Bridging the Service Gap of Stroke Care

Formal Vision Screening by Orthoptists
Prevalence of Stroke Related Visual Impairment

- In United Kingdom (UK), approximate 70% - 80% stroke patients suffer stroke related visual impairment
- 54% of stroke patients suffer ocular motility abnormalities
Visual Impairment Following Stroke

• The visual deficits are grouped into
  – Low vision
  – Eye movement deficit
  – Visual field impairment
  – Perceptual deficit
Visual Impairment Assessment

• Objective perceptual assessment of visual deficit is documented by both occupational therapists and physiotherapists

• Most assessment tools reported are for screening of visual inattention with less information reported for assessment of visual acuity, eye movement and visual field impairments
Visual Impairment Assessment

- Most visual problems are not detected by simply observing the individual and require questioning and assessment in order to detect their presence and subsequently make an accurate diagnosis.
- Thus, visual impairment following stroke may be missed or misdiagnosed.
- Visual symptoms can be poorly defined by patients and particularly where individuals have coexistent communication problems and cognitive impairments.
Visual Impairment Assessment

• In United Kingdom, detection of eye conditions, such as eye movement abnormality and binocular disorders, by Orthoptists is higher and more accurate than non-orthoptic healthcare practitioners.
What is an Orthoptist?

- Orthoptists are allied health profession within the field of Ophthalmology and work closely with Ophthalmologists.
- All Orthoptists in Hospital Authority are working in specialist outpatient clinic – Ophthalmology Department.
The Role of Orthoptists

- Specialise in assessment of visual function
- Monitor visual development
- Assess, investigate and treat ocular muscle defects (congenital / acquired)
- Provide some ophthalmic examinations, such as visual fields assessment, optical coherence tomography and axial length measurement etc.
- Many tests used by the Orthoptist are non-verbal and therefore responses can still be obtained even if a communication problem exists after stroke
Why are Orthoptists Involved in Stroke Rehabilitation?

• National guidelines across the United Kingdom recommend specialist vision assessment for stroke survivors who are suspected of having a visual problem
Why are Orthoptists Involved in Stroke Rehabilitation?

• Royal College of Physicians (RCP) National Clinical Guidelines for Stroke

• Every patient who has had a stroke should have a practical assessment of vision and examination of the visual field
Why are Orthoptists Involved in Stroke Rehabilitation?

- Scottish Intercollegiate Guidelines Network (SIGN) Guidance 118

- All patients with stroke should be screened for visual problems and also suggests visual scanning compensatory training techniques as potentially improving function outcomes after stroke
Why are Orthoptists Involved in Stroke Rehabilitation?

• National Institute for Health and Care Excellence (NICE) CG162

• Screen people after stroke for visual difficulties

• Refer people with persisting double vision after stroke for formal orthoptic assessment
Why are Orthoptists Involved in Stroke Rehabilitation?

Best Practice Statement

‘Screening, assessment and management of vision problems in the first 30 days after an acute stroke.’
Common Signs or Symptoms Following a Stroke

• Double vision (Diplopia)
• Visual field loss or inattention
• Reading difficulties
• Blurred vision
• Nystagmus
• Spatial awareness problems
Double Vision (Diplopia)

• Double vision can occur following stroke in the presence of cranial nerve palsies, supranuclear and infranuclear ocular motility defects

• Diplopia may be horizontal, vertical or tilted and may be distant dependent

• Diplopia can cause eye hand co-ordination difficulties

• It is a risk factor for trips and falls
Management of Diplopia

- Traditionally, treatment is to wear a patch over one eye
- However, this can cause the loss of 3-D perception
Management of Diplopia

• An alternative is to have a plastic prism laid onto the spectacle lens
• This has the effect of moving the images seen by the eye, so that they join up, restoring 3-D perception
• They don’t work in every case but when they do, they are very successful
Visual Field Loss

- 49.5% has visual field loss with complete homonymous hemianopia in 29.4%
- 27.2% has left sided visual field loss
- 19.8% has right sided visual field loss
- 2.5% has bilateral visual field loss
Visual Field Loss

• The prevalence of post-stroke homonymous visual field loss is relatively high and frequently underestimated by confrontational testing with stroke patients often unaware of their field loss.
• Visual field loss has obvious dangers. If patients are crossing the road they may not be aware of cars coming from one side.
• Therefore, it is important for both patient and carer to be aware of the problem.
Visual Field Assessment

• Specialised measurement of visual field is needed to reveal visual field loss
• Manual - Goldmann Perimetry
• Automated - Humphrey Field Analyser
Management of Visual Field Loss

- Turing their head and eyes to the blind side to make better use of the seeing field
- Applying sector plastic prism on upper and lower sections of one spectacle lens.
- This has the effect of displacing images from the blind visual field across into the seeing side.
Why Identify Visual Defects?

- Important for rehabilitation

Vision is required for many general rehabilitation techniques and being accurately informed of visual impairment will target alternative therapy options for stroke patients to enhance outcome.
Why Identify Visual Defects?

• Reassurance

Orthoptists can have an important positive effect on patients concerns. They can offer advice and treatments, that can aid the patient’s rehabilitation. Some fear further deterioration is inevitable leading to blindness and they can be reassurance that this is not the case.
Driving Standards

- Visual acuity must be able to meet at least 6/9 for the better eye and at least 6/12 for the worse eye.
- Visual field of at least 140° on the horizontal and no significant defect in binocular field which encroaches with 20° of fixation above or below horizontal meridian.

Why Identify Visual Defects?
Why Identify Visual Defects?

- Blind or Partial Sight Registration

  - Ophthalmologists decide if someone can be registered as blind or partially sighted. (Guideline endorsed by Hospital Authority Coordinating Committee – Ophthalmology)
  - Registration involves consideration of the degree to which the person’s central vision (how well you see detail), peripheral vision (field of vision) and ocular motility (both eyes movement without diplopia) is reduced
Why Identify Visual Defects?

- Blind or Partial Sight Registration

Although being registered blind or partially sighted does not mean patients are automatically entitled to any welfare benefits, there are a number of allowances and concessions which can be very helpful and will support their independence.
Visual Rehabilitation by Orthoptists

• In United Kingdom, Orthoptists are essential in the care and management of stroke patients by contributing their specialist knowledge and skills as part of the stroke multi-disciplinary team (MDT).

• An assessment of visual deficits in the immediate post-acute phase is the optimum time for Orthoptic input. At this stage the Orthoptist can provide essential information to the MDT on the ocular status of the patient so that other professionals can consider and use this knowledge when planning and carrying out their own rehabilitation plans.
Visual Rehabilitation by Orthoptists

• Patients may not regain normal visual status following a stroke, but the role of Orthoptic service is highly recommended and recognized in the management of stroke rehabilitation.

• It is hoped that with increasing number of Orthoptists in the future, we can extend Orthoptic service in the area of stroke visual rehabilitation, fill the gap in our existing service and upgrade our service quality to the international standard.
Thank you