



British and Irish Orthoptic Society

# LOOK TO YOUR FUTURE

A CAREER AS AN ORTHOPTIST

# What is Orthoptics?

Orthoptics quite simply means “straight eyes” originating from the Greek words “orth” as straight and “optics” related to the eye. More specifically, it is the study of visual development, binocular vision (how the eyes work together as a pair), eye movements and eye co-ordination. Visual development can be assessed from birth and abnormalities are diagnosed in very early life.

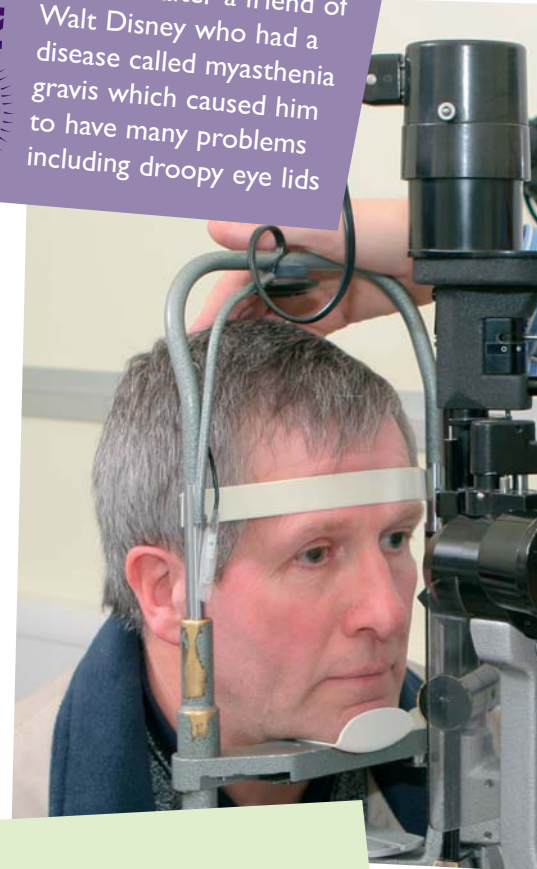
## Who are Orthoptists?

- One of a group of health professionals, namely the Allied Health Professionals (AHPs), the majority of whom work in the NHS.
- Valuable hospital eye care team member working alongside consultant eye surgeons (ophthalmologists), optometrists and nurses and, as part of teams with other health care professionals specialising in defects in children (paediatric) and stroke. (<http://www.newgenerations.org.uk>) (The Changing Face of Allied Health Professions).
- Skilled uniquely in diagnostic techniques, clinical interpretation and non-surgical treatment of disorders including:
  - Children presenting with misalignment of the eyes (strabismus/squint).
  - Patients presenting with double vision (diplopia).
  - Reduced vision (amblyopia) and other visual disturbances.

KNOW



Sleepy, one of the seven dwarfs was modelled after a friend of Walt Disney who had a disease called myasthenia gravis which caused him to have many problems including droopy eye lids



Q

1. How many muscles are responsible for moving the eyes?



## In addition:

- Orthoptists see patients of all ages: young children, some of whom may have learning and physical disabilities; adult patients with double vision and other related visual symptoms which may be the gateway to the sign of serious general health problems including neurological disease such as stroke, multiple sclerosis or tumours. Even road traffic accidents and sports injuries may require the expert opinion from an Orthoptist.
- Approximately, 5% of children have visual problems and will require the expert skills of an Orthoptist.
- A detailed orthoptic examination helps to identify the underlying condition and allows decisions to be made on the appropriate treatment for individual cases.
- The instigation of treatment both in the short and long-term contributes to the patient's overall quality of life.

- Treatment may range from improvement of visual loss by patching therapy or using glasses, prisms, exercises or surgery on the eye muscles to differentially diagnose the condition, relieve symptoms and monitor the progression of the condition in adults.
- Orthoptists can expand their role within the eye care team by the use of highly specialised equipment for the assessment and monitoring of eye disease such as:


**Glaucoma** (a condition of raised pressure within the eye);

**Age-related macula degeneration** (a condition involving loss of central and detailed vision);


**Electro-diagnostic testing of visual function and eye movement**

- Teaching, research and management.
- Patience, good communication skills, adaptability and powers of observation are essential traits in order to undertake a career in Orthoptics.



  
**KNOW**  
Michael J Fox,  
suffers from Parkinson's  
disease, a neurological  
condition affecting eye  
movements

**KNOW**  
Jordan's son,  
Harvey, has optic  
nerve hypoplasia,  
and has severe  
visual loss as a  
result



## Why is vision so important?

- Vision, as one of our key senses, is crucial to how we learn and interact with the world around us.
- Vision is more complex than just seeing detail: we also see things in colour, the eyes move in a co-ordinated way as we move through the world and track moving images, and we view the world in 3-D.
- We are not born with perfect eyesight, but these capabilities develop up to around 8 years of age. This requires normal development of the eyes, areas of the brain that process vision, and the "wiring" which connect these.
- Defects can occur at any age and quality of vision is an important determinant of the quality of life.
- It is critical for development in childhood, for education, employment and for the pursuit of leisure activities. Even apparently small eye problems can impact on life.

# Research and Orthoptics

- Is 3D vision of any benefit to human eyesight at all? It is definitely of value in some occupations such as piloting an aircraft but how beneficial is it in everyday living? The question is waiting to be answered.
- Have you ever wondered why Manchester United dropped its grey away strip? The answer lies in the degree to which colour and pattern contrast with background.
- Are children born prematurely and of low birth-weight children prone to poorer eyesight? Extensive research, undertaken by Orthoptists amongst others, has shown that vision is affected in more than one way.
- Contrary to expectations, did you know that virtual reality games can actually improve your eyesight?
- Is it an old wives tale/myth that it really is normal for babies to squint?
- Did you know that the withdrawal of heroin can cause eye problems?

Q

2. What part of the eye alters the amount of light entering the eye?



## Qualified Orthoptist profile

Name: James

“I, like most, had never even heard of Orthoptics until I came across the course in the University prospectus! Following the open day held at the Department of Orthoptics, I was convinced that this was the career path that I wanted to pursue.

The course involves both lecture-based learning, and hands on training, essential to any vocational course. This meant that as well as having a great student life at University, I was also sent to various orthoptic departments around the country to complete clinical placements. This gave me an idea of what “real life” as an Orthoptist is all about and helps to consolidate all the theory learnt

## So why study Orthoptics?

at University. The other advantage of clinical placements is that securing employment may be possible if a good impression is made!

Orthoptic students are good at getting to know each other both academically and socially and I enjoyed the close-knit social side of the course and the help and support of all of the lecturers.

Professionally, having completed the course, I knew that I would achieve a degree and be able to apply to be registered as an Orthoptist and, if successful, start work as an Orthoptist without any further qualifications!

An added bonus to the course for me, being a UK resident, was the fact that it is funded by the NHS, which means that tuition fees are paid, a big help, especially in the days of top-up fees and student loans. There is also a means tested grant available based on your parents income which may help towards the cost of travel and accommodation for clinical placements.

”

# Where and how can I study to become an Orthoptist?

→ Year 1

- The Orthoptic degree programmes provide both the theoretical teaching and clinical experience required to enable you to practise clinically as an Orthoptist.
- Clinical placements occur in approved hospitals and link in with community clinics, special schools and child development centres throughout the whole of the UK and are essential to the understanding and integration of the theory and practice of Orthoptics.
- The academic years are extended beyond the normal University teaching period for placements.
- Further information regarding the entry requirements and the programme content can be obtained by using the following web link:

[www.orthoptics.org.uk](http://www.orthoptics.org.uk)

If you are seriously considering a career in Orthoptics, it is essential that you arrange a visit to an Orthoptic department at your local NHS Trust and spend some time observing the work of an Orthoptist in different environments.



**David Bowie**  
pop singer, has different coloured eyes and different sized pupils giving the impression of misalignment of the eyes (squint)

## Student profile

Name: Sarah  
Studying year: 1st



“ I applied to study Orthoptics because I enjoyed science at school and wanted to work in the health care sector and with people in a caring and practical capacity. The clinical placements allow me to put the theory into practice and I enjoy being with a whole range of people; patients and healthcare professionals alike, and gain a real sense of satisfaction that you have made a difference. I can't wait for my second year to start and would definitely recommend the course! ”

## Student profile

Name: Joanna  
Studying year: 1st



“ I decided in my late twenties to have a career change. Having trained as a nursery nurse I decided to further my studies and develop some of the skills already learnt. I wanted to pursue a career in health so undertook the Access to Health Certificate required for University entry. Before I applied for Orthoptics, I spent time in the local hospital and the insight I gained into the profession made me more determined to succeed. So here I am, one year on, having passed all my first year examinations and thoroughly enjoying both the theory and clinical work, and with no regrets to returning to study. ”

## → Year 2



## Student profile

Name: Sam  
Studying year: 2nd

“ Having gained a degree in Engineering and received ophthalmic treatment since a child, I realised that I wanted to return to study an ophthalmic related degree and chose Orthoptics after spending many sessions at the local Orthoptic clinic. The patient-orientation career and particularly working with children, also really appealed to me along with the opportunities to work alongside other health care professionals. I am really looking forward to my final year and ultimately practising. ”

Q

4. What is the black “hole” in the middle of the eye that allows light to enter the eye?

## → Year 3

## Student profile

Name: Stephen  
Studying year: 3rd



“ I was always interested in Biology and Health Care and realised that a career in Orthoptics was probably for me. I felt that I had the right qualities such as good communication and team-working skills and a caring nature. The degree programme is really enjoyable and I like the challenges that it presents and the opportunities to put the theory into practice and the variety of clinical work. ”

Q

3. Which nerve carries electrical signals from the eyes to the brain?



## Orthoptist profile

Name: Hamida

“No two days are the same. This variety keeps my interest and enthusiasm for such a worthwhile and rewarding job.”

# A day in the life of an Orthoptist

## 8.30am Administration


The first half an hour of my day is spent catching up on administrative tasks. This time is allocated for checking the current day clinic lists, ensuring that patients' notes are available. Often, I sort out telephone queries from the previous day during this time and check mail and email, responding to queries raised regarding glasses, eye patches etc to patients. Also if there have been any requests from the wards (stroke, neurology and maxillo-facial in particular) for inpatients to be seen, I will arrange a time for the patients to come to the department if mobile or otherwise one of my team will go the ward.

## 9.00am

### Paediatric Clinic

I work in a team with 3 other Orthoptists, a paediatric ophthalmologist, their registrar, senior house officers and an optometrist. Clinics are very busy and I am responsible for assessing the child's vision, eye movements and binocular vision where appropriate and for devising management plans involving the use of patches, glasses, prisms, exercises and /or the instillation of eye drops (often a challenging experience to put eye drops in children!). Frequently, I have Orthoptic students in the department with me and I am responsible for their supervision whilst they undertake the assessment of the patient. At the end of the clinic, it is important to ensure that the clinic lists are checked to identify those patients who have cancelled or not attended their appointment and to arrange for suitable follow up.

**KNOW**



Thom Yorke of Radiohead has Marcus Gunn jaw-winking syndrome when he eats his eyelid moves up and down



5. What do the rods in the retina allow us to see?



## 12.30pm Lunch break

Time to recharge my batteries, ready for the afternoon. It is also a good time to catch up on anything I need to look up from the morning clinic or preparation for the afternoon.

## 1.30pm Thyroid Eye Disease Clinic

Not all clinics are of specific types; many are general where you don't know what is coming next. However, this afternoon is a Thyroid Eye Disease clinic. It comprises of adults who have had problems with their thyroid gland and go onto develop eye problems. This often involves the patient experiencing uncomfortable, bulgy, gritty eyes, in addition to double vision. As an Orthoptist, I assess their eye condition, taking measurements of their vision in several ways including colour vision and their field of vision, eye movements and assessing whether they can use the eyes together. I also plot charts to document the extent of the eye movement problem. I may prescribe prisms, exercises or an eye patch to relieve their symptoms. Following these tests, I decide whether the patient needs to see the consultant eye specialist or not.



Stevie Wonder  
pop singer, had  
retinopathy of  
prematurity,  
resulting in  
blindness

## 4.30pm Ward round

An interesting part of my day involves assisting the consultant during the ward round. This involves taking measurements of the squint following surgery that morning and ensuring that the patient does not experience problems with their vision. I aid the consultant in adjusting the stitches (sutures) to improve the appearance and symptoms. Reassuring the patient is essential as many patients are worried about this part of their treatment. Good communication skills are needed but these are developed whilst training.



Sir Steve  
Redgrave, World  
and Olympic rower, has  
dyslexia and diabetes,  
which can result in  
retinal disease and eye  
movement disorders

# Opportunities and prospects

Most Orthoptists find a job in the NHS soon after graduating. The qualification is recognised internationally so there is a chance to work abroad as well. On starting your new job, you will be offered the support of a mentor who helps you settle into the working environment.

Clinical Career progression:

Head Orthoptist



Highly Specialist Orthoptist



Specialist Orthoptist



Orthoptist



Highly Specialist Orthoptist

Name: Inider

“ I lead a specialist service for patients having surgery to remove their cataract and who have a silicone lens inserted to correct their vision. I work closely with other members of the eye care team. ”



Multi Disciplinary Team

Name: Laura

“ I am an experienced Orthoptist and work as part of a multi-disciplinary team alongside many other health care professionals in assessing and treating patients with learning difficulties. We meet at regular intervals to discuss the patients and what course of action should be followed. Working with other professionals has increased my understanding of their roles and has informed them about mine. ”



Clinical Tutor profile

Name: Catherine

“ I am a clinical tutor, working in Scotland, providing clinical teaching for students studying Orthoptics. They spend several weeks working in the department where they are able to test patients under my supervision. It is a stimulating learning environment and my role is also to help the students link the lectures they attend at the university to real patients. ”



6. What do the cones in the retina allow us to see?



## Manager of Service profile

Name: Rosie

“ As Head of Service, my job is very satisfying as it is so diverse. Apart from working in the clinic and teaching student Orthoptists, I am responsible for managing the departments in terms of staffing, hospital initiatives, budgets, training and development and research. It is a demanding post but one that I enjoy tremendously. ”



## Lecturer profile

Name: Helen

“ I started my professional career in a small district general hospital where I gained excellent experience in clinical Orthoptics. I then decided to pursue a career in teaching and achieved more qualifications. I now lecture on a wide range of subjects on the degree programme at the university. I enjoy encouraging the students to learn and am involved in the development of the degree programme. Whilst at the university I studied for a Masters degree and am now writing up a PhD. ”



## Lead Research Profile

Name: Musrat

“ This is a challenging role; it requires me to encourage my colleagues to see research as part of their job and to stimulate and support them in taking their project forward from the initial idea to presentation and/or publication. It is my responsibility to ensure the department is research active in this area and this is what makes it both stimulating and enjoyable. I take great satisfaction in seeing a project come to fruition or a colleague’s work being accepted at an international conference. ”

KNOW

## JK Rowling

saw her mother suffer from MS, a condition causing disorders in eye movements, and is very involved in fundraising for the condition



7. What is a visual illusion?

## Useful web links for information on eyes:

<http://www.yorku.ca/eye/thejoy.htm>

<http://library.thinkquest.org/1002330/>

<http://www.kathimitchell.com/humanbody.htm>

<http://www.eyelink.com>



## Do you know?

- ★ Do you know that a form of botox is used in the treatment of some squints?
- ★ Do you know that each optic nerve contains more than 1 million fibres that send visual signals from the brain?
- ★ Do you know that images falling on the light sensitive layer of the eye are upside-down and that the images are turned upright in the visual cortex part of the brain?
- ★ Do you know that the overlapping of your visual fields from both eyes enables you to use your eyes together as a pair and see in 3D?

## A Quiz Answers

1. Six muscles in each eye. 2. Iris. 3. Optic nerve. 4. Pupil. 5. Black and white.  
6. Colour. 7. Misinterpretation of visual information so the brain is tricked into seeing something that does not exist.