

Department of Orthoptics



The Orthoptic Services Department provides a wide variety of hospital and community Orthoptic clinics, joint Optometry and Orthoptic clinics, Consultant led ocular motility clinics, general Ophthalmology clinics and pre operative clinics. We also provide a range of extended practice which include Stoke and Neuro-rehabilitation clinics, Low Vision Clinics, Primary visual screening, Specific Learning difficulties, Special educational needs and screening of premature babies and low birth weight babies (retinopathy of prematurity).

What is orthoptics?

Orthoptics is an Allied Health Profession (AHP). From its origins in England the specialty has spread world-wide. The first orthoptist was Mary Maddox who opened the first Orthoptic Training School in 1929, having received her own training from her father, the eminent ophthalmologist, E E Maddox. Orthoptics is now a graduate profession with three-year degree courses offered at Liverpool and Sheffield universities.

What do Orthoptists do?

Orthoptists are concerned with the diagnosis and treatment of ocular motility and problems relating to vision. Some examples of these problems are:

Amblyopia (lazy eye), which is a reduction in vision arising from a defect present in infancy or early childhood that prevents the eye from receiving adequate visual stimulation

Defective binocular vision, which is the inability to use the two eyes together in the correct way and which leads to impairment of depth perception

Abnormal eye movements arising from injury or disease affecting the eye muscles or the nerve supplying the muscles, or a physical obstruction to eye movement

Diplopia (double vision) resulting from abnormal eye movements or strabismus (squint)

Orthoptists are recognised as the experts in childhood vision screening, and undertake primary screening of children aged four to five years, in line with the recommendations of the National Screening Committee (2001).

Secondary screening is still offered in addition to primary screening.

Orthoptists are skilled in performing, and in the interpretation of, a variety of diagnostic procedures where an underlying ophthalmological condition exists. Such as, perimetry (assessment of field of vision), automated and non-automated and Low vision aids (assessment of the use of visual aids for partially sighted adults).

Orthoptists need to have highly developed levels of manual, communicative and analytical skills. Their expertise extends to patients with special needs, specific learning difficulties, maxillo-facial injuries, Stroke, low vision and neurological conditions.

Techniques of diagnosis and treatment



The orthoptist, having taken a precise ocular and medical history, will carry out a detailed examination of the patient and then select the appropriate diagnostic techniques.

These include tests to assess the position of the eye, the ocular motility and the state of binocular function (use of the two eyes together).

The interpretation of the results allows the orthoptist to judge the patient's ability to interpret visual information and to maintain eye control with the two eyes working in unison.

The orthoptist can also establish whether the defect is recent in onset and may consequently have neurological implications. Inaccurate diagnosis can have serious consequences.

Treatment techniques available to the orthoptist include:

- Use of occlusion to reduce the visual input into one eye, either in the form of an eye patch, cycloplegic drug, or lenses, in order to improve visual acuity

- Use of prisms to control double vision or correct strabismus

- Use of lenses to alter the angle of strabismus, by changing the amount of focusing power needed

- Use of exercises, both in the clinic and at home, to improve the ability of the eyes to alter their relative positions.

Treatment over several years may be necessary in some cases.

Inappropriate or delayed treatment can create irreversible damage such as reduced vision in the good eye or constant diplopia.

During the time that a patient is under the care of an orthoptist, consultation and discussion with the ophthalmologist and optometrist may be necessary.

Patient/Client groups

The orthoptist deals with patients of all ages but has a particular interest and expertise in the very young and the elderly as these have a higher incidence of ocular pathology.



Orthoptists undertake vision screening in young children to detect defects such as a reduction in visual acuity in one or both eyes, small angle strabismus that may be difficult for parents to detect, and which may have a significant effect on the development and function of the visual system. Orthoptists undertake screening of the elderly population in settings such as stroke units to assist with detecting and treating the symptoms of cerebro-vascular accident (see stroke page for more information).

Children and adults with special needs have a higher incidence of visual defects and the caring and skilled approach of the orthoptist is vital with these patients. Orthoptists investigate the state of the visual fields in all age groups of patients with head injury, brain tumours, and systemic conditions, monitoring and interpreting their fields on a regular basis for any subtle changes.

It is important to remember that, while testing and screening for visual problems, the orthoptist can also identify and reassure those patients whose vision is good.

<http://www.wvl.nhs.uk/Specialities/Orthoptics/>