

Refraction Guide

Ophthalmology
Orthoptics and Optometry

Introduction

This leaflet is intended for parents and carers to explain about your child's refraction appointment. It aims to answer the questions that you may have about the test and also (if needed) about your child's glasses.

What is refraction?

Refraction is the bending of light through a surface. Light that comes into your eye is refracted (bent) by the front layers of your eye to focus onto a point on the retina (the back of the eye). When this does not happen correctly vision is blurred. This is usually because the eye is shorter than normal, longer than normal or not as round as it should be.

Why does my child need a refraction appointment?

There are a number of reasons why your child may need a refraction appointment:

- Reduced visual acuity (vision)
- Misalignment of the eyes, for example one eye turning inwards, outwards, upwards or downwards.
- A fundus and media check (check of the health of the eye): This is performed as routine for all children found to have one of the above.

How to prepare for your child's appointment

Before the appointment, you may have been given some drops to put into your child's eye to enlarge the pupil (black part of the eye) and relax their focusing ability. You should follow the verbal and written instructions given to you by the Orthoptist at your previous visit. If you are unable to put the drops in yourself, you can organise to attend one hour earlier for your Orthoptist to instil them. If you have any difficulties with instilling the drops, then please contact the department for advice.

In certain types of refraction, drops may not be required, please clarify this with your Orthoptist if this applies to you.

The prevention of infection is a major priority in all healthcare and everyone has a part to play.

- Please decontaminate your hands frequently for 20 seconds using soap and water or alcohol gel if available
- If you have symptoms of diarrhoea and/or vomiting, cough or other respiratory symptoms, a temperature or any loss of taste or smell please do not visit the hospital or any other care facility and seek advice from 111
- Keep the environment clean and tidy
- Let's work together to keep infections out of our hospitals and care homes.

Why do I need to use the drops?

The drops are required to dilate the pupil of the eye and to stop the lens inside the eye from changing shape. This allows the Optometrist to get an accurate prescription and to check the health of the back of the eye (the retina).

Should I bring anything?

Please bring any glasses your child currently wears. Due to the dilating effect of the drops, your child may be more sensitive to light. It is a good idea to bring some sunglasses or a cap for them to wear afterwards.

Can my child go back to school after the appointment?

Your child can return to school following the appointment. We advise letting the teachers know that the child has had drops in their eyes, their vision may be blurry and they may be sensitive to the light.

What happens at a refraction appointment?

If drops have been instilled at home, upon arrival the Orthoptist will check your child's eyes with a torch to check they are suitably dilated. If an arrangement has been made for you to attend earlier than your scheduled appointment time for the Orthoptist to instil the drops, then this will take place once you arrive. If they are still reacting to light, then more time may be required for the pupils to dilate; more drops may need to be instilled or if your child has very dark eyes, another type of drop may need to be administered and the appointment may need to be arranged for an alternative date.

During a refraction appointment the Optometrist will shine a light into your child's eyes whilst using lenses to make the light fall on the retina. This provides a measurement of the refractive error (long sightedness, short sightedness, astigmatism that is present).

Following the procedure, the Optometrist and Orthoptist will discuss the most suitable prescription for your child, if one is required. You will then be provided with a hospital voucher which you can then take to any Optician for the glasses to be made up.

What does the refractive error/prescription mean?

- **Myopia (short sightedness):** Someone with myopia is likely to be able to see clearly at near but may struggle looking at objects in the distance. Someone with a very high amount of myopia would struggle to see at all distances without glasses on. This is represented by a minus symbol (-) when written in a prescription
- **Hypermetropia (long sightedness):** Someone with hypermetropia may struggle to see at near but likely to see better at a distance. Someone with a moderate or high amount of hypermetropia would struggle to see at all distances without glasses on. Hypermetropia is represented by a plus symbol (+) when written in a prescription
- **Astigmatism:** The front surface of the eye (the cornea) has a slightly irregular shape to it, causing the light to be bent in an irregular way. This can result in blur for all viewing distances. It is common to have astigmatism alongside myopia and hypermetropia.

How often will my child need a refraction?

While your child is under the Hospital Eye Service, the number of refractions required will depend upon a number of factors which the Orthoptist will take into consideration. If their vision is not improving as expected or if they have a particularly high prescription it may be done sooner/more often.

Does my child need to wear them all the time?

It is highly likely that if glasses are prescribed that your child will be required to wear them full time. However, this will depend upon the level of prescription and reason for which the glasses are prescribed and will be discussed with you by the Orthoptist and Optometrist.

Will my child's prescription change?

As a child's prescription depends upon the size and shape of their eyes, it may change as they grow. Any significant changes to your child's prescription between visits will be explained to you by the Optometrist and Orthoptist.

Will my child need glasses forever?

This will depend on your child's prescription. If it is mild then they may eventually grow out of the need for them. If they have a moderate or high prescription they will likely always benefit from wearing their glasses.

What do I do if my child's glasses are broken or lost?

If your child breaks/damages their glasses the first point of call is the Optician who made the glasses for you. If they are unable to mend the glasses, please contact the Orthoptic department and we may be able to provide a voucher for the repair of the glasses depending on when the last refraction was done.

If your child loses their glasses we can provide a voucher for a replacement pair.

Can I have a spare pair?

We are not able to provide spare pairs of glasses for all children. However, in some specific circumstances children are eligible for a spare pair. Please ask the Orthoptist for further details.

Will the glasses affect my child's squint (eye misalignment)?

If your child's squint is due to a need for glasses, then glasses may fully or partially correct the squint. In some cases, glasses will make no difference to the size of the squint.

If the squint is caused by a muscle weakness, then glasses are less likely to correct the squint.

It is common to feel that the squint is larger/more noticeable when your child takes their glasses off, compared to before they had glasses. This is due to the link between the clarity of vision and focusing mechanism of the eye.

Do I have to pay for the glasses?

Your child is entitled to a voucher towards the cost of the glasses under the 'NHS Spectacle Voucher Scheme'. The value of this voucher goes towards the cost of the whole glasses (frames & lenses). If the cost of the glasses you choose come to more than the voucher value, you will need to pay the difference.

It should always be possible to find glasses that are within the voucher value; you may need to shop around to do this.

If your child has a high prescription for hypermetropia (long-sight), they may be eligible for a supplement on the voucher to help to minimise the thickness of the lens. This will be dependent on their age and the size of their face. This will be discussed with you at the refraction appointment should this apply to your child. It is important to note, as your child grows they may no longer be entitled to this extra supplement.

A supplement for special adjustments to be made to the glasses, can be given, if your child has a small face, wide or flat bridge to their nose.

What do I do with the voucher once I have it?

You can take the voucher to any opticians and they will produce the glasses for you. The length of time between giving the voucher and getting the glasses may vary between opticians. Unfortunately we are not able to suggest specific optician practices.

Can my child wear contact lenses?

We routinely manage refractive error (short sightedness, long sightedness and astigmatism) in children by prescribing glasses. Contact lenses, may in certain circumstances be suitable and can be fitted by community optometrists, however, there are many factors to consider which impact this decision. The optometrist in clinic can discuss this with you in more detail if you have any questions.

Contact information:

For general enquiries or concerns:

The Orthoptic department

01902 695830 / 01902 695838

Wolverhampton Eye Infirmary

Available Monday – Friday 08:00 -18:30

Ask to speak to the Clinic Manager

If you have specific concerns that occur 'out of hours' then please leave a message on the telephone number above and we will get back to you as soon as possible. In cases of emergency then please attend the eye casualty department or call 999.

Further information :

If you have any personal access needs or require wheelchair access and wish to talk to a member of staff please call 01902 695830.

English

If you need information in another way like easy read or a different language please let us know.

If you need an interpreter or assistance please let us know.

Lithuanian

Jeigu norėtumėte, kad informacija jums būtų pateikta kitu būdu, pavyzdžiui, supaprastinta forma ar kita kalba, prašome mums apie tai pranešti.

Jeigu jums reikia vertėjo ar kitos pagalbos, prašome mums apie tai pranešti.

Polish

Jeżeli chcieliby Państwo otrzymać te informacje w innej postaci, na przykład w wersji łatwej do czytania lub w innym języku, prosimy powiedzieć nam o tym.

Prosimy poinformować nas również, jeżeli potrzebowaliby Państwo usługi tłumaczenia ustnego lub innej pomocy.

Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਹ ਜਾਣਕਾਰੀ ਕਿਸੇ ਹੋਰ ਰੂਪ ਵਿਚ, ਜਿਵੇਂ ਪੜ੍ਹਨ ਵਿਚ ਆਸਾਨ ਰੂਪ ਜਾਂ ਕਿਸੇ ਦੂਜੀ ਭਾਸ਼ਾ ਵਿਚ, ਚਾਹੀਦੀ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

ਜੇ ਤੁਹਾਨੂੰ ਦੁਭਾਸ਼ੀਏ ਦੀ ਜਾਂ ਸਹਾਇਤਾ ਦੀ ਲੋੜ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

Romanian

Dacă aveți nevoie de informații în alt format, ca de exemplu caractere ușor de citit sau altă limbă, vă rugăm să ne informați.

Dacă aveți nevoie de un interpret sau de asistență, vă rugăm să ne informați.

Traditional Chinese

如果您需要以其他方式了解信息，如易读或其他语种，请告诉我们。

如果您需要口译人员或帮助，请告诉我们。