 Ensures that local policies and the freedom of information act are followed if releasing patient information to other agencies e.g. education providers.

3.5.1.9 Documents follow-up arrangements and referral/attendance/discharge details.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Audit of clinical practice
- Review of policies and procedures for referral
- Review of policies for data handling
- Random review of case notes

PROFESSIONAL PRACTICE GUIDELINES FOR ORTHOPTIC PRACTICE IN RETINOSCOPY AND REFRACTION

Aim A standardised approach to the investigation of refractive error is important in the provision of quality patient care and in the development of appropriate care plans in the management of strabismus, amblyopia and refractive error.

Correction of refractive error should aim to facilitate the achievement of maximum vision by the prescribing/issuing of appropriate corrective lenses.

- 3.6 Pre refraction requirements
- 3.7 Examination
- 3.8 Management of refractive error

3.6 PRE REFRACTION REQUIREMENTS

Prior to examination the Orthoptist ensures:

- Patient case notes are available.
- The patient has had pupillary reflexes checked in order to determine the presence or absence of Relative Afferent Pupillary Defect (RAPD) .
- That the patient has had a full orthoptic assessment, and a potential diagnosis formulated.
- That initial fundus examination has been carried out by a registered ophthalmologist or optometrist. Where this is not the case arrangements are made to have this carried out as per local agreements.
- Appropriately selects patients requiring cycloplegia in line with local procedures.

3.7 EXAMINATION

The Orthoptist carries out the refraction procedure by means of retinoscopy.

During the examination The Orthoptist

- Records results in standardised notation.
- Is aware of the emmetropisation process.
- Issues a glasses prescription which has been agreed and signed by an Ophthalmologist as per local agreement.
- Initiates onward referral to the ophthalmologist if pathology is detected or if there is an unexplained retinoscopy result.

3.8 MANAGEMENT OF REFRACTIVE ERROR

The Orthoptist

- Is aware of the orthoptic diagnosis and the secondary aim of correction of refractive error i.e. whether a full or reduced prescription is required.
- Is aware of the potential of problems of non tolerance and is able to take appropriate action.
- Advises the patient, parent or carer on the appropriate use of glasses.
- Ensures that appropriate follow-up is arranged.
- Chooses appropriate patients for contact lens wear and initiates onward referral.

SECTION 4

VISUAL FIELD ASSESSMENT

SECTION 4

VISUAL FIELD ASSESSMENT

PATIENT CARE

Aim Appropriate and accurate evaluation is necessary to provide quality patient care.

4.1 Patient interview

4.2 Patient assessment

4.3 Diagnosis

4.4 Recording of clinical data

In some cases the Orthoptist will be acting purely as a perimetrist or visual field technician, e.g. where the choice of test has been decided by the patient's consultant and where the consultant also undertakes interpretation. Thus the field assessment will be task orientated and not all standards and guidelines in this section will apply. However, in most instances the Orthoptist acts autonomously and should adhere to the standards and guidelines listed herein.

4.1 PATIENT INTERVIEW

Overview

The patient interview is an integral part of visual field assessment practice whereby an Orthoptist gains essential information that may impact on the choice of visual field perimeter and programme/strategy. This involves the attributes of communication and interpersonal skills. The case history may be the first point of contact between the patient, carer and Orthoptist.

4.1.1 Essential standards

4.1.1.1 The intellectual needs of the patient are considered and communication techniques adjusted accordingly to best meet the patient's needs.

4.1.1.2 Questions and statements are phrased so that adequate information can be elicited.

4.1.1.3 Information gained in interview is recorded accurately and concisely and may include:

- 4.1.1.3.1 Name, address, date of birth
- 4.1.1.3.2 GP name and address
- 4.1.1.3.3 Relationship of carer to patient
- 4.1.1.3.4 Occupation
- 4.1.1.3.5 Source of referral
- 4.1.1.3.6 Reason for attendance
- 4.1.1.3.7 Family history with particular reference to ocular disease and severity of disease/ age of onset
- 4.1.1.3.8 General health with particular reference to systemic disorders associated with ocular conditions
- 4.1.1.3.9 Previous eye history including refractive error and ocular injury
- 4.1.1.3.10 Symptoms of subjective loss of visual field, blurred vision, asthenopia, pain/headache including onset and duration

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- General statement of intent during investigation and communication
- Patient questionnaire
- Audit of documented information in case notes

4.2 PATIENT ASSESSMENT

Overview

This involves the application of the attributes of knowledge, investigative and technical skills in the area of visual field assessment. Through patient assessment all information relevant to the case is efficiently and safely acquired.

4.2.1 Essential standards

- 4.2.1.1 The Orthoptist will undertake specialised visual field assessment procedures.
- 4.2.1.2 The Orthoptist uses knowledge of the visual system and its abnormalities to formulate strategies to assess the patient. This includes knowledge of refraction and the role of uncorrected or undercorrected reading and/or astigmatic corrections.
- 4.2.1.3 The Orthoptist varies testing procedures according to the patient's responses and selects testing procedures applicable to the level of ability of the patient and physical factors, e.g. ensuring rest periods are allowed for those easily fatigued and taping ptotic lids.
- 4.2.1.4 The Orthoptist correctly uses quantitative and qualitative tests to investigate further the ophthalmic status of the patient, which determines:
 - 4.2.1.4.1 The sensory state of the eyes and visual pathway
 - 4.2.1.4.2 Whether central and/or peripheral ocular disease is present
 - 4.2.1.4.3 Whether the level of visual acuity will impact on choice of fixation target
 - 4.2.1.4.4 Whether manual or automated perimetry is more appropriate and which programme/strategy is relevant
- 4.2.1.5 The testing sequence is modified according to the result gained.
- 4.2.1.6 Accurate observations about the patient's responses to the tests are made and patterns of normal and abnormal responses to testing procedures recorded and evaluated for accuracy.
- 4.2.1.7 The test results are critically evaluated for differential diagnosis.
- 4.2.1.8 The Orthoptist uses interpersonal and communicative skills to indicate to the patient/carer the purpose of the tests and to obtain appropriate responses to the tests.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Written department statements regarding additional specialised testing skills and policies and procedures applicable to these
- Audit of practice
- Evidence of clinical protocols
- Competence Statement

4.3 DIAGNOSIS

Overview

A diagnosis is made following appropriate interview and assessment of the patient using available ophthalmic techniques, equipment and assessment.

4.3.1 Essential standards

The Orthoptist

- 4.3.1.1 Interprets information gained in patient assessment to suggest differential diagnosis of pathology.
- 4.3.1.2 Selects or identifies additional tests to further investigate possible diagnoses.
- 4.3.1.3 Is able to recognise when clinical findings reveal a possible change in visual field status.
- 4.3.1.4 Establishes area of intervention that will be required. For example, ophthalmic follow-up or neurological referral.
- 4.3.1.5 When inconsistencies arise, is able to highlight the most important information gained in the assessment.
- 4.3.1.6 Considers the ocular and general history in conjunction with test results in summarising the findings with regard to the diagnosis and management.
- 4.3.1.7 Is able to identify when accurate visual field testing will not be possible.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Audit of practice
- Peer review
- Case presentations and discussions
- Competence Statement

4.4 RECORDING OF CLINICAL DATA

Overview

This involves the method of correct documentation of information gathered during the patient interview and assessment.

4.4.1 Essential standards

The Orthoptist

- 4.4.1.1 Ensures that accurate patient records and ophthalmic assessments are organised in a legible, secure, accessible, permanent (ink copy) and clear manner, including relevant test results filed in an appropriate manner. All entries should be dated, signed and follow local guidelines.
- 4.4.1.2 Ensures permanent copies of records are kept for every consultation.
- 4.4.1.3 Uses abbreviations and diagrams that are recognised by the ophthalmic team.
- 4.4.1.4 Maintains confidentiality of patient records.
- 4.4.1.5 Ensures department records and case notes being held in the department are kept in a secure place and access is only available to authorised personnel.
- 4.4.1.6 Ensures documentation of informed consent is gained before releasing case records and personal histories to services outside the hospital/Trust (dependent on local policy) such as educational providers and non health care professions.
- 4.4.1.7 Ensures documentation is correctly signed and dated in accordance with local policy guidance.

4.4.2 Desirable standards

The Orthoptist

- 4.4.2.1 Refers patient for appropriate additional ophthalmic assessment and treatment to team members in a timely manner.
- 4.4.2.2 Refers the patient back to the ophthalmologist if clinical judgement indicates possible additional pathology.
- 4.4.2.3 Refers the patient to neurology/endocrine/medical/ etc. department as per local protocol.
- 4.4.2.4 Documents follow-up arrangements and referral/attendance/discharge details.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Audit of clinical practice
- Policies and procedures for referrals and data handling (case notes)
- Random review of case notes

PROFESSIONAL PRACTICE GUIDELINES FOR ORTHOPTIC PRACTICE IN VISUAL FIELD ASSESSMENT

Aim A standardised approach to the investigation of patients is important to the provision of quality patient care and the development of appropriate care plans for the management of patients.

- 4.5 Visual field assessment procedures
- 4.6 Assessment with manual perimetry techniques
- 4.7 Assessment with automated perimetry techniques

4.5 VISUAL FIELD ASSESSMENT PROCEDURES

Assessment of visual acuity should be quantitative and with appropriate ophthalmic refractive correction in situ.

Unocular VA is tested for distance and where required for near. A pinhole is used in appropriate patients where VA is reduced and refractive error is suspected.

An assessment of refractive correction, particularly that required for near vision is made. The Humphrey automated perimeter provides calculation of reading correction. However due to variances of optical properties of different perimeters it is advisable to obtain the correct prescription using focimetry and alter for near requirements appropriately. Generally a cylinder power greater than 1DC should be included and is placed behind the sphere lens.

Visual fields should be performed with manual and/or automated programmes as per local policies.

There are a variety of programmes that may be chosen for field assessment dependent on the ocular condition.

Assessment of the central visual field is easily achieved with Humphrey perimetry. This may also be assessed by campimetry using the Friedmann test or Bjerrum screen. However the latter two methods do not provide threshold detail for the visual field.

Peripheral field programmes are available with Humphrey automated perimetry but Goldmann perimetry can be recommended for detailed evaluation of the peripheral field boundaries by an experienced perimetrist.

Goldmann perimetry is recommended for assessment of the blind spot area. Patients with poor fixation may find Goldmann perimetry easier to achieve than Humphrey perimetry and those patients with poor vision/visual field are more likely to have a reliable field plotted on Goldmann perimetry with a V4e target where minimal or no field would be plotted on the Humphrey perimeter.

The choice of perimeter or programme for visual field assessment is dependent on where the visual pathway lesion is and whether the resulting defect is central or peripheral. The extent of visual acuity should also be taken into account. Where doubt exists over the results of one programme, an alternative strategy should be considered.

Colour perimetry may be recommended for testing macular sensitivity, with red or green targets in cases where central perimetry with a white target has been normal but symptoms persist. Conditions in which these fields may be performed include; patients taking hydroxychloroquine for arthritic conditions, compressive thyroid eye disease and optic neuritis.

The macular programme may be used to test the central area using white targets within the central 4 degrees and the 10-2 programme used for the central 10 degrees. This assessment should be undertaken for specific reported central defects or if the peripheral field is so constricted that only a small central area of vision remains.

The Estermann programme should be used for Driver and Vehicle Licensing Agency (DVLA) driving visual field assessments and may be performed as a binocular or monocular test dependent on the patient's visual acuity in either eye. Patient fixation must be monitored visually by the examiner. Details of the specific requirements for visual fields and the instructions following a high false positive rate are detailed on the DVLA referral form.

Patient set-up

The patient should be seated comfortably holding the response button in their preferred hand. The patient is instructed to look straight ahead at the central light. This target may be used for patients with visual acuity levels in the region of 6/60 or better. In cases of poor visual acuity during Humphrey perimetry they may be asked to look towards the centre of the four lights positioned just below the central light. If the patient has nystagmus but good fixation they are asked to continue looking straight ahead towards the central target whilst observing their fixation in the eye monitor (Humphrey perimetry) or through the telescope (Goldmann perimetry). In cases of poor visual acuity they are simply asked to keep looking in a straight-ahead position. The Humphrey 7 series perimeter models include gaze tracking which is a measure of gaze direction each time a stimulus is presented. This feature should be turned off in cases with nystagmus or poor visual acuity.

The patient should wear an eye patch so that it completely occludes the non-tested eye. Their head should be placed squarely in the chin rest and against the forehead rest. An image of the patient's eye can be seen on the monitor during Humphrey perimetry and through the telescope during Goldmann perimetry. The eye should be centred with the cross within the monitor/telescope by altering the chin rest position manually. Where trial frame lenses are used these are placed before the tested eye as close to the eye as possible without touching the eyelashes.

The test must be described in lay terms so that the patient understands the procedure. If the patient is performing the test for the first time a demonstration period may be undertaken. The examiner must respond to the patient in a manner that is reassuring and encouraging whilst responding to patient fatigue.

Artefacts

Artefacts in visual field assessment produce inaccurate results that give rise to the appearance of the presence of a pseudo visual field defect or an apparent normal field where loss of field is actually present. Care must be taken when preparing for and when undertaking the visual field assessment to prevent artefacts from occurring.

A number of factors that influence the visual fields include:

- Anatomical features of the face
- Presence of ptosis
- Miotic pupil
- Cataract
- Uncorrected or under corrected refractive error
- Poorly positioned trial lens
- Attention of the patient
- Examiner technique
- Patient understanding of the test and what is expected of them

4.6 ASSESSMENT WITH MANUAL PERIMETRY TECHNIQUES

All patients have a relevant ophthalmic investigation from which a diagnosis is formed and an appropriate care plan implemented.

Typically this is a visual field technique whereby the examiner is actively engaged in plotting the visual field, e.g. by confrontation or with Amsler or Goldmann charts.

Confrontation

The examiner assesses the boundary of the visual field. The patient response is compared to the examiner's own field of vision to determine whether it matches the normal field or is constricted in the peripheral boundaries. Each quadrant of visual field is checked quantitatively and where appropriate colour should be compared in each quadrant particularly for central areas.

Amsler charts

These may be used to plot central and paracentral scotomas. The patient describes or draws how the grid appears thus demonstrating the scotoma. Coloured and alternative grids should be used where appropriate (e.g. red in hydroxychloroquine, chart with crossed diagonal lines for complete central scotoma).

Goldmann manual perimeter

The instrument is handled from the examiner's side and the fixation of the patient's eye can be constantly checked through a reticulated telescope. It is important to continuously assess patient fixation to ensure reliability of patient responses and the patient should be instructed to continually look towards the central fixation target.

In kinetic threshold perimetry movement of the target during perimetry should be approximately 2 degrees per second.

Quantitative perimetry is undertaken in a number of different positions around the expected boundary of the visual field and an isopter plot is achieved. This technique is repeated with targets of different size and brightness providing different suprathreshold isopters for the patient. When assessing the peripheral visual field, a small bright target is used (I4e target is sufficient size for the normal field). A small dim target is used for assessment of the central visual field (I2e target is sufficient size for the normal field) and the patient's reading prescription must be used when testing the central field.

Assessment of the blind spot may be undertaken when plotting the central visual field after the peripheral isopters have been documented. Alternatively the blind spot may be plotted at the commencement of the test to ensure patient reliability (the blind spot can only be plotted with good patient fixation and responses).

If the I2e target is unseen, the central field can be assessed with the I3e target. Where the peripheral field is constricted or if localised defects are noted, these can be further assessed with larger targets, commonly the III4e target and then further with the V4e target (largest brightest target). Driving fields for DVLA assessment should be undertaken with the III4e target size.

Static quantitative perimetry may be undertaken and is commonly confined to the central 30 degrees and can be confined to areas known to be at risk in certain conditions.

4.7 ASSESSMENT WITH AUTOMATED PERIMETRY TECHNIQUES

All patients have a relevant ophthalmic investigation from which a diagnosis is formed and an appropriate care plan implemented.

There are a number of automated perimeters available for use including Humphrey systems, Octopus, Henson and Medmont systems. In hospital practice in the UK the most common form of automated perimetry in use is the Humphrey perimeter.

Humphrey automated perimeter

Screening programmes provide no information as to the extent of the visual field defect in regard to the depth of visual field loss. Therefore threshold programmes are recommended. Most commonly 24-2 and 30-2 central threshold programmes are undertaken. In departments with only Humphrey automated perimetry as the visual field assessment, screening of the full field (e.g. 120 point) or monocular Estermann programmes may be used where assessment of the peripheral visual field is required.

For departments operating series 6 analysers the threshold programmes may be run as full threshold or fastpac. Both are accepted as reliable and repeatable methods with fastpac having the greater advantage of shorter test time. Most departments operate the series 7 analyser, which again offers the full threshold and fastpac options. However SITA options are also available for full threshold and fastpac options. It is generally recommended that patients with no known visual field deficit undergo SITA fast threshold assessment as a screening option. For patients with suspected or known visual field deficit SITA standard threshold assessment is advised.

SWAP assessment is available on some series 7 analysers and may be requested for patients with suspected glaucoma with early involvement of the visual field. There is no general recommendation for this assessment in the clinical environment as yet because of its longer test duration and difficulties that may arise from co-existent cataract.

SECTION 5

VISUAL ASSESSMENT OF CHILDREN WITH SPECIAL NEEDS

SECTION 5

VISUAL ASSESSMENT OF CHILDREN WITH SPECIAL NEEDS

PATIENT CARE

Aim Appropriate and accurate evaluation is necessary to provide quality patient care.

5.1 Patient interview

5.2 Patient assessment

5.3 Diagnosis

5.4 Management

5.5 Recording of clinical data

5.1 PATIENT INTERVIEW

Overview

The patient interview is an integral part of Orthoptic practice whereby an Orthoptist gains essential information, which will form the focus/basis of further assessment. This involves the attributes of communication and interpersonal skills. The case history may be the first point of contact between the patient and the Orthoptist. The interview may take on various forms such as face-to-face contact with the carer, teacher, school nurse or other relevant personnel or maybe in the form of a questionnaire.

5.1.1 Essential standards

5.1.1.1 The intellectual needs of the patient are considered and communication techniques adjusted accordingly to best meet the patient's needs.

5.1.1.2 Questions and statements are phrased so that adequate information can be elicited.

5.1.1.3 Information gained is recorded accurately and concisely and may include:

- 5.1.1.3.1 Name, address, date of birth
- 5.1.1.3.2 GP name and address
- 5.1.1.3.3 Relationship of carer to patient
- 5.1.1.3.4 Source of referral
- 5.1.1.3.5 Reason for assessment
- 5.1.1.3.6 Family history
- 5.1.1.3.7 General health with particular reference to diagnosis (Ophthalmic and medical), medication and other agency involvement
- 5.1.1.3.8 Birth history with particular reference to foetal distress, postnatal special care, history of hypoxia, mother's medical history during pregnancy
- 5.1.1.3.9 Previous eye history
- 5.1.1.3.10 Symptoms of diplopia, blurred vision, asthenopia, pain/headache
- 5.1.1.3.11 What signs/symptoms noticed and who by
- 5.1.1.3.12 Age and mode of onset
- 5.1.1.3.13 Visual responses and preferences including stimuli, distances and visual field orientation
- 5.1.1.3.14 Changes to functional vision
- 5.1.1.3.15 Deviating eye if appropriate
- 5.1.1.3.16 Change in deviation and/or variation in angle
- 5.1.1.3.17 Precipitating/attributing cause

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- General statement of intent during investigation and communication
- Patient questionnaire/professional involvement questionnaire
- Audit of documented information in case notes

5.2 PATIENT ASSESSMENT

Overview

This involves the application of the attributes of knowledge, investigative and technical skills to the case. Through patient assessment all information relevant to the case is efficiently and safely acquired.

5.2.1 Essential standards

5.2.1.1 The assessment makes observations of patient which are documented and may include:

- 5.2.1.1.1 Strabismus
- 5.2.1.1.2 Ocular adnexa
- 5.2.1.1.3 Compensatory head postures
- 5.2.1.1.4 Obvious disability
- 5.2.1.1.5 Asymmetry of facial features
- 5.2.1.1.6 Pupil reactions
- 5.2.1.1.7 Glasses prescription and fitting
- 5.2.1.1.8 Qualitative and quantitative visual acuity measurements
- 5.2.1.1.9 Red reflex
- 5.2.1.1.10 Observation of how child is held/supported/sits as indication of development

5.2.1.2 The Orthoptist uses knowledge of the visual system and its abnormalities to formulate strategies to assess the patient.

5.2.1.3 The Orthoptist varies testing procedures according to the patient's responses and selects testing procedures applicable to the level of ability, both physical and cognitive, of the patient.

5.2.1.4 The Orthoptist correctly uses quantitative and qualitative tests to investigate further the ocular status of the patient, which determines:

- 5.2.1.4.1 The sensory state of the eyes and visual pathway
- 5.2.1.4.2 The motor function of the eyes
- 5.2.1.4.3 The presence and level of binocular vision
- 5.2.1.4.4 Functional vision

5.2.1.5 The testing sequence is modified according to the results and responses gained.

5.2.1.6 Accurate observations about the patient's responses to the tests are made and patterns of normal and abnormal responses to testing procedures recorded and evaluated for accuracy.

5.2.1.7 The test results are critically evaluated for differential diagnosis.

5.2.1.8 Written consent must be obtained/documentated if the carer will not be present at the interview for the Orthoptist to carry out the assessment.

5.2.2 Desirable objectives:

5.2.2.1 The Orthoptist may undertake specialised ophthalmic testing in which the Orthoptist has been trained, including:

- 5.2.2.1.1 Visual field assessment
- 5.2.2.1.2 Refraction
- 5.2.2.1.3 Autorefraction
- 5.2.2.1.4 Low visual acuity assessment
- 5.2.2.1.5 Colour vision
- 5.2.2.1.6 Contrast sensitivity

5.2.2.2 The Orthoptist uses interpersonal and communicative skills to indicate to the patient/carer the purpose of the tests and to obtain appropriate responses to the tests. The method of communication may be varied depending upon the disability/cognitive ability of the child e.g. makaton/sign along etc.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Written department statements regarding additional specialised testing skills and policies and procedures applicable to these
- Audit of practice
- Evidence of clinical protocols

5.3 DIAGNOSIS

Overview

A diagnosis is made following appropriate interview and assessment of the patient using available Orthoptic techniques and equipment and ophthalmic assessment. Where special school testing is carried out as a screening tool then the following standards will be applicable to any further assessments following referral according to local policy.

5.3.1 Essential standard

The Orthoptist

- 5.3.1.1 Interprets information gained in patient assessment to suggest possible ocular diagnoses.
- 5.3.1.2 Selects or identifies additional tests to further investigate possible diagnoses.
- 5.3.1.3 Is able to recognise when clinical findings reveal a possible change in direction of patient management.
- 5.3.1.4 Establishes area of intervention that will be required, for example sensory, motor, optical, rehabilitation or further monitoring of condition.
- 5.3.1.5 Is able to determine if the tests provide evidence for the diagnosis of the ocular motor disturbance.
- 5.3.1.6 When inconsistencies arise is able to highlight the most important information gained in the assessment.
- 5.3.1.7 Considers the ocular and general history in conjunction with test results in summarising the findings with regard to the diagnosis and possible cause.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Audit of practice
- Peer review
- Case presentations and discussions

5.4 MANAGEMENT

Overview

Each patient has a care programme developed specific to his or her ocular condition. Where special school testing is carried out as a screening tool then the following standards will be applicable to any further assessments following referral according to local policy.

5.4.1 Essential standards

The Orthoptist

- 5.4.1.1 Designs Orthoptic treatment plans and implements treatment plans with the patients/carers involvement and consent (which may be verbal for non-invasive treatment).
- 5.4.1.2 Demonstrates knowledge of the practical and technical aspects of the therapeutics for Orthoptic treatment including:
 - 5.4.1.2.1 Occlusion methods
 - 5.4.1.2.2 Binocular vision exercises
 - 5.4.1.2.3 Prismatic and optical influences on vision and binocular vision
 - 5.4.1.2.4 Pharmacological effects on visual function
 - 5.4.1.2.5 The implications of ocular procedures/surgery
- 5.4.1.3 Explains the diagnosis in appropriate terminology to the patient or carer.
- 5.4.1.4 Considers all treatment options in liaison with the ophthalmic team, patient and other relevant agencies e.g. paediatrician, teachers, visual impairment support team etc where necessary/appropriate with respect to all prognostic indicators, available resources, any adverse side effects and level of patient involvement that will be required.
- 5.4.1.5 Structures the specific treatment with respect to the general condition of the patient.
- 5.4.1.6 Provides details of verbal or written instructions/information regarding Orthoptic and Ophthalmic procedures and care.
- 5.4.1.7 Reviews the progress of the treatment plan regularly and evaluates the need for modification or alternative treatment plans.
- 5.4.1.8 Terminates the treatment at an appropriate time.
- 5.4.1.9 Assists in the management of patient's pre and postoperative care whilst ensuring all staff involved are aware of the child's communication style.
- 5.4.1.10 Communicates the diagnosis, procedures and care with parental/carer consent to relevant multidisciplinary agencies e.g. paediatrician, school nurse, teacher etc. This should be timely, using appropriate language to be understood by all relevant parties. Communication may be verbal or written.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Policies and procedures relating to treatment and care plans
- Random review of case notes
- Patient questionnaire
- Case presentation and discussion

5.5 RECORDING OF CLINICAL DATA

Overview

This involves the method of correct documentation of information gathered during the patient interview and assessment.

5.5.1 Essential standards

The Orthoptist

- 5.5.1.1 Ensures that accurate patient records and ophthalmic assessments are organised in a legible, secure, accessible, permanent (ink copy) and clear manner, including relevant test results filed in an appropriate manner. All entries should be dated, signed and follow local guidelines.
- 5.5.1.2 Ensures permanent copies of records are kept for every consultation.
- 5.5.1.3 Uses abbreviations and diagrams that are recognised by the Orthoptic and ophthalmic professions on all Orthoptic records as listed in the Dictionary of Common Terms (available from the British and Irish Orthoptic Society).
- 5.5.1.4 Ensures that Orthoptic findings are written in appropriate terminology when the information is to be accessed by multidisciplinary agencies.
- 5.5.1.5 Ensures that the care programmes developed by unqualified staff are countersigned by a registered, qualified member of staff.
- 5.5.1.6 Maintains confidentiality of patient records.
- 5.5.1.7 Ensures records and case notes being held are kept in a secure place and access is only available to authorised personnel.
- 5.5.1.8 Ensures documentation of informed consent is gained before releasing Orthoptic files and personal histories to services outside the hospital/Trust (dependent on local policy) such as educational providers and non health care professions.

5.5.2 Essential standards (dependent on local referral policy)

The Orthoptist

- 5.5.2.1 Refers patient for appropriate additional assessment and treatment as required including other allied health professionals or agencies to ensure a holistic approach to patient care.
- 5.5.2.2 Refers the patient to an Ophthalmologist/Hospital as per local protocol.
- 5.5.2.3 Refers the patient back to the referring specialist/ophthalmologist if clinical judgement indicates possible additional pathology.
- 5.5.2.4 Refers the patient to the referring medical practitioners for medical assessment and management.
- 5.5.2.5 Refers the patient to appropriate agencies for specific needs such as vision impairment.

5.5.2.6 Documents follow-up arrangements and referral/attendance/discharge details.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Audit of clinical practice
- Policies and procedures for referrals and data handling (case notes)
- Random review of case notes

PROFESSIONAL PRACTICE GUIDELINES FOR ORTHOPTIC PRACTICE IN SPECIAL NEEDS ASSESSMENT

Aim A standardised approach to the investigation of Orthoptic patients is important to the provision of quality patient care and the development of appropriate care plans for the management of patients. The clinical guidelines referred to in sections 4.2-4.7 of the British Orthoptic Society – Competency Standards and Clinical Practice Guidelines document are applicable and should be applied to all children tested within the special school setting. However, Orthoptic investigation and management must be appropriate to the abilities of each individual child taking into consideration their specific diagnosis and any relevant eye conditions related to it.

5.6 Orthoptic investigative procedures for the visual assessment of children with special needs

5.6 ORTHOPTIC INVESTIGATIVE PROCEDURES FOR CHILDREN WITH SPECIAL NEEDS

Orthoptic investigative procedures for patients with special needs should follow the guidelines written in section 4.1 of the British Orthoptic Society – Competency Standards and Clinical Practice Guidelines document. However, the choice and presentation of the tests are dependent upon the patient's age and ability, their condition and previous findings.

Information should be gathered from formal testing, direct observations and indirect observations from other sources e.g. teachers, family, health professionals.

Observations may be undertaken in a clinical setting within the centre or school, thus allowing the Orthoptist to assess in a quiet and more controlled environment or may take place within the classroom. This will allow the Orthoptist to make observations, which are relevant to the child's daily environment. Where available, assessing and/or videoing the child in their home environment can be beneficial.

The patient should be appropriately sat/positioned to maximise their potential for visual interaction.

Assessment of visual acuity should be quantitative wherever possible using tests based on logMAR, Snellen equivalent and preferential looking. However qualitative assessment will be required in individuals where no formal assessment is possible and/or in conjunction with formal visual assessment to help gain information about the patient's functional vision.

Functional visual assessment may involve tools such as rolling balls and cake decorations or may be more informal including observation of visual interest in surroundings/response to articles of visual interest, ability to navigate surroundings etc. All general visual observations, including the size of visual objects observed, method of presentation, the distance at which it was observed and area of visual field seen should be recorded.

Visual field testing using confrontation should be carried out where indicated. Pupil reactions should be assessed particularly observing for light and near responses as these may be dissociated in the very young child/baby.

The child's visual response should be assessed at very near distances less than 1/3rd metre in order to identify accommodative lag or insufficiency. This may elicit an avoidance reflex where vision is reduced at close distance due to poor accommodation.

Where vision appears particularly poor, the child may be assessed in near darkness using light targets with little or no auditory stimuli, to ascertain a more functional visual response.

Throughout the testing the Orthoptist should be aware of the impact of auditory stimuli and should differentiate between visual and auditory responses.

Observations to determine if a child becomes 'overloaded' with excess visual stimulus/physical movement resulting in subsequent visual deterioration are beneficial. This can happen in a busy classroom environment with too many people, posters and activities going on at once. Where this is identified it should be noted that visual responses achieved in the clinical environment may produce an artificially high response therefore assessment should also be carried out in the classroom environment. This information is extremely important and should be included in education reports.

SECTION 6

CATARACT ASSESSMENT

SECTION 6

CATARACT ASSESSMENT

PATIENT CARE

Aim Appropriate and accurate evaluation and intervention are necessary to provide high quality care to patients referred for the management of cataract.

- 6.1 Patient interview
- 6.2 Patient assessment
- 6.3 Diagnosis
- 6.4 Management
- 6.5 Post-operative assessment
- 6.6 Recording of clinical data

The following competency guidelines have been written with a view to best practice under ideal clinical conditions.

All Orthoptists working in this area must ensure they have reached the required standard to practice safely and have been deemed competent through local training and work within local policy guidelines.

The Orthoptist may take various roles in the assessment of cataract patients. These guidelines cover Orthoptists working in all aspects of assessment within a multi-disciplinary team. It is recognised that not all Orthoptists have access to certain pieces of equipment and that their role as a team member may not allow them the freedom to act in individual practice situations.

Patients assessed within these clinics will be adults. Paediatric patients with cataract or suspected cataract should be seen by the ophthalmologist in a designated paediatric clinic.

6.1 PATIENT INTERVIEW

Overview

The patient interview is an integral part of the assessment of the cataract patient whereby the Orthoptist gains essential information, which will form the focus/basis of further assessment. This involves the attributes of communication and interpersonal skills. The case history will be the first point of contact between the patient, carer and the Orthoptist.

6.1.1 Essential standards

- 6.1.1.1 The intellectual needs of the patient are considered and communication techniques adjusted accordingly to best meet the patient's needs.
- 6.1.1.2 Questions and statements are phrased so that adequate information can be elicited.
- 6.1.1.3 Information gained in interview is recorded accurately and concisely and may include:
 - 6.1.1.3.1 Name, address, date of birth
 - 6.1.1.3.2 GP name and address
 - 6.1.1.3.3 Relationship of carer to patient as appropriate
 - 6.1.1.3.4 Source of referral
 - 6.1.1.3.5 Reason for attendance
 - 6.1.1.3.6 Family history of eye disease
 - 6.1.1.3.7 Previous eye history including ocular injury/previous surgery/binocular vision abnormalities and age glasses first prescribed
 - 6.1.1.3.8 General health and medical history
 - 6.1.1.3.9 Social History including occupation, carer, driving and smoking
 - 6.1.1.3.10 Symptoms of blurred vision, reading difficulties, sensitivity to light, glare and any impact they may have on daily routine
 - 6.1.1.3.11 The patient's understanding of cataract and the patient's desire for cataract surgery

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- General statement of intent during investigation and communication
- Patient questionnaire
- Audit of documented information in case notes

6.2 PATIENT ASSESSMENT

Overview

This involves the application of the attributes of knowledge, investigative and technical skills in the area of ophthalmic assessment, cataract and recognition of eye disease/pathology. Through patient assessment all information relevant to the case is efficiently and safely acquired.

6.2.1 Essential standards

6.2.1.1 The Orthoptist will undertake specialised ophthalmic testing procedures in the assessment of the structures of the eye including cataract. These procedures may include:

- 6.2.1.1.1 Visual acuity (near and distance)
- 6.2.1.1.2 Pupil reactions
- 6.2.1.1.3 Anterior segment and media assessment
- 6.2.1.1.4 Assessment of anterior chamber depth
- 6.2.1.1.5 Goldmann tonometry
- 6.2.1.1.6 Fundus examination including assessment of the structures of the posterior segment: disc, cup size, macula, blood vessels, four peripheral quadrants, clarity of vitreous
- 6.2.1.1.7 Visual field assessment & interpretation
- 6.2.1.1.8 Keratometry
- 6.2.1.1.9 Biometry
- 6.2.1.1.10 Autorefraction

6.2.1.2 The Orthoptist uses knowledge of the visual system and its abnormalities to formulate strategies to assess the patient.

6.2.1.3 The Orthoptist varies testing procedures according to the patient's responses and, within reason, selects testing procedures applicable to the level of ability of the patient.

6.2.1.4 The Orthoptist correctly uses quantitative and qualitative tests to investigate further the ophthalmic status of the patient to:

- 6.2.1.4.1 Determine the sensory state of the eyes and visual pathway.
- 6.2.1.4.2 Differentiate type of lens opacity and correlate these with visual prognosis/ symptoms.
- 6.2.1.4.3 Detect and describe the presence of visually discernible anterior segment and fundus abnormalities.

6.2.1.5 The testing sequence is modified according to the result gained.

6.2.1.6 Accurate observations about the patient's responses to the tests are made and patterns of normal and abnormal responses to testing procedures recorded and evaluated for accuracy.

6.2.1.7 The tests results are critically evaluated for differential diagnosis.

6.2.1.8 In patients where all aspects of assessment are not possible, advice is sought from an ophthalmologist as per local protocol.

6.2.1.9 The Orthoptist may undertake specialised ophthalmic testing procedures in the ophthalmic setting in which the Orthoptist has been trained, including:

6.2.1.9.1 IOL master

6.2.1.9.2 A-scan biometry

6.2.1.10 The Orthoptist uses interpersonal and communicative skills to indicate to the patient/carer the purpose of the tests and to obtain appropriate responses to the tests.

6.2.1.11 Where it is necessary to instill eye drops for the purposes of assessment and diagnosis these should be prescribed as per local policies and procedures.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Review of case notes
- Written department statements regarding additional specialised testing skills and policies and procedures applicable to these
- Audit of practice
- Evidence of clinical protocols
- Competence Statement

6.3 DIAGNOSIS

Overview

A diagnosis is made following appropriate interview and examination of the patient using available ophthalmic techniques, equipment and assessment procedures.

6.3.1 Essential standards

The Orthoptist

- 6.3.1.1 Interprets information gained in patient assessment to classify the cataract by describing the anatomical location of the opacity and describing the presence of any other discernible anterior segment and/or fundus abnormality.
- 6.3.1.2 Seeks advice on pathological or physiological abnormalities of the anterior segment or fundus in order that the consultant can decide on the suitability and type of cataract surgery.
- 6.3.1.3 Is able to recognise when clinical findings reveal a possible change in direction of patient management or guarded prognosis for post-operative visual outcome.
- 6.3.1.4 Determines when additional intervention will be required, for example, raised intraocular pressure.
- 6.3.1.5 Considers the ocular and general history in conjunction with test results in summarising the findings with regard to the diagnosis and management.
- 6.3.1.6 Where it is necessary to instill eye drops for the purposes of assessment and diagnosis these should be prescribed as per local policies and procedures.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Audit of practice
- Peer review
- Case presentations and discussions
- Competence Statement

6.4 MANAGEMENT

Overview

Each patient has a care programme developed specific to their individual needs and diagnosis, which considers local protocols.

6.4.1 Essential standards

The Orthoptist

- 6.4.1.1 Relates the patient's symptoms to the cataract type and density.
- 6.4.1.2 Where pathological and physiological abnormalities are present, seeks advice in order that the ophthalmologist can decide on the suitability and type of cataract surgery.
- 6.4.1.3 Demonstrates knowledge of the criteria (ocular or systemic) that must be met when considering suitability for day case surgery.
- 6.4.1.4 Demonstrates knowledge of the criteria which, if met, would render the patient unsuitable for day case cataract surgery.
- 6.4.1.5 Demonstrates the ability to explain the procedure to the patients at their level of understanding and answer any questions they may have.
- 6.4.1.6 Explains the diagnosis in appropriate terminology to the patient or carer.
- 6.4.1.7 Provides details of verbal or written instructions/information relating to cataract surgery and post-operative care.
- 6.4.1.8 Describes the risks and benefits of cataract surgery to the patient, highlighting any factors that would affect their individual prognosis.
- 6.4.1.9 Demonstrates an understanding of the complications associated with cataract surgery and how they may be dealt with.
- 6.4.1.10 Discusses the desired post operative refraction with the patient and reaches a decision giving the benefits and problems of various possible outcomes.
- 6.4.1.11 Completes the informed consent process and appropriate documentation accurately.
- 6.4.1.12 Reviews the patient post cataract extraction and according to local protocols, decides if surgical outcome warrants further medical intervention and makes an informed decision on the outcome of the appointment.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Policies and procedures relating to the cataract clinic
- Random review of case notes
- Patient questionnaire
- Case presentation and discussion
- Competence Statement

6.5 POST OPERATIVE ASSESSMENT

Overview

This involves the application of the attributes of knowledge, investigative and technical skills in the area of ophthalmic assessment and cataract to enable Orthoptists to examine patients post-operatively following elective day-case cataract extraction. Timescale dependent upon local protocols.

6.5.1 Essential standards

6.5.1.1 The Orthoptist will undertake specialised ophthalmic testing procedures in the assessment of the structures of the eye. These procedures may include:

- 6.5.1.1.1 Visual acuity
- 6.5.1.1.2 Pupil reactions
- 6.2.1.1.3 Anterior segment assessment
- 6.2.1.1.4 Angle assessment
- 6.2.1.1.5 Goldmann tonometry
- 6.2.1.1.6 Fundus examination (as per local policies/procedures)
- 6.2.1.1.7 Seidel test
- 6.2.1.1.8 Autorefractometry

6.5.1.2 Seeks advice on the presence of any new pathological or physiological abnormalities in order that the ophthalmologist can decide on suitable postoperative assessment and management.

6.5.1.3 Is able to recognise when clinical findings reveal a possible change in direction of patient management.

6.5.1.4 Defines situations where intervention is required, for example, raised intraocular pressure.

6.5.1.5 When inconsistencies arise, is able to highlight the most important information gained in the assessment.

6.5.1.6 The Orthoptist varies testing procedures according to the patient's responses and selects testing procedures applicable to the level of ability of the patient.

6.5.1.7 The Orthoptist correctly uses quantitative and qualitative tests to investigate further the ophthalmic status of the patient to:

- 6.5.1.7.1 Detect and describe the presence of visually discernible anterior segment and, if applicable, fundus abnormalities.
- 6.5.1.7.2 Determine if surgical outcome warrants further medical intervention, and refer to ophthalmology as appropriate.
- 6.5.1.7.3 Make an informed decision on the outcome of the postoperative assessment and decide if appropriate to list for 2nd eye, discharge or refer to ophthalmology.

6.5.1.8 The testing sequence is modified according to the results gained.

6.5.1.9 Accurate observations about the patient's responses to the tests are made and patterns of normal and abnormal responses to testing procedures recorded and evaluated for accuracy.

6.5.1.10 The test results are critically evaluated for differential diagnosis.

- 6.5.1.11 The Orthoptist may undertake specialised ophthalmic testing procedures in the Ophthalmic setting in which the Orthoptist has been trained and deemed competent.
- 6.5.1.12 The Orthoptist uses interpersonal and communicative skills to indicate to the patient/carer the purpose of the tests and to obtain appropriate responses to the tests.
- 6.5.1.13 The Orthoptist discusses and documents the patient's thoughts as to their surgical result.
- 6.5.1.14 Where it is necessary to instill eye drops for the purposes of assessment and diagnosis these should be prescribed as per local policies and procedures.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Written department statements regarding additional specialised testing skills and policies and procedures applicable to these
- Audit of practice
- Evidence of clinical protocols
- Competence Statement

6.6 RECORDING OF CLINICAL DATA

Overview

This involves the method of correct documentation of information gathered during the patient interview and assessment, the taking of informed consent and documentation of post-operative assessment.

6.6.1 Essential standards

The Orthoptist

- 6.6.1.1 Ensures that accurate patient records and ophthalmic assessments are organised in a legible, secure, accessible, permanent (ink copy) and clear manner, including relevant test results filed in an appropriate manner. All entries should be dated, signed and follow local guidelines.
- 6.6.1.2 Ensures permanent copies of records are kept for every consultation.
- 6.6.1.3 Accurately records informed consent to surgical intervention using the correct documentation which has been specified in local and/or national policies and procedures.
- 6.6.1.4 Uses abbreviations and diagrams that are recognised and approved by the ophthalmic team.
- 6.6.1.5 Maintains confidentiality of patient records.
- 6.6.1.6 Documents follow-up arrangements and referral/attendance/discharge details.
- 6.6.1.7 Completes documentation advising the referrer/GP of the outcome of the appointment.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Audit of clinical practice
- Policies and procedures for referrals and data handling
- Random review of case notes

PROFESSIONAL PRACTICE GUIDELINES FOR ORTHOPTIC PRACTICE WITHIN ADULT CATARACT SERVICES

Aim A standardised approach to the investigation of adult patients referred with the presence of cataract and for advice on cataract surgery is important to the provision of quality patient care and the development of appropriate care plans for the management of patients.

6.7 Ophthalmic investigative procedures in the assessment of adult cataract patients

6.8 Assessment and management of patients referred with cataract

6.7 OPTHALMIC INVESTIGATIVE PROCEDURES IN THE ASSESSMENT OF ADULT CATARACT PATIENTS

Assessment of visual acuity should be quantitative and with appropriate ophthalmic refractive correction in situ.

Unocular VA is tested for distance and for near. A pinhole is used in appropriate patients where visual acuity is reduced and refractive error is suspected.

Visual fields should be performed to confrontation.

Assessment of pupil reactions should be performed in order to exclude the presence or absence of a relative afferent pupillary defect (RAPD).

Applanation tonometry should be performed at the initial and post-operative visits using the Goldmann applanation tonometer.

Assessment of the anterior segment and ocular media should be carried out on initial assessment. This assessment must be performed using the slit lamp and accurate recording of findings made.

Fundus assessment should be carried out using the slit lamp with the 78D and/or 90D Volk lenses, to visualise and describe the structures of the posterior segment; disc, cup size, macula, blood vessels, four peripheral quadrants, clarity of vitreous.

Keratometry and biometry should be carried out.

If required, autorefraction should be undertaken post-operatively using the equipment available locally.

If any of the above procedures are not possible this should be recorded in the notes and/or if the results give cause for concern, the Orthoptist must consult an ophthalmologist according to local protocol.

6.8 ASSESSMENT AND MANAGEMENT OF ADULT PATIENTS REFERRED FOR THE INVESTIGATION OF CATARACT

All patients have a relevant ophthalmic investigation from which a diagnosis is formed and an appropriate management plan implemented.

The aim is to diagnose the cataract, determine its effect on the patient and list and consent for surgery as appropriate.

Assessment

All patients require a thorough assessment at their initial visit:

- Case history
- Visual acuity
- Pupil reactions
- Visual field assessment to confrontation
- Anterior segment and media assessment
- Tonometry
- Fundus examination
- Keratometry
- Biometry

Post operatively the assessment will comprise:

- Visual acuity
- Pupil reactions
- Anterior segment assessment
- Tonometry
- Fundus examination (as previously stated) when deemed appropriate according to local protocols e.g. if visual outcome not as predicted pre-operatively, if no fundus view was possible pre-operatively
- Seidel test
- Autorefraction

Management

In conjunction with local policies and procedures The Orthoptist

- Advises the patient upon the appropriateness of cataract surgery.
- Completes the informed consent process and adds the patients name to the waiting list.
- Provides details of verbal/written instructions/information relating to cataract surgery and post-operative care.
- Reviews the patient post cataract extraction and, according to local protocols, decides if surgical outcome warrants further medical intervention and makes an informed decision on the outcome of the appointment and subsequent management.

In all of the above consults the ophthalmologist as appropriate.

SECTION 7

SPECIFIC LEARNING DIFFICULTIES

SECTION 7

SPECIFIC LEARNING DIFFICULTIES

PATIENT CARE

Aim Appropriate and accurate evaluation is necessary to provide quality patient care, the purpose of which is to establish whether any ocular defects and/or visual perceptual weaknesses may be contributing to reading and writing difficulty. Treatment is planned according to the clinic findings with a view to reducing symptoms and improving visual function in order to facilitate more efficient reading and writing.

7.1 Patient interview

7.2 Patient assessment

7.3 Diagnosis

7.4 Management

7.5 Recording of clinical data

It should be noted that for the purpose of this document, the term Specific Learning Difficulties will cover patients with reading/writing difficulties including patients with Meares-Irlen syndrome (MIS)/visual stress/scotopic sensitivity syndrome, dyslexia and/or developmental co-ordination disorder (DCD). Patients may or may not have been previously diagnosed with dyslexia/and or developmental co-ordination disorder (DCD) by other professionals before attending and the Orthoptist should recognise the need for onward referral to other professionals. The principles of investigation and management of the above named conditions may also be extended to other developmental disorders such as autism, attentional deficit hyperactivity disorder etc.

It is desirable that Orthoptists working in this area should have appropriate expertise in the field, obtained by attending relevant lectures, workshops and reading appropriate literature. The Orthoptist should endeavour to keep their knowledge current with the latest scientific evidence base, and practice accordingly.

It is recognised in addition to standard Orthoptic equipment, departments will have access to recognised means of assessing reading function and colour preference.

It is also desirable that Orthoptists should be aware of legislation pertinent to this field such as the Disability Discrimination Act (1995) and the Additional Support for Learning Act Scotland (2004). The Orthoptist should understand their duties and role in line with legislation in the field of disability and education.

7.1 PATIENT INTERVIEW

Overview

The patient interview is an integral part of the assessment of patients with Specific Learning Difficulties whereby an Orthoptist gains essential information, which will form the focus/basis of further assessment. This involves the attributes of communication and interpersonal skills. The case history may be the first point of contact between the patient, carer and Orthoptist.

7.1.1 Essential standards

- 7.1.1.1 The intellectual needs of the patient are considered and communication techniques adjusted accordingly to best meet the patient's needs.
- 7.1.1.2 Questions and statements are phrased appropriately so that appropriate information is elicited.
- 7.1.1.3 The Orthoptist establishes a rapport with the patient/carers, introduces self and discusses the role of the Orthoptist at the first visit.
- 7.1.1.4 The Orthoptist addresses the patient by name and makes eye contact.
- 7.1.1.5 The Orthoptist shows an interest in the patient and respects the individual needs of the patient.
- 7.1.1.6 Information gained in interview is recorded accurately and concisely and may include:
 - 7.1.1.6.1 Name, address, date of birth
 - 7.1.1.6.2 GP name and address
 - 7.1.1.6.3 Relationship of carer to patient
 - 7.1.1.6.4 Occupation
 - 7.1.1.6.5 Source of referral
 - 7.1.1.6.6 Name of School/Special Needs Co-ordinator
 - 7.1.1.6.7 Reason for attendance including the nature of the difficulties experienced by the patient such as:
 - 7.1.1.6.7.1 Difficulty with reading
 - 7.1.1.6.7.2 Difficulty with writing
 - 7.1.1.6.7.3 Difficulty with spelling
 - 7.1.1.6.7.4 Difficulty with copying
 - 7.1.1.6.7.5 Difficulty with maths/ arithmetic
 - 7.1.1.6.7.6 Headaches and or visual discomfort
 - 7.1.1.6.8 Family history with particular reference to literacy difficulties/dyslexia and migraine
 - 7.1.1.6.9 General health with particular reference to problems with development of speech and hearing, photosensitivity, allergies, migraine, eczema, epilepsy and attendance with other professionals
 - 7.1.1.6.10 Birth history including birth weight with particular reference to any birth difficulties
 - 7.1.1.6.11 Medication with particular note of the use of essential fatty acid supplements
 - 7.1.1.6.12 General development and milestones with reference to crawling and walking to help ascertain any related areas of delay and also any known behaviour problems should be noted

- 7.1.1.6.13 Previous eye history and treatment
- 7.1.1.6.14 Age of onset of symptoms
- 7.1.1.6.15 Precipitating/attributing cause
- 7.1.1.6.16 Note of signs and symptoms such as headache, visual distortion, asthenopia, diplopia, blur, photophobia, difficulty keeping place and letter/word confusion

7.1.2 Desirable standards

- 7.1.2.1 Detailed information as to academic progress with reference to school/educational psychologist's report if available.
- 7.1.2.2 Information regarding co-ordination, motor skills, eye/hand/foot dominance and cognitive function should be ascertained.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- General statement of intent during investigation and communication
- Patient questionnaire
- Audit of documented information in case notes

7.2 PATIENT ASSESSMENT

Overview

This involves the application of the attributes of knowledge, investigative and technical skills to the assessment of patients with Specific Learning Difficulties. Through patient assessment all information relevant to the case is efficiently and safely acquired in order to facilitate accurate diagnosis and plan management designed to alleviate symptoms and improve visual function.

7.2.1 Essential standards

7.2.1.1 The assessment makes observations of the patient, which are documented and may include:

- 7.2.1.1.1 Strabismus
- 7.2.1.1.2 Ocular adnexa
- 7.2.1.1.3 Adaptive head/ body postures
- 7.2.1.1.4 Behavioural habits such as excessive movement or poor attention
- 7.2.1.1.5 Obvious disability
- 7.2.1.1.6 Asymmetry of facial features
- 7.2.1.1.7 Pupil reactions
- 7.2.1.1.8 Glasses prescription and fitting

7.2.1.2 The Orthoptist uses knowledge of the visual system and its abnormalities to formulate strategies to assess the patient and relate the findings to the nature of the reading and writing difficulties.

7.2.1.3 The Orthoptist varies testing procedures according to the patient's responses and selects testing procedures applicable to the level of ability of the patient.

7.2.1.4 The Orthoptist correctly uses quantitative and qualitative tests to investigate further the ocular status of the patient, which determines:

- 7.2.1.4.1 Sensory and motor aspects of binocular vision
- 7.2.1.4.2 Quality of convergence with reference to both normal and jump convergence
- 7.2.1.4.3 Quality of accommodation both unocular and binocular
- 7.2.1.4.4 Quality of saccades and smooth pursuit movements
- 7.2.1.4.5 Presence or absence of MIS
- 7.2.1.4.6 The speed and accuracy of reading as a base line measure
- 7.2.1.4.7 Patient comfort when carrying out visual tasks

7.2.1.5 The testing sequence is modified according to the result gained.

7.2.1.6 Accurate observations about the patient's responses to the tests are made and patterns of normal and abnormal responses to testing procedures recorded and evaluated for accuracy.

7.2.1.7 The test results are critically evaluated for differential diagnosis.

7.2.1.8 The Orthoptist uses interpersonal and communicative skills to indicate to the patient/carer the purpose of the tests and to obtain appropriate responses to the tests.

7.2.2 Desirable objectives:

7.2.2.1 Additional evaluation may include:

- 7.2.2.1.1 Observation of eye movements when reading
- 7.2.2.1.2 Observation of the types of mistakes made when reading
- 7.2.2.1.3 Measurements of eye movements to include pro-saccades, anti saccades, voluntary and involuntary smooth pursuit with particular attention to the ability to cross the midline
- 7.2.2.1.4 Tracking ability using the Developmental Eye Movement Test
- 7.2.2.1.5 Assessment of fixation stability
- 7.2.2.1.6 Colorimetry
- 7.2.2.1.7 Visual perceptual skills

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Written department statements regarding additional specialised testing skills and policies and procedures applicable to these
- Audit of practice
- Evidence of clinical protocols
- Competence statement

7.3 DIAGNOSIS

Overview

A diagnosis is made following appropriate interview and assessment of the patient using available Orthoptic techniques and equipment and ophthalmic assessment.

7.3.1 Essential standards

The Orthoptist

- 7.3.1.1 Interprets information gained in patient assessment to suggest possible ocular diagnoses contributing to reading and writing difficulties.
- 7.3.1.2 Selects or identifies additional tests to further investigate possible diagnoses.
- 7.3.1.3 Is able to recognise when clinical findings reveal a possible change in direction of patient management.
- 7.3.1.4 Establishes area of intervention that will be required.
- 7.3.1.5 Is able to determine if the test results provide evidence for the diagnosis of the visual defects contributing to reading and writing difficulties.
- 7.3.1.6 When inconsistencies arise, is able to highlight the most important information gained in the assessment.
- 7.3.1.7 Considers the ocular and general history in conjunction with test results in summarising the findings with regard to the diagnosis and possible cause.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Audit of practice
- Peer review
- Case presentations and discussions
- Competence Statement

7.4 MANAGEMENT

Overview

Each patient has a care programme developed to reduce visual discomfort, improve binocular vision if appropriate, improve visual efficiency with a view to improving reading and writing.

7.4.1 Essential standards

The Orthoptist

7.4.1.1 Designs and implements Orthoptic treatment plans with the patient's involvement and consent (which may be verbal for non-invasive treatment).

7.4.1.2 Demonstrates knowledge of the practical and technical aspects of the therapeutics for treatment of patients with Specific Learning Difficulties. Any treatment carried out should be scientifically evidence based from peer-reviewed literature. This may include:

- 7.4.1.2.1 Refractive correction
- 7.4.1.2.2 Binocular vision treatment
- 7.4.1.2.3 Coloured overlays and tinted lenses
- 7.4.1.2.4 Eye movement training
- 7.4.1.2.5 Monocular occlusion

7.4.1.3 Explains the diagnosis and treatment in appropriate terminology to the patient or carer.

7.4.1.4 Considers all treatment options in liaison with the patient/carer and where appropriate the ophthalmic team with respect to all prognostic indicators, available resources, any adverse side effects and level of patient involvement that will be required.

7.4.1.5 Structures the specific treatment with respect to the general condition of the patient.

7.4.1.6 Provides verbal or written instructions/information regarding Orthoptic and Ophthalmic procedures and care.

7.4.1.7 Reviews the progress of the treatment plan regularly and evaluates the need for modification or alternative treatment plans.

7.4.1.8 Recognises the need for onward referral.

7.4.1.9 Terminates the treatment at an appropriate time.

7.4.2 Desirable Objectives

7.4.2.1 The Orthoptist will liaise with the Education Authority e.g. Special Needs Co-ordinator and other therapists for the benefit of the patient in the classroom environment and provides written information if and when requested (with consent of the patient/carer).

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Policies and procedures relating to treatment and care plans
- Random review of case notes
- Patient questionnaire
- Case presentation and discussion
- Competence statement

7.5 RECORDING OF CLINICAL DATA

Overview

This involves the method of correct documentation of information gathered during the patient interview and assessment.

7.5.1 Essential standards

The Orthoptist

- 7.5.1.1 Ensures that accurate patient records and ophthalmic assessments are organised in a legible, secure, accessible, permanent (ink copy) and clear manner, including relevant test results filed in an appropriate manner. All entries should be dated, signed and follow local guidelines.
- 7.5.1.2 Ensures permanent copies of records are kept for every consultation.
- 7.5.1.3 Uses abbreviations and diagrams that are recognised by the Orthoptic and ophthalmic professions on all Orthoptic records as listed in the Dictionary of Common Terms (BIOS).
- 7.5.1.4 Maintains confidentiality of patient records.
- 7.5.1.5 Ensures department records and case notes being held in the department are kept in a secure place and access is only available to authorised personnel.
- 7.5.1.6 Ensures documentation of informed consent is gained before releasing Orthoptic files and personal histories to services outside the hospital/Trust (dependent on local policy) such as educational providers and non health care professions.
- 7.5.1.7 Ensures that the filing of the additional specialist assessments e.g. rate of reading results, coloured overlay assessment and developmental eye movement test are filed in a secure and safe manner within the patient's records.

7.5.2 Essential standards (dependent on local referral policy)

The Orthoptist

- 7.5.2.1 Refers patient for appropriate additional assessment and treatment to other allied health professionals or agencies for specific needs, as part of the knowledge of Orthoptic management in the context of overall patient care in consultation with the referring specialist.
- 7.5.2.2 Refers the patient to an Ophthalmologist if not already registered with one as per local protocol.
- 7.5.2.3 Refers the patient back to the referring specialist if clinical judgement indicates possible additional pathology.
- 7.5.2.4 Refers the patient to the referring medical practitioners for medical assessment and management as required.
- 7.5.2.5 Refers the patient to appropriate agencies for colorimetry testing if service not available in Orthoptic setting.
- 7.5.2.6 Documents follow-up arrangements and referral/attendance/discharge details.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Audit of clinical practice
- Policies and procedures for referrals and data handling (case notes)
- Random review of case notes

PROFESSIONAL PRACTICE GUIDELINES FOR PATIENTS WITH SPECIFIC LEARNING DIFFICULTIES

Aim A standardised approach to the investigation of patients with Specific Learning Difficulties is important to the provision of quality patient care and the development of appropriate care plans for the management of these patients. If during the assessment a strabismus, amblyopia or ocular palsy is detected then the guidelines for investigative procedures for assessment and management of heterophoria, concomitant/incomitant strabismus, microtropia and amblyopia are followed.

7.6 Orthoptic investigative procedures in Specific Learning Difficulties

7.7 Assessment and management of Specific Learning Difficulties

7.6 ORTHOPTIC INVESTIGATIVE PROCEDURES IN SPECIFIC LEARNING DIFFICULTIES

Assessment of visual acuity should be quantitative wherever possible, using tests based on logMAR or Snellen equivalent. Qualitative assessment will be required in individual circumstances.

Unocular VA is tested for distance and for near. Where it is not possible to obtain acuities the reason is stated. A pinhole is used in co-operative patients where visual acuity is reduced and refractive error is suspected.

In addition vision may be assessed using the patient's tinted lenses/coloured overlay if vision is reduced.

The cover test is performed with/without corrective prescription, with/without accommodative target, with/without abnormal head posture at near and distant fixation, and other distances where appropriate.

Ocular motility is assessed by version and duction assessment in 9 positions of gaze and may be documented in written or diagrammatic form. Ocular motility will include assessment of smooth pursuit and saccadic eye movements, noting speed, accuracy, body position and body/head movement and any difficulty in initiating the eye movement. Pro-saccade and anti-saccadic investigation is advisable in addition to voluntary and involuntary saccadic control. Smooth pursuit testing should pay particular attention to the ability to cross midline without saccadic intrusion.

The convergence and accommodative ability will be measured by RAF rule. Jump convergence will also be tested noting any lack of visual attention or fatigue.

Binocular vision assessment should seek to determine if poor binocular vision is a contributing factor to visual symptoms and reading and writing difficulty.

The angle of deviation is measured in the primary position and in nine positions of gaze and fixing either eye where appropriate. It may also be measured with additional lenses in order to calculate the AC/A ratio where necessary.

Coloured overlay testing will be carried out in a methodical manner and using a wide range of colour to assess patient preference.

An objective means of assessing the effects of colour should be used such as the speed of reading.

Reading fluency, speed and accuracy can also be used as a base line measure to show improvement in visual function.

Additional tests may also be utilised to quantitatively assess tracking behaviour and reading and visual perception.

Colour Vision testing may be appropriate.

Visual field testing may be required if history indicates difficulty in peripheral vision. The method will be appropriate for the age and the ability of the patient.

7.7 ASSESSMENT AND MANAGEMENT OF PATIENTS WITH SPECIFIC LEARNING DIFFICULTIES

Assessment

All patients have a thorough Orthoptic investigation from which a diagnosis is formed and an appropriate care plan implemented. None of these treatments are exclusive and a combination of different treatments may be applicable.

The aim is to achieve relief of visual symptoms that may contribute to reading and or writing difficulty.

This may be achieved by:

- Treatment of binocular vision defects such as decompensating heterophoria
- Orthoptic exercises to improve convergence, accommodation and fusional reserves.
- Exercises to improve speed and accuracy of eye movements.
- Use of coloured overlays /tinted lenses in patients with Meares-Irlen syndrome
- Monocular occlusion in those with poor fixation stability
- Refractive correction: it is recognised that the prescription of a near add may be appropriate in some cases of reading difficulty
- Visual perceptual training

In addition the Orthoptist may make recommendations, which may be implemented at school or at home such as:

- Position in the classroom for optimal visual performance
- Size of font to be used
- Use of aids such as ruler or tachistoscope for keeping the place and reducing visual confusion if detailed pages are used for reading
- Advise teacher of any problems with fatigue
- Need for onward referral to other health professional or for educational assessment

Management

The Orthoptist

- Initiates treatment in conjunction with the ophthalmologist, local policies and procedures.
- Reviews the progress of the treatment plans regularly and evaluates the need for modification or alteration.
- Assesses compliance at every visit and initiates appropriate counselling and/or intervention.
- Initiates onward referral to the ophthalmologist and other professionals as required
- Will discharge patients on completion of treatment.
- Determines if treatment is beneficial to reading and writing difficulty.
- Ensures that all parties involved understand the implications of the visual problems and their impact in the educational or work setting.

SECTION 8

NEURO OPHTHALMOLOGY/NEURO ORTHOPTICS

SECTION 8

NEURO OPHTHALMOLOGY/NEURO ORTHOPTICS

PATIENT CARE

Aim Appropriate and accurate evaluation is necessary to provide quality patient care.

- 8.1 Patient interview
- 8.2 Patient assessment
- 8.3 Diagnosis
- 8.4 Management
- 8.5 Recording of clinical data

In the remit of Neuro Ophthalmology, the scope of practice is wide ranging. Patients may be assessed with visual function disorders, ocular motility / eye movement disorders or both. The term Neuro Ophthalmology will relate to any pathology involving the central nervous system (CNS) or autonomic nervous system affecting the nerve supply of the eye, visual pathways or eye movement systems.

8.1 PATIENT INTERVIEW

Overview

The patient interview is an integral part of orthoptic practice for Neuro Ophthalmology whereby an Orthoptist gains essential information that may impact on the choice of assessment and additional investigative referrals. This involves the attributes of communication and interpersonal skills. The case history may be the first point of contact between the patient, carer and Orthoptist.

8.1.1 Essential standards

- 8.1.1.1 The intellectual needs of the patient are considered and communication techniques adjusted accordingly to best meet the patient's needs.
- 8.1.1.2 Questions and statements are phrased so that adequate information can be elicited.
- 8.1.1.3 Information gained in interview is recorded accurately and concisely and may include:
 - 8.1.1.3.1 Name, address, date of birth
 - 8.1.1.3.2 GP name and address
 - 8.1.1.3.3 Relationship of carer to patient
 - 8.1.1.3.4 Occupation
 - 8.1.1.3.5 Source of referral
 - 8.1.1.3.6 Reason for attendance
 - 8.1.1.3.7 Family history with particular reference to ocular disease, central nervous system (CNS) disorders, degenerative disease and severity of disease and age of onset
 - 8.1.1.3.8 General health with particular reference to systemic / neurological disorders associated with visual / ocular disorders. History of neuro-surgery, radiotherapy. History of head trauma. Attendance at other clinics, e.g. endocrine and reason for this. Current medication.
 - 8.1.1.3.9 Previous eye history including binocular vision problems, refractive error, ocular injury, previous treatment
 - 8.1.1.3.10 Symptoms of blurred vision, asthenopia, diplopia, ptosis, ocular/retro-orbital pain, headache, field loss/tripping/bumping into things, visual aura, dizziness, changes in colour perception, numbness/tingling in face or any part of the body, generalised weakness/fatigue including detail of onset, duration, pattern and progression, exacerbating or relieving factors
 - 8.1.1.3.11 During history taking, the Orthoptist should observe the patient carefully for the following:
abnormal head posture, strabismus, ptosis, proptosis, anisocoria, nystagmus, gait, speech pattern, obesity, acromegaly, head tremor, skin lesions, facial scarring, facial asymmetry, facial expression, etc.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- General statement of intent during investigation and communication
- Patient questionnaire
- Audit of documented information in case notes

8.2 PATIENT ASSESSMENT

Overview

This involves the application of the attributes of knowledge, investigative and technical skills in the area of Neuro Ophthalmology. Through patient assessment all information relevant to the case is efficiently and safely acquired.

8.2.1 Essential standards

- 8.2.1.1 The Orthoptist will undertake specialised assessment procedures such as ocular motility and visual field examination.
- 8.2.1.2 The Orthoptist uses knowledge of the visual system and eye movement systems and their abnormalities to formulate strategies to assess the patient.
- 8.2.1.3 The Orthoptist varies testing procedures according to the patient's responses and selects testing procedures applicable to the level of ability of the patient and physical factors.
- 8.2.1.4 The Orthoptist correctly uses qualitative and quantitative tests to investigate further the ophthalmic status of the patient, which determines:
 - 8.2.1.4.1 The sensory state of the eyes and visual and ocular motor pathways
 - 8.2.1.4.2 Potential localisation of pathology site
- 8.2.1.5 The testing sequence is modified according to the results gained.
- 8.2.1.6 Accurate observations about the patient's responses to the tests are made and patterns of normal and abnormal responses to testing procedures recorded and evaluated for accuracy.
- 8.2.1.7 The test results are critically evaluated for differential diagnosis.
- 8.2.1.8 The Orthoptist uses interpersonal and communicative skills to indicate to the patient/carer the purpose of the tests and to obtain appropriate responses to the tests.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Written department statements regarding additional specialised testing skills and policies and procedures applicable to these
- Audit of practice
- Evidence of clinical protocols
- Competence Statement

8.3 DIAGNOSIS

Overview

A diagnosis is made following appropriate interview and assessment of the patient using available orthoptic and ophthalmic techniques, equipment and assessment.

8.3.1 Essential standards

The Orthoptist

- 8.3.1.1 Interprets information gained in patient assessment to suggest differential diagnosis of pathology.
- 8.3.1.2 Selects or identifies additional tests to further investigate possible diagnoses.
- 8.3.1.3 Is able to recognise when clinical findings reveal a possible change in ocular status.
- 8.3.1.4 Establishes area of intervention that will be required, for example, ophthalmic follow-up or neurological referral.
- 8.3.1.5 When inconsistencies arise, is able to highlight the most important information gained in the assessment.
- 8.3.1.6 Considers the ocular and general history in conjunction with test results in summarising the findings with regard to the diagnosis and management.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Audit of practice
- Peer review
- Case presentations and discussions
- Competence Statement

8.4 MANAGEMENT

Overview

Each patient has a care programme developed specific to their condition, and to the patient as an individual.

8.4.1 Essential standards

The Orthoptist

- 8.4.1.1 Ensures that the initial decision to treat and/or observe is made with consideration of all test results and that any treatment complies with local policies & procedures and Patient Group Directions where appropriate.
- 8.4.1.2 Designs Orthoptic treatment plans and implements treatment plans with the patient's involvement and consent (which may be verbal for non-invasive treatment).
- 8.4.1.3 Demonstrates a knowledge of the practical and technical aspects of Orthoptic treatment including:
 - 8.4.1.3.1 Occlusion methods
 - 8.4.1.3.2 Prismatic and optical influences on vision, binocular vision and nystagmus
 - 8.4.1.3.3 Teaching of an appropriate head posture, and positioning of visual material to optimise vision and utilise field of vision, to avoid diplopia and to reduce / eliminate oscillopsia
 - 8.4.1.3.4 Binocular vision exercises
- 8.4.1.4 Explains the diagnosis and treatment in appropriate terminology to the patient, carer, and other health professionals working with the patient.
- 8.4.1.5 Considers all treatment options in liaison with the ophthalmic/neurology/multi-disciplinary team and patient, where necessary/appropriate, with respect to all prognostic indicators, available resources, any adverse side effects and level of patient involvement that will be required.
- 8.4.1.6 Structures the specific treatment with respect to the general condition of the patient, and other rehabilitation procedures and treatment being undertaken.
- 8.4.1.7 Provides verbal and/or written instructions/information regarding Orthoptic treatment.
- 8.4.1.8 Reviews the progress of the treatment plan regularly and evaluates the need for modification or alternative treatment plans.
- 8.4.1.9 Assesses compliance at every visit and initiates appropriate counselling and/or intervention.
- 8.4.1.10 Terminates the treatment at an appropriate time.
- 8.4.1.11 Makes timely referrals on to other specialties when appropriate.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Audit of practice
- Peer review
- Case presentations and discussions
- Competence Statement

8.5 RECORDING OF CLINICAL DATA

Overview

This involves the method of correct documentation of information gathered during the patient interview and assessment.

8.5.1 Essential standards

The Orthoptist

- 8.5.1.1 Ensures that accurate patient records and ophthalmic assessments are organised in a legible, secure, accessible, permanent (ink copy) and clear manner, including relevant test results filed in an appropriate manner. All entries should be dated, signed and follow local guidelines.
- 8.5.1.2 Ensures permanent copies of records are kept for every consultation.
- 8.5.1.3 Uses abbreviations and diagrams that are recognised by the ophthalmic / neurological team
- 8.5.1.4 Maintains confidentiality of patient records.
- 8.5.1.5 Ensures department records and case notes being held in the department are kept in a secure place and access is only available to authorised personnel.
- 8.5.1.6 Ensures documentation of informed consent is gained before releasing case records and personal histories to services outside the hospital/Trust (dependent on local policy) such as educational providers and non health care professions.
- 8.5.1.7 Ensures documentation is correctly signed and dated in accordance with local policy guidance.
- 8.5.1.8 Refers patient for appropriate additional ophthalmic/neurological assessment and treatment in a timely manner.
- 8.5.1.9 Refers the patient back to the ophthalmologist/neurologist if clinical judgement indicates possible additional pathology.
- 8.5.1.10 Refers the patient to neurology/endocrine/medical etc. departments as per local protocol.
- 8.5.1.11 Documents follow-up arrangements and referral/attendance/discharge details.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Audit of clinical practice
- Policies and procedures for referrals and data handling (case notes)
- Random review of case notes

PROFESSIONAL PRACTICE GUIDELINES FOR ORTHOPTIC PRACTICE IN NEURO OPHTHALMOLOGY

Aim A standardised approach to the investigation of patients is important to the provision of quality patient care and the development of appropriate care plans for the management of patients.

8.6 Neuro Ophthalmology/Neuro Orthoptic assessment procedures

8.7 Assessment and management of visual pathway abnormalities

8.8 Assessment and management of cranial nerve abnormalities

8.9 Assessment and management of eye movement abnormalities

8.10 Assessment and management of pupil and lid abnormalities

8.11 Assessment and management of headaches

8.12 Assessment and management of orbital abnormalities

8.6 NEURO OPHTHALMOLOGY ASSESSMENT PROCEDURES

The case history will initially involve observation of the patient looking at ocular alignment, use of head posture, presence of nystagmus, facial palsy, abnormal lid position and abnormal pupil size.

Details of previous ocular history, if any, are noted along with known medical status. History related to the current attendance is documented noting events such as trauma or neurological disease and including documentation of associated signs and symptoms.

8.6.1 Assessment of vision

This should be quantitative using verbal or non-verbal tests tailored to the patient's condition, and with appropriate refractive correction worn, if available. Note should be made of any abnormal head posture or abnormal head movement adopted during vision testing.

- Unocular visual acuity is tested for near and distance. A pinhole is used in appropriate patients where VA is reduced and refractive error is suspected. Binocular visual acuity should be recorded in the presence of nystagmus. Near visual acuity and reading ability should be tested unilaterally and binocularly with the patient's refractive correction in situ. Dynamic VA should be performed in suspected vestibular disorders.
- Contrast sensitivity testing should be carried out if associated symptoms are suspected and judged to be of clinical value within the assessment. Appropriate lighting conditions should be employed according to the type of test used.
- Colour vision assessment should be undertaken as indicated with the appropriate test according to the type of colour vision defect suspected. Ishihara plates are typically used as a screening test.
- Assessment of central and peripheral visual field status should be made following the guidelines in Section 4 of this document.

8.6.2 Ocular Alignment

The Cover Test should be performed for near and distance, with and without refractive correction if worn, with and without compensatory head posture (CHP). The presence or absence of manifest strabismus, its type and size, whether concomitant or incomitant and the type, size, control and recovery of any latent deviation should be noted. The patient should be asked as to the presence or absence of diplopia, with differentiation made between unocular and binocular diplopia.

8.6.3 Nystagmus/Abnormal fixation movements

The presence and classification of nystagmus should be recorded ascertaining whether the patient appreciates oscillopsia. It is important to ensure prolonged observation of nystagmus as the pattern may vary e.g. periodic alternating nystagmus. The nystagmus should be viewed with an ophthalmoscope in addition to the naked eye in order to differentiate latent and manifest latent nystagmus

Other abnormal fixation movements should be observed, such as voluntary nystagmus, square-wave jerks and macro-square wave jerks, macro-saccadic oscillations, ocular flutter, opsoclonus, and superior oblique myokymia/microtremor.

8.6.4 Eye Movements

A detailed assessment of eye movements should be performed where possible in nine positions of gaze with a pen torch and occluder, testing ductions and versions, noting

any palsy, paresis or other limitation of movement and any nystagmus, lid or pupil dysfunction evident.

Assessment of saccadic, vergence and vestibular ocular movements should be made as indicated in addition to smooth pursuit evaluation.

Testing of smooth pursuit function should be assessed vertically and horizontally using a slow moving target, observing any difficulty with initiation, gain or ability to sustain gaze.

Testing of saccadic function should be performed vertically and horizontally using 2 targets, with the examiner asking the patient to look rapidly from one to the other. Any abnormality in the speed, accuracy and initiation of saccades is noted.

Vestibulo-Ocular Reflex /Doll's Head testing (providing there are no contraindications to passive head movement such as known neck problems) should be performed in order to aid the differential diagnosis of supranuclear eye movement disorders.

Bell's phenomenon can be tested in order to aid the differential diagnosis of supranuclear eye movement disorders.

Vestibular Ocular Reflex (VOR) suppression may be tested to determine whether the fixation system is able to over-ride the VOR response.

Optokinetic Nystagmus (OKN) responses can be tested to demonstrate the integrity of supranuclear pathways, noting any defect in smooth pursuit or saccadic movement elicited. It must be borne in mind that true OKN response can only be elicited using a full-field stimulation.

Dynamic Visual Acuity should be tested when a vestibular disorder is suspected.

8.6.5 Vergence Eye Movements

Testing of convergence and divergence should be assessed, noting any significant reduction, the presence or absence of diplopia, and the ability to relax after convergence. The effect of convergence on nystagmus should be observed to aid differential diagnosis of congenital and acquired nystagmus and plan management.

In the presence of Nystagmus, the type, direction, amplitude and position of gaze should be recorded and used in formulating a diagnosis of the defect sustained and related to management of symptoms arising from it.

Bielchowsky Head Tilt Test/Ocular Tilt Reaction should be performed in differential diagnosis of fourth nerve paresis and skew deviation along with detailed assessment of cyclorotation in either eye.

8.6.6 Pupil Assessment

Where pupil abnormalities are suspected (usually unilateral) an assessment of the light reflex should be undertaken to determine the possible presence of an afferent or efferent pathway defect. In cases of anisocoria, pupil diameter should be measured in light and dark conditions to differentiate between a sympathetic and parasympathetic anomaly.

Assessment of pupil reactions to accommodation should also be observed e.g. suspected Parinaud's syndrome/ Dorsal midbrain syndrome.

Re-dilation of pupils from dark to light should also be assessed e.g. differential diagnosis of Argyll Robertson and Adie's pupil.

Pupil shape should also be observed. This may be assessed using a slit lamp, and other features such as iris segmental palsy observed. Differences in iris colour should

be recorded. Relative Afferent Pupillary Defect (RAPD) may be quantified using a neutral density filter bar.

8.6.7 Lid Assessment

Where lid abnormalities are suspected an assessment should be undertaken to determine whether the defect relates to ptosis or contralateral lid retraction. Full evaluation of palpebral apertures, lid crease plus levator function should be made bilaterally for comparison, whilst eliminating any frontalis overaction. Any enophthalmos/exophthalmos/orbital dystopia should be noted:

- **Fatiguability:** the patient is asked to elevate for a prolonged period of time (60 seconds) to assess the effect of fatigue on lid position.
- **Cogan's lid twitch:** the patient is asked to depress the eyes for 10 seconds, then asking them to make a saccade to a fixation target in the primary position.
- **"Peek sign":** the patient is asked to maintain eyelid closure and any failure to sustain lid closure should be noted.
- **The ice pack test:** an ice pack is placed on the ptotic lid for 2 minutes and the palpebral aperture re-measured. A 2mm change or more represents a positive result.
- Any twitching around the eyelids should be noted as this may be indicative of too high a dose of anticholinesterase medication.

Other eyelid anomalies such as blepharochalasis, dermatochalasis or blepharospasm should be noted.

Changes in pupil or lid appearance in any of the cardinal positions of gaze should be documented in addition to the ocular motility pattern.

8.6.8 Assessment of V and VII nerve function

This can be made during evaluation of ocular motility. Facial sensitivity can be compared from either side of the face along the distribution pathway of the branches of V nerve, e.g. assessment of corneal sensitivity or tear production. Strength of facial muscles can be compared from either side of the face such as by determining action of the orbicularis oculi muscles.

8.6.9 Recording of any cranial nerve palsy can be made by use of prism cover test in 9 positions of gaze or a Hess/Lees chart where accessible, or any other recognised method providing the patient is fit and able to do so. In addition a field of BSV and uniocular fields of fixation may be measured as indicated.

8.6.10 Evaluation of the patient's binocular status includes the presence of suppression, sensory fusion, motor fusion and stereopsis. The Orthoptist assesses the presence or potential for binocular single vision, the position of field of binocular single vision and the use of abnormal head postures.

Red/Green filters are a useful tool to assess the presence of diplopia and suppression. Stereopsis should be assessed using a suitable stereoacuity test applicable to the patient's comprehension. In addition patients should be questioned as to their spatial awareness. Motor fusion may be assessed using a 20 dioptre base out prism or full range using a prism bar, dependent on the patient's physical and mental state.

8.7 ASSESSMENT AND MANAGEMENT OF VISUAL PATHWAY DISORDERS

Many patients present initially to the orthoptic department and the orthoptic assessment is significant in determining further immediate management. All patients have a relevant orthoptic investigation from which a diagnosis and prognosis is formed and an appropriate care plan implemented. The investigation is made in accordance with the patient's age and ability.

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits. Where tests are not possible due to, for example, young age or poor ability, this is documented in the Orthoptic report.

- Case history
- Visual acuity
- Contrast sensitivity
- Colour vision
- Pupil assessment
- Visual field assessment

Management

The management of this complex and varied group of patients is generally the remit of the ophthalmologist in association with other specialists. The Orthoptist may assist the management of these patients in relation to the presence of visual disability.

The Orthoptist

- Advises the patient of the presence of any visual field loss sustained
- Advises on the strategies available to cope with visual field loss such as positioning, scanning and exaggerated head movements
- Arranges a formal visual field assessment for all patients who are vehicle drivers
- Makes timely referrals on to other specialities where appropriate

8.8 ASSESSMENT AND MANAGEMENT OF CRANIAL NERVE ABNORMALITIES

Many patients present initially to the orthoptic department and the orthoptic assessment is significant in determining further immediate management. All patients have a relevant orthoptic investigation from which a diagnosis and prognosis is formed and an appropriate care plan implemented. The investigation is made in accordance with the patient's age and ability.

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits. Where tests are not possible due to, for example, young age or poor ability, this is documented in the Orthoptic report.

Routine investigation should aim to clarify whether ocular motility disorders are long-standing-congenital or recently acquired and the type of defect.

- Case history
- Visual acuity
- Cover test
- Ocular motility
- Binocular function
- Convergence/accommodation range
- Pupils/lid position
- Measurement of angle of deviation
- V and VII nerve function

Management

The Orthoptist

- Advises, in the presence of ocular motility disorders, on how to utilize residual visual functions/binocularity including compensatory head postures/movements and positioning of objects.
- Provides a written report in the case notes identifying the nature of any ocular motility disorder and its effect on the patient.
- Helps to alleviate symptoms using prisms, occlusion or advises using a compensatory head posture and positioning as appropriate and monitors accordingly.
- Considers orthoptic knowledge of associated aetiologies in relation to the site of the pathology. When a diagnosis is made medical staff are alerted to the ocular motility defect and associated syndrome and/or any existing discrepancy or change whilst the patient is under Orthoptic supervision.
- Monitors the progress of any cranial nerve dysfunction. The patient is referred to ophthalmology after a period of 3 to 6 months where there has been no clinical improvement and further management including surgical intervention, botulinum toxin injection or prismatic incorporation is required.
- Makes timely referrals on to other specialities where appropriate.

8.9 ASSESSMENT AND MANAGEMENT OF EYE MOVEMENT ABNORMALITIES

Many patients present initially to the orthoptic department and the orthoptic assessment is of significance in determining further immediate management.

All patients have a relevant orthoptic investigation from which a diagnosis and prognosis is formed and an appropriate care plan implemented. The investigation is made in accordance with the patient's age and ability.

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits. Where tests are not possible due to, for example, young age or poor ability, this is documented in the Orthoptic report.

Routine investigation should aim to clarify whether ocular motility disorders are long-standing-congenital or recently acquired and the type of defect.

- Case history
- Visual acuity
- Cover test
- Ocular motility
- Binocular function
- Convergence/accommodation range
- Pupils/lid position
- Measurement of angle of deviation
- V and VII nerve function

Management

The Orthoptist

- Advises, in the presence of ocular motility disorders and in particular gaze palsies, on how to utilize residual visual functions including compensatory head postures/movements and positioning of objects, yoked prisms or sector occlusion.
- Provides a written report in the case notes identifying the nature of any ocular motility disorder and its effect on the patient.
- Helps to alleviate symptoms using prisms, occlusion or advises using a compensatory head posture and positioning as appropriate and monitors accordingly.
- Provides explanation and advice regarding the presence of nystagmus and offers information regarding the use of a compensatory head posture or positioning to lessen symptoms of oscillopsia, vertigo or blurring.
- Considers orthoptic knowledge of associated aetiologies in relation to the site of the pathology. When a diagnosis is made medical staff are alerted to the ocular motility defect and associated syndrome and/or any existing discrepancy or change whilst the patient is under Orthoptic supervision.
- Monitors the progress of any cranial nerve or binocular gaze dysfunction. The patient is referred to ophthalmology after a period of 3 to 6 months where there has been no clinical improvement and further management including surgical intervention, botulinum toxin injection or prismatic incorporation is required.
- Makes timely referrals on to other specialities where appropriate.

8.10 ASSESSMENT AND MANAGEMENT OF PUPIL AND LID ABNORMALITIES

Many patients present initially to the eye clinic and the orthoptic assessment is significant in determining further immediate management. All patients have a relevant orthoptic investigation from which a diagnosis and prognosis is formed and an appropriate care plan implemented. The investigation is made in accordance with the patient's age and ability.

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits. Where tests are not possible due to, for example, young age or poor ability, this is documented in the Orthoptic report.

- Case history
- Visual acuity
- Cover test
- Ocular motility
- Pupils
- Lids
- Visual field assessment

Management

The Orthoptist

- Ensures refractive correction is prescribed if warranted.
- Provides a differential diagnosis of ptosis versus pseudo-ptosis and lid retraction.
- Assesses the effect of ptosis on visual acuity and instigates appropriate treatment in the presence of amblyopia.
- Provides a differential diagnosis of pupil mydriasis or miosis where possible
- Assesses the effect of pupil abnormality on visual function, such as acuity levels, accommodation and appreciation of glare and photophobia.
- Makes timely referrals on to other specialities where appropriate.

8.11 ASSESSMENT AND MANAGEMENT OF HEADACHES

Many patients present initially to the orthoptic department and the orthoptic assessment is significant in determining further immediate management.

All patients have a relevant orthoptic investigation from which a diagnosis and prognosis is formed and an appropriate care plan implemented. The investigation is made in accordance with the patient's age and ability.

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits. Where tests are not possible due to, for example, young age or poor ability, this is documented in the orthoptic report.

- Case history - with particular reference to the type, frequency and position of the headache, what factors exacerbate / relieve the headache, and medication taken to counteract the headaches
- Visual acuity
- Cover test
- Ocular motility
- Binocular function
- Convergence/accommodation range
- Pupils/lid position
- V and VII function
- Contrast sensitivity
- Visual field assessment

Management

Headaches are a complex entity with many varied patterns and associations. Typical forms include tension, migraine, trigeminal neuralgia and cluster headaches. Approximately 90% are primary without associated pathology. The Orthoptist can aid the diagnosis of those that are associated with ocular signs.

The Orthoptist

- Determines the presence of third nerve dysfunction in ophthalmoplegic migraine and provides appropriate therapy to aid relief of ocular symptoms.
- Determines the presence of other cranial nerve palsies, nystagmus, gaze defects or visual field abnormality that may relate to cranial pathology giving rise to organic headaches. Provides relief of associated symptoms.
- Determines the presence of disorders of binocular convergence and fusion which may give rise to headache, and manages these with orthoptic exercises and/or prisms, as appropriate.
- Ensures timely and appropriate referral to specialists where ocular defects are detected and where pathology is suspected.

8.12 ASSESSMENT AND MANAGEMENT OF ORBITAL ABNORMALITIES

Many patients present initially to the orthoptic department and the orthoptic assessment is significant in determining further immediate management.

All patients have a relevant orthoptic investigation from which a diagnosis and prognosis is formed and an appropriate care plan implemented. The investigation is made in accordance with the patient's age and ability.

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits. Where tests are not possible due to, for example, young age or poor ability, this is documented in the Orthoptic report.

Routine investigation should aim to clarify whether ocular motility disorders are long-standing-congenital or recently acquired and the type of defect.

- Case history
- Visual acuity
- Cover test
- Ocular motility
- Binocular function
- Convergence/accommodation range
- Pupils/lid position
- V and VII function
- Measurement of angle of deviation

Management

The Orthoptist

- Advises, in the presence of ocular motility disorders, on how to utilize residual visual functions including compensatory head postures/movements and positioning of objects.
- Provides a written report in the case notes identifying the nature of any ocular motility disorder and its effect on the patient.
- Helps to alleviate symptoms using prisms, occlusion or advises using a compensatory head posture and positioning as appropriate and monitors accordingly.
- Provides explanation and advice regarding the presence of nystagmus as appropriate, regarding the use of a compensatory head posture or positioning to lessen symptoms of oscillopsia, vertigo or blurring.
- Considers Orthoptic knowledge of associated aetiologies in relation to the site of the pathology. When a diagnosis is made medical staff are alerted to the ocular motility defect and associated syndrome and/or any existing discrepancy or change whilst the patient is under Orthoptic supervision.
- Assists with ophthalmology assessments e.g. ocular motility assessment after injection of endrophenium chloride (Tensilon).
- Assesses any obvious effect of fatigue on ocular motility ensuring appropriate referral when such effects are noted.
- Makes timely referrals on to other specialities where appropriate.

SECTION 9

LOW VISION ASSESSMENT AND LOW VISION AIDS

SECTION 9

LOW VISION ASSESSMENT AND LOW VISION AIDS

PATIENT CARE

Aim Appropriate and accurate evaluation is necessary to provide quality patient care.

9.1 Patient interview

9.2 Patient assessment

9.3 Diagnosis

9.4 Management

9.5 Recording of clinical data

This is a patient led service and therefore the process of the assessment is dependant on the needs and abilities of the individual patient. Assessment could be in a variety of centres.

9.1 PATIENT INTERVIEW

Overview

The patient interview is an integral part of Low Vision practice. The Orthoptist gains essential information from the interview, which will inform the understanding of how low vision affects the patient, from both a clinical and functional aspect, providing the focus for further assessment. To undertake the interview the attributes of communication and interpersonal skills are essential to gain the appropriate information. The case history may be the first point of contact between the patient, carer and Orthoptist.

9.1.1 Essential standards

9.1.1.1 The cognisance of the patient is considered and communication techniques adjusted accordingly to best meet the patient's needs.

9.1.1.2 Questions and statements are phrased using appropriate terminology so that adequate and pertinent information can be elicited.

9.1.1.3 Information gained in the interview is recorded accurately and concisely and may include:

- 9.1.1.3.1 Name, address, date of birth
- 9.1.1.3.2 GP name and address
- 9.1.1.3.3 Home environment including living alone or cared for and by whom
- 9.1.1.3.4 Occupation/Education
- 9.1.1.3.5 Source of referral
- 9.1.1.3.6 Quality of life/required activities
- 9.1.1.3.7 Daily living skills required
- 9.1.1.3.8 Previous eye history including amblyopia, strabismus, refractive error and ocular injury
- 9.1.1.3.9 Preferences for lighting, contrast and difficulty with glare
- 9.1.1.4.10 General health

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- General statement of intent during investigation and communication
- Patient questionnaire
- Audit of documented information in case notes

9.2 PATIENT ASSESSMENT

Overview

It is essential for the Orthoptist to have an understanding of the causes of low vision, and how it affects the patient both clinically and functionally. The practitioner must be able to assess and identify the critical tasks, factors, skills and activities that may facilitate or inhibit daily living.

9.2.1 Essential standards

9.2.1.1 The Orthoptist will undertake testing procedures in the area of Low Vision having been competently trained and assessed. These procedures may include:

- 9.2.1.1.1 Visual acuity - unocular, binocular, near and distance
- 9.2.1.1.2 Amsler grid
- 9.2.1.1.3 Contrast sensitivity
- 9.2.1.1.4 Reading and fluency rates
- 9.2.1.1.5 Effect of lighting on visual function
- 9.2.1.1.6 Assessment of retinal loci with a view to teaching eccentric viewing
- 9.2.1.1.7 Visual field assessment & interpretation
- 9.2.1.1.8 Assessment of appropriate magnification

9.2.1.2 The Orthoptist varies testing procedures according to the patient's responses and selects testing procedures applicable to the age and level of ability of the patient.

9.2.1.3 The Orthoptist uses interpersonal and communicative skills to explain clearly and sensitively to the patient/carer the purpose of the tests, the clinical diagnosis and potential prognosis.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Written department statements regarding additional specialised testing skills and policies and procedures applicable to these
- Audit of practice
- Evidence of clinical protocols
- Competence Statement

9.3 DIAGNOSIS

Overview

An Ocular diagnosis is likely to have been made (although not always) prior to referral for a Low Vision Assessment. It is therefore essential for the Orthoptist to have an understanding of how low vision is defined, its causes and prognosis. The Orthoptist must have the ability to explain the diagnosis in an understandable way to the patient using suitable terminology and visual aids where appropriate.

9.3.1 Essential standards

The Orthoptist

9.3.1.1 Highlights inconsistencies as they arise and extracts the most important information gained in the assessment, returning the patient for ophthalmological/optometric opinion as per local procedures.

9.3.1.2 Considers the ocular and general history in conjunction with test results in summarising the findings with regard to the diagnosis and management.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Random review of case notes
- Audit of practice
- Peer review
- Case presentations and discussions
- Competence Statement

9.4 MANAGEMENT AND VISUAL TRAINING

Overview

It is essential for the Orthoptist to advise patients regarding their specific vision impairment, set goals and develop an individual care plan.

9.4.1 Essential standards

The Orthoptist

- 9.4.1.1 Has knowledge of optical low vision aids and non-optical aids, their characteristics, uses, advantages and disadvantages. Advice is given on the appropriate provision and use of the low vision aids and is tailored to the individuals needs.
- 9.4.1.2 Advises on the effect of illumination, glare and contrast to maximise visual potential.
- 9.4.1.3 Has the ability to teach visual skills e.g. eccentric viewing, scanning and tracking both with and without optical devices.
- 9.4.1.4 Has knowledge of the effect of refractive prescriptions on patients with low vision and the ability to adapt magnification accordingly.
- 9.4.1.5 Has an understanding of the application of complex low vision aids e.g. spectacle-mounted telescopes, closed circuit televisions (CCTVs).
- 9.4.1.6 Demonstrates a knowledge and understanding of other agencies, their role, and provision of services. Liaises with allied Visual Impairment services including Visual Impairment education services for children.
- 9.4.1.7 Provides patient information in an appropriate format regarding the specific diagnosis, prognosis, support groups and related agencies e.g. social services or voluntary organisations etc.
- 9.4.1.8 Reviews the progress of the treatment plan as required and evaluates the need for modification or alternative treatment plans.
- 9.4.1.9 Understands the need for a multidisciplinary approach, making and directing referrals to other agencies as appropriate.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Policies and procedures relating to treatment and care plans
- Random review of case notes
- Patient questionnaire
- Case presentation and discussion
- Competence Statement

9.5 RECORDING OF CLINICAL DATA

Overview

This involves the method of correct documentation of information gathered during the patient interview and assessment.

9.5.1 Essential standards

The Orthoptist

- 9.5.1.1 Ensures that accurate patient records and ophthalmic assessments are organised in a legible, secure, accessible, permanent (ink copy) and clear manner, including relevant test results filed in an appropriate manner. All entries should be dated, signed and follow local guidelines.
- 9.5.1.2 Ensures permanent copies of records are kept for every consultation.
- 9.5.1.3 Uses abbreviations and diagrams that are recognised by the ophthalmic team.
- 9.5.1.4 Maintains confidentiality of patient records.
- 9.5.1.5 Ensures department records and case notes being held in the department are kept in a secure place and access is only available to authorised personnel.
- 9.5.1.6 Ensures documentation of informed consent is gained before releasing case records and personal histories to services outside the hospital/Trust (dependent on local policy) such as educational providers and non health care professions.

9.5.2 Essential standards (dependent on local referral policy)

The Orthoptist

- 9.5.2.1 Refers patient for appropriate additional ophthalmic assessment and treatment to team members as per agreed local guidelines.
- 9.5.2.2 Documents follow-up arrangements and referral/attendance/discharge details.
- 9.5.2.3 Provides written reports for Visual Impairment education services summarising findings and outlining management where appropriate.

Monitoring

Monitoring measures should be in place and reviewed annually and staff required to sign as evidence they have read and are aware of these. Methods that may be used to determine compliance with the above may include:

- Audit of clinical practice
- Policies and procedures for referrals and data handling (case notes)
- Random review of case notes

PROFESSIONAL PRACTICE GUIDELINES FOR ORTHOPTIC PRACTICE IN LOW VISION

Aim A standardised approach to the investigation of patients with low vision is important to the provision of quality patient care and the development of appropriate care plans for the management of patients.

9.6 Low Vision investigative procedures

Although it would be impossible to establish professional practice guidelines for all ocular conditions that may be encountered by the Orthoptist in the Low Vision clinic this document sets out to give guidance for conditions, which can be considered to produce a similar pattern of visual loss. This is not exhaustive and it must be remembered that many ocular conditions will co -exist in the same patient.

9.7 Assessment and management of patients with low vision due to central field loss

9.8 Assessment and management of patients with low vision due to peripheral field loss

9.9 Assessment and management of patients with low vision due to general reduction of visual acuity

9.10 Assessment and management of paediatric Low Vision patients

9.11 Awareness of driving and vehicle licensing agency (DVLA) driving requirements

9.6 LOW VISION INVESTIGATIVE PROCEDURES

The investigative process is dependant on the needs and the abilities of the individual patient and it is therefore recognised that not every procedure will be able to be applied to every patient. The Orthoptist must prioritise the most appropriate tests and procedures to be applied.

The Orthoptist begins the assessment by establishing the expectations of the patient and discussing the aims of the assessment.

The Orthoptist explains the patient's diagnosis and how the condition affects vision and ability to undertake visual tasks. It is advisable to give the patient written or recorded information to consolidate this explanation.

The Orthoptist determines the refractive error of the patient either by recording this from a copy of the prescription provided by the patient or by focimetry of their glasses. If required and where possible autorefraction should be performed to establish the refractive error when no glasses are available. If significant refractive error is uncorrected the appropriate correction should be put into trial frames for the assessment. The patient is advised that a refractive correction is advantageous for visual tasks.

The type of glasses worn e.g. varifocals, bifocals, single vision is recorded. The condition and fit of the glasses is assessed.

Unocular visual acuity is tested for distance with appropriate refractive correction in situ. Binocular visual acuity should be recorded in the presence of nystagmus. Note should be taken of abnormal head posture, and eccentric viewing techniques employed by the patient.

Contrast Sensitivity is tested.

Near visual acuity and reading ability should be tested monocularly and binocularly with the patient's refractive correction in situ, using text and noting; size of print, accuracy, fluency and speed, unusual head movements and whether any text is excluded. The use of a head posture is encouraged if present.

The effect of lighting on reading ability is assessed and the advantages of good lighting and avoidance of glare are discussed with the patient. It is advisable to give written or recorded information on the effects of lighting to the patient.

The advantages of eccentric viewing are explained to patients with central field loss and a preferred retinal locus (PRL) is located where possible. The patient is then taught how to use steady eye strategy to utilise the PRL if possible.

Magnification strength is estimated from reading ability and a choice of magnifying aids are offered and training in their use is given. A range of aids are identified to meet the patient's needs and patient is asked to choose aids appropriate and convenient for their needs.

Where the patient suffers from a hemianopia or other peripheral field loss, reading strategies including the use of a typoscope are explained to the patient. Training in the use of a typoscope is given where appropriate.

Assesses patient for appropriate distance aids as appropriate and give training in their use.

9.7 ASSESSMENT AND MANAGEMENT OF LOW VISION DUE TO CENTRAL VISUAL FIELD LOSS

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits.

- Case History
- Assessment of refractive correction including focimetry and autorefraction
- Visual Acuity
- Contrast sensitivity
- Visual field loss
- Reading difficulties
- Effect of lighting, contrast and glare
- Identification of preferred retinal locus
- Assessment of magnification strength for near and distance aids

Management

The Orthoptist

- Discusses the diagnosis with the patient and carer and explains the prognosis and effect on vision
- Advises of the need for refractive correction if not worn and the type of glasses needed
- Discusses the aims of the management plan and agrees realistic goals with the patient
- Identifies difficulties with reading and gives training in eccentric viewing and steady eye strategy
- Identifies appropriate magnifying aids and gives training in their use
- Allows patient to choose appropriate aids
- Advises patient of national and local agencies available for support
- Advises patient of local employment agency for training advice and support where appropriate
- Liaises with local agencies e.g. sensory impairment team, as appropriate and makes Referral for Visual Impairment (RVI) where necessary
- Advises patient of eligibility for Certification of Visual Impairment (CVI)
- Advises patient of need to notify DVLA of visual diagnosis if patient is a vehicle driver
- Gives advice on strategies for daily living
- Monitors patient's visual acuity, referring patient back to Ophthalmology as per local policy
- Reviews the progress of the treatment plan as appropriate and evaluates the need for modification or alteration
- Provides contact details for further support and advice

9.8 ASSESSMENT AND MANAGEMENT OF PATIENTS WITH LOW VISION DUE TO PERIPHERAL FIELD LOSS

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits.

- Case History
- Assessment of refractive correction including focimetry and autorefraction
- Visual Acuity
- Contrast sensitivity
- Visual field loss – normally documented formally in ophthalmic case notes but can be tested by confrontation if formal results not available
- Effect of lighting, contrast and glare
- Assessment of magnification strength for near and distance aids

Management

The Orthoptist

- Discusses the diagnosis with the patient and carer and explains the prognosis and effect on vision
- Advises of the need for refractive correction if not worn and the type of glasses needed
- Discusses the aims of the management plan and agrees realistic goals with the patient and/or carer
- Identifies difficulties with reading and gives training strategies including positioning, scanning, exaggerated head movements and use of a typoscope
- Identifies appropriate magnifying aids and gives training in their use
- Allows patient to choose appropriate aids
- Advises patient of national and local agencies available for support
- Advises patient of local employment agency for training advice and support where appropriate
- Liaises with local agencies e.g. sensory impairment team, as appropriate and makes Referral for Visual Impairment (RVI) where necessary
- Advises patient of eligibility for Certification of Visual Impairment (CVI)
- Advises patient of need to notify DVLA of visual diagnosis if patient is a vehicle driver
- Gives advice on strategies for daily living
- Monitors patient's visual acuity, referring patient back to Ophthalmology as per local policy
- Reviews the progress of the treatment plan as appropriate and evaluates the need for modification or alteration
- Provides contact details for further support and advice

9.9 ASSESSMENT AND MANAGEMENT OF PATIENTS WITH LOW VISION DUE TO GENERAL REDUCTION OF VISUAL ACUITY

Assessment

All patients require a thorough assessment at their initial visit and assessment as indicated by their diagnosis and care plan at subsequent visits.

- Case History
- Assessment of refractive correction including. focimetry and autorefraction
- Visual Acuity
- Contrast sensitivity
- Visual field loss by confrontation where indicated
- Effect of lighting, contrast and glare
- Assessment of magnification strength for near and distance aids

Management

The Orthoptist

- Discusses the diagnosis with the patient and carer and explains the prognosis and effect on vision
- Advises of the need for refractive correction if not worn and the type of glasses needed
- Discusses the aims of the management plan and agrees realistic goals with the patient and/or carer
- Identifies difficulties with reading and gives training strategies including use of a head posture in cases where nystagmus is present
- Identifies appropriate magnifying aids and gives training in their use
- Allows patient to choose appropriate aids
- Advises patient of national and local agencies available for support
- Advises patient of local employment agency for training advice and support where appropriate
- Liases with local agencies e.g. sensory impairment team, as appropriate and makes Referral for Visual Impairment (RVI) where necessary
- Advises patient of eligibility for Certification of Visual Impairment (CVI)
- Advises patient of need to notify DVLA of visual diagnosis if patient is a vehicle driver
- Gives advice on strategies for daily living
- Monitors patient's visual acuity, referring patient back to Ophthalmology as per local policy
- Reviews the progress of the treatment plan as appropriate and evaluates the need for modification or alteration
- Provides contact details for further support and advice

9.10 ASSESSMENT AND MANAGEMENT OF PAEDIATRIC LOW VISION PATIENTS

Assessment

The assessment of paediatric patients will depend on the ocular diagnosis and would involve procedures as described above.

The liaison between the Orthoptist and Education services is essential to meet the educational and personal needs of the visually impaired child.

The Orthoptist/Ophthalmologist obtains consent for the sharing of information with other professionals with input into the child's care; this may be at referral to Low Vision Services or at the first appointment.

With this permission the Orthoptist invites a representative from Education services to be present at the assessment and future appointments where possible.

- Case history
- Assessment of refractive condition – as per local protocol but results of refraction should be available in case notes
- Visual acuity
- Contrast Sensitivity where possible
- Visual field assessment by confrontation where indicated
- Effect of lighting, contrast and glare
- Assessment of magnification strength for near and distance aids

Management

The Orthoptist

- Discusses the diagnosis with the patient and parent/carer and explains the prognosis and effect on vision.
- Advises of the need for refractive correction if not worn and the type of glasses needed.
- Discusses the aims of the management plan and agrees realistic goals with the patient and parent/carer and teacher if available
- Identifies difficulties with reading and gives training in strategies to improve this,
- Identifies appropriate magnifying aids and gives training in their use
- Agrees appropriate aids with the patient, parent/carer and teacher
- Advises patient/carer of national and local agencies available for support
- Advises patient/parent/carer of eligibility for Certification of Visual Impairment (CVI)
- Monitors patient's visual acuity referring patient back to Ophthalmology as per local policy
- Advises Education representative of the strategies that should be employed for patient to reach maximum visual potential e.g. use of head posture if needed, use of task lighting, avoidance of glare
- Produces written report for Education services summarising assessment findings and outlining management plan which is also available for statement review as necessary
- Reviews the progress of the treatment plan as appropriate and evaluates the need for modification or alteration.
- Offers a minimum of annual review while child is still in full time education.
- Provides contact details for further support and advice

9.11 AWARENESS OF DRIVING AND VEHICLE LICENSING AGENCY (DVLA) DRIVING REQUIREMENTS

The Orthoptist should be aware of the current UK driving visual standards as determined by the DVLA.

The Orthoptist should inform the patient that visual impairment may affect driving eligibility; patients should be advised of the legal requirement for them to notify the drivers medical branch of the DVLA of any relevant medical condition.

The Orthoptist documents advice given to patients in case notes.