



**Bedfordshire
Community
Health Services**



Eye Care in children with Trisomy 21

Bedfordshire Children's Eye Services



Bedfordshire adult and children's community health services are provided in partnership by East London NHS Foundation Trust (ELFT) and Cambridgeshire Community Services (CCS) NHS Trust

Firstly, your child's eyes must be carefully examined to make sure that both eyes are healthy and to determine whether glasses are needed. This is usually done by putting drops into the eyes. These drops dilate and fix the pupil of the eye and make it possible to examine the back of the eye with a light with only minimal co-operation from the child. The drops also relax the focusing of the eyes.

The Ophthalmologist is then able to wave a beam of light across the child's eyes from a torch called a retinoscope while holding a lens in front of the eye. The strength of lens needed to neutralise the movement of the light indicates if there is any degree of long sight or short sight in the eyes. Most small children do not mind looking at the light for the short time but it takes an experienced person to test them.

The Ophthalmologist and Orthoptist will advise you whether your child has any eye problems or not and will recommend further checks as appropriate. You may be advised to take your child to an Optometrist when they are a little older.

What is an Optometrist?

Optometrists work in practices and are trained to test for glasses and other aspects of visual function and to recognise ocular abnormalities. They are also able to dispense glasses or may have a dispensing optician to fit spectacle frames and arrange to have these made up with the appropriate measurements and lenses for individual people. Optometrists are able to test children and people of all abilities.

What visual problems may my child have?

All children are prone to certain eye problems in the early years, but children with Trisomy 21 have an increased likelihood of developing eye problems. Here is a list of possible eye problems that may occur but it does not mean that because your child has Trisomy 21 they will have these problems.

Squint

Around 20% of children with Trisomy 21 have a squint. A squint occurs when the one eye points in a different direction. A squint may be intermittent.

Long-Sightedness (Hypermetropia)

About 40% of pre-school children with Trisomy 21 are long-sighted. Long-sighted children have to adjust their focusing system to see in the distance and need to focus harder as objects get closer to them.

Short-Sightedness (Myopia)

About 14% of pre-school children with Trisomy 21 are short-sighted and the condition becomes more common as they enter their teenage years. Short sight means that the child can often see near objects but have a problem with distance vision.

Astigmatism

About 30% of pre-school children with Trisomy 21 have astigmatism. This means that the image seen is distorted because the image is more out of focus in one direction than the other. The astigmatism can be either long-sighted or short-sighted or a mixture of the two.

Nystagmus

About 10% of children with Trisomy 21 have Nystagmus. Nystagmus is a condition where the eyes make small, involuntary, jerky movements and can cause the child's vision to be reduced.

Eye Infections

Eye infections and watering eyes tend to be more common in people with Trisomy 21. Tears are formed continuously to keep the eyes moist and healthy and they drain down the naso-lacrimal duct, which connects the corner of the eye with the back of the nose. In people with Trisomy 21, this tube is often quite narrow and so it easily becomes blocked. This leads to watering of the eye. As clean tears are not rinsing through the system so effectively, it is easier for infections to occur. Infections are usually treated with antibiotics. If infections happen very frequently it is advisable to see the Ophthalmic Surgeon (Ophthalmologist).

How does the Orthoptist check vision?

Babies can look at and follow a light or small toy. They tend to look at more interesting things when given a choice. A series of cards have been devised which give a choice between either a plain grey area or a striped pattern or outline of a picture. The person carrying out the test has to watch where the baby chooses to look. The test cards are graded to show finer and finer stripes or fainter and fainter pictures which are shown until the baby shows no response. This is noted and compared with standards expected for babies of different ages.

Older children are shown standardised black and white pictures held a measured distance away (Kay pictures). The child names or signs or matches the pictures on a card.

If your child will not co-operate with these tests, the Orthoptist will observe your child to see if they are visually responsive in other ways. After this assessment, the orthoptist will usually arrange for your child to be seen by the Ophthalmologist.

What does the Ophthalmologist do?

An Ophthalmologist is a doctor who specialises in the medical and surgical care of the eyes and visual system. They provide a full spectrum of care including diagnosis and medical treatment of eye disorders and diseases, prescriptions for glasses, surgery and management of eye problems that are caused by systemic illnesses.

Eye care in children with Trisomy 21

It is recommended that your child have their eyes examined regularly throughout their life. This is especially important in their early years.

Why does my child need eye checks?

The eye problems which may affect children with Trisomy 21 are commonly those which occur in any group of children – they just tend to occur more frequently and sometimes to a more marked degree.

Initially, after birth, all children are checked to see if they have cataracts. A Health Visitor will see your child at a later date and ask if you have any concerns regarding your child's eyes.

If you suspect your child has a squint or any visual problem, it is important to arrange a referral to the eye clinic to find out whether there is a problem and arrange treatment if needed. Usually your GP, Paediatrician or Health Visitor can arrange a referral.

What will happen when your child attends the eye clinic?

At your first visit, your child will be seen by the Orthoptist. The Orthoptist is specially trained in the assessment of vision in people of all ages and all abilities, the recognition of squints and disorders of eye movements and their treatment.

As children with Trisomy 21 often have rather dry skin they also tend to suffer from Blepharitis. This is a condition affecting the eyelids where the skin around the eyelashes becomes flaky and inflamed. All these conditions can be treated and therefore it is important if you have any concerns about your child's eyes that you seek advice.

For further information about this service contact:

Community Eye Service

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Bedford Health Village
3 Kimbolton Road
Bedford, MK40 2NT

Community Eye Service

Liverpool Road Health Centre
9 Mersey Place
Liverpool Road
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