



Uveitis Information Group Factsheet

Uveitis in Children

Uveitis is a condition in which there is inflammation inside the eyeball. The rather odd name comes from a combination of two words:

Uvea – this means the coloured parts of the eye, e.g. the iris
-itis – this simply means ‘inflammation of’

So uveitis means inflammation of the coloured parts of the eye, just as arthritis means joint inflammation. It is important to know that inflammation does not mean the same as infection – infections occur when germs are involved, whereas inflammation can occur without them.

Different types of uveitis:

In fact, there are three separate coloured parts to the eye – the iris, which is easily seen, and the ciliary body and choroid which lie deeper within the eyeball and cannot be seen without special equipment. Similarly, there are different types of uveitis, depending on which of these parts is affected, e.g. anterior uveitis (also known as iritis) affects the iris, whereas posterior uveitis affects deep inside the eye.

In addition, there are lots of different causes of uveitis – some of these causes will be obvious to the doctor examining you from the appearance of the eye or by other associated medical problems that you may have, but others are only found by blood tests or x-rays.

It is not important to know all the causes and types of uveitis, only the one that affects you. This will let you know the possible treatments and likely outcome of your disease. Look for your type in the following list.

Juvenile inflammatory arthritis (JIA) associated uveitis:

This is an inflammation of the eye associated with arthritis, i.e. joint inflammation. This type of children’s arthritis commonly begins at age 2-4 years and is more common in girls. In the vast majority of cases, the arthritis is diagnosed before the eye problems. In fact, the eye problems tend to cause damage very slowly over about 4-8 years, if undiscovered and untreated. The severity of the arthritis is not related to the severity of the

uveitis, and children with mild arthritis can have the most severe eye disease.

Typically, the uveitis is located at the front of the eye, mainly involves the iris, and tends to affect both eyes. The eyes of children with JIA-associated uveitis are often not red, sore and inflamed, so it can be impossible to tell that there is a problem without specialist examination. In addition, as affected children are often young, they may not notice or tell adults about changes to their vision. Therefore children with JIA need to be screened.

The highest risk of developing uveitis occurs within 2 years of diagnosis of JIA and the risk declines greatly 8 years later. The risk can be worked out from the particular type of JIA that the child has and by looking at the results of some blood tests. There is a nationally-agreed set of guidelines which details the necessary screening program for every group, and ranges from a hospital eye examination every three months to one every year for a certain number of years.

Treatment is usually based on steroid eye drops to control the inflammation – these work well, as the inflammation is usually confined to the front part of the eye, but steroid tablets may be required occasionally for stubborn cases. Other drugs such as methotrexate, which is a drug that affects the immune system may also be required.

Unfortunately, the combination of chronic inflammation and the long term use of steroid drops can lead to cataract formation and the development of glaucoma (high pressure in the eye) – regular monitoring is important to check for the development of these.

Fuchs' heterochromic iridocyclitis:

This is fairly uncommon in children, as it usually begins at the ages of 30-40. However, it can occur in children over the age of 10 years. Typically, there is mild inflammation in the front of the eye, i.e. an anterior uveitis, which may be associated with a subtle change in the colour of the iris on that side.

Most people do not usually require any treatment at all for this, although regular check-up appointments need to be made because cataracts and glaucoma (high pressure in the eye) may develop, which usually require further treatment. An annual check-up is usually sufficient.

Recurrent anterior uveitis:

Recurrent anterior uveitis refers to a recurring inflammation at the front of the eye, usually mainly affecting the iris. Usually, each episode is heralded by the eye becoming red, sore and watery, with particular pain on looking at

bright lights. Often only one eye is affected at a time, although the particular eye affected can change from episode to episode.

Children who have anterior uveitis are tested to see if there is an underlying reason for the inflammation to develop – this usually involves some blood tests, an x-ray and often a general examination by a paediatrician. Finding an underlying reason will obviously affect the likelihood of the uveitis recurring, and may occasionally alter the treatment regime, although usually this remains the same whatever the cause. Recurrent anterior uveitis can be associated with a large number of other medical problems, including arthritis (see above), bowel problems and some skin rashes. However, often no underlying cause is found – these cases are called ‘idiopathic’.

Treatment consists of steroid eye-drops – these work well because they easily penetrate into the front chamber of the eye to reduce inflammation. Typically, the eye-drops are initially used very frequently, often every hour. They are also combined with mydriatic drops that keep the pupil dilated to reduce pain and inflammation.

Once the inflammation is successfully controlled, the drops can be gradually reduced over time and eventually stopped; this process can take weeks to months to achieve as there is a risk of a flare-up if the drops are stopped too quickly.

Side-effects of inflammation and steroids include glaucoma (high pressure in the eye) and cataract formation – this is why you need to be monitored if on steroid drops for long periods.

Intermediate uveitis & pars planitis:

These refer to inflammation of the vitreous jelly – the ball of clear jelly that makes up the shape of the eyeball and sits at the back of the eye. It most commonly develops in those aged 15-25.

It can begin in one eye, but usually goes on to affect both eyes. It causes two major problems – firstly, ‘floaters’ form within the vision which can be very distracting, and secondly, the inflammation can cause fluid to collect at the back of the eye, distorting and blurring vision (this is known as macular oedema).

Unfortunately, steroid eye-drops do not work, as they do not penetrate through to the back of the eye, so treatment involves either steroid injections around the eye or steroid tablets. Obviously, these carry more risk of side-effects than eye-drops, so the decision whether to treat the inflammation or not depends on your vision.

Often, apart from a few floaters, the vision remains very good and so no treatment is required. If the floaters become severe or fluid at the back of the eye blur your vision, then steroid injections or tablets can be considered.

Most people respond well to steroids, but sometimes other drugs or even an operation to clear out the vitreous jelly are required. Obviously, these options are only recommended in severe situations. The long-term outlook for most people is excellent, with the vast majority retaining good vision.

Toxoplasma-related uveitis:

This is one of the types of uveitis that is related to an infection. It is caused by infection with a tiny parasitic organism called *Toxoplasma gondii*, which is carried by cats and is shed in their faeces; it is caught by eating substances directly contaminated by these faeces, or by eating undercooked infected meat such as pork, beef, lamb and chicken (these animals are infected by *Toxoplasma* just as people are). Additionally, unborn babies may catch the infection if the mother becomes infected during pregnancy; such infection can sometimes have very serious consequences for the health of the child.

Infection is common in childhood, especially in particular parts of the world, and the eyes are often affected. However, this rarely leads to any problems with vision – most infections lead to tiny scars at the back of the eye that have no effect on eyesight and are often only detected on routine optician's testing much later in life.

However, the scars can reactivate up to many years later, causing visual problems. Typically, the vision becomes blurred and full of floaters as a posterior uveitis develops; the affected eye can also become red and sore as an additional anterior uveitis also develops.

Treatment depends on where exactly the infection is within the eye and how much the vision is affected – if the affected part is right out at the edge of the vision and the inflammation is not severe, then it may simply be observed, as it will resolve by itself with time. If it affects the vision more seriously, then a combination of steroids and anti-parasitic drugs, e.g. pyrimethamine or sulphadiazine, may be given to try to reduce any long-term damage to the vision. Healing can take weeks to months.

Treatment for infection during pregnancy is difficult, as many of the effective drugs can cause serious problems with the pregnancy – this would need to be carefully discussed with your doctors.

Toxocara-related uveitis:

This is another of the types of uveitis related to an infection. It occurs in children and is related to an infection with a tiny worm known as *Toxocara canis*, which is carried by dogs and cats and is shed in their faeces; it is caught by subsequent food contamination. Although infection is actually surprisingly common in children, eye involvement is rare.

Infection is most common at ages 2-3, although children up to the age of 12 can be affected. It is more common in boys than girls. The infection causes a white lump to form at the back of the eye – this can sometimes be seen as a ‘white pupil’ in screening tests, as the pupil should be red on these tests, as in red-eye on a photograph. It may cause poor vision in an eye, leading to a squint.

Sometimes steroids help, but often there is no treatment. Drugs to kill the infectious worms tend not to help either, as it is the body's reaction to the worm rather than the worm itself that tends to cause the problem.

Sympathetic ophthalmia:

This is a rare and unfortunate cause of uveitis which can affect both eyes after a penetrating injury to one eye. It is very rare and occurs in less than 1 in 500 people who have suffered such an injury.

Most such problems occur within 3 months of the original injury and involve a uveitis that can affect the whole of both eyes; the chances of developing this type of uveitis diminish substantially after a year has passed.

Sometimes eye-drops alone are sufficient, but often steroid tablets or other drugs are required over many years to keep the inflammation at bay and preserve the vision.

Sarcoidosis:

This is a medical condition that can cause inflammation all over the body – it can affect the lungs causing breathing difficulties and the skin causing lumps and rashes to form, as well as causing an anterior uveitis in the eye.

Treatment of the eye condition often depends on how seriously affected other parts of the body are – steroid drops may be sufficient if there is only an anterior uveitis, but steroid tablets may be required if there is inflammation deeper within the eye or if problems elsewhere in the body require anti-inflammatory treatment.

Other types of uveitis:

There are many other causes of uveitis, related to rare infections or other causes. If you have one of these, please seek advice from your doctor.

Thanks to the medical staff at Moorfields Eye Hospital for this fact sheet. Published by Uveitis Information Group (UIG)

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