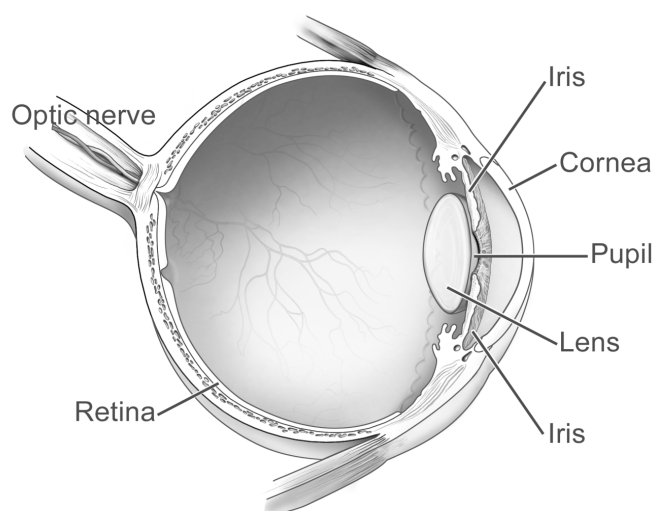


## Patient information factsheet

# Cataract in children

We have given you this factsheet because your child has been diagnosed with a cataract. We hope it answers some of the questions you may have. Please ask your eye doctor, optometrist or orthoptist if you have any questions or concerns.

### What are cataracts?



(Diagram used with permission for educational use from National Eye Institute)

The diagram above shows a cross section of the eye.

The lens inside the eye focuses images onto the retina (the layer of light sensitive cells at the back of the eye) and needs to be transparent (clear) to let light through and focus images clearly. A cataract is a loss or reduction in how clear the lens is. Some cataracts are tiny specks in the lens, which do not affect vision and do not need treatment. Other cataracts can make the whole lens cloudy so that the vision is severely reduced. Cataracts can affect one or both eyes.

Cataracts are very common in older adults, as some loss of transparency is part of the normal ageing process of the lens. Cataracts in children are much rarer, affecting around three to four children per 10,000 in the UK.

Cataracts in children are more serious than in adults because they can affect the development of the child's eyes. The optic nerve (which sends information from the eye to the brain) and

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the vision areas in the brain need reasonably clear images from the eyes to develop normally. Cataracts may block or blur the clear images the brain needs.

## What causes cataracts in children?

The majority of cataracts in children have no identifiable cause.

Some children have cataracts due to a genetic cause, in which case several family members may be affected. The eye doctor may ask to look at the eyes of the child's family because they may also have slight cataracts that they are not aware of. The eye doctor can also refer the family to a genetics doctor for further investigations.

Cataracts in both eyes may be associated with other eye problems, or with general medical conditions. The eye doctor will look at your child's eyes thoroughly, and ask about your child's health and development. In some cases, your child might need blood tests or a referral to a children's doctor (paediatrician).

Some children develop cataracts later in childhood. In some cases, there is no obvious reason why this happens. In other cases, it can be due to an eye injury, as a side effect of some medicines, following radiation treatment, or associated with other eye problems such as retinal disease.

## How are cataracts in children treated?

The first step is to look at your child's eyes to find out how bad the cataract is. Slight cataracts may not reduce the vision at all and may not need any treatment. Even some larger cataracts may have little effect on the vision and the eye doctor may advise that it is best to monitor the cataract. If the cataract is significantly reducing the vision, it is important to treat it early.

This involves an operation to remove the cloudy lens. The eye cannot focus without the lens. We can replace the focusing power by using implant lenses, contact lenses or glasses, and sometimes a combination of these. The eye doctor will discuss the options for your child with you.

### Cataract operation

The operation to remove the cloudy lens is called a lensectomy. The whole lens and some of the jelly behind it (vitreous) are usually removed.

If your doctor is using an implant lens then they can do this either at the time of the cataract operation or later. Your doctor will discuss the options with you. The operation is performed under general anaesthetic (so your child is asleep) usually through very small holes made in the front of the eye which we then close with dissolvable stitches.

Most children can go home on the day of the operation. Some children will need to stay in hospital for just one night, depending on their age. All children need to return to see the doctor on the morning after the operation.

Your child will wear a soft eye pad over the eye for the first night to keep the eye clean and reduce the risk of infection.

If there are cataracts in both eyes, we will operate on them separately. The second operation

is usually one to two weeks after the first. We may ask you to put a patch over the eye that we operated on first until after the second operation. This is to ensure that both eyes develop vision equally.

## **After the operation**

For the first few weeks after the operation, you will need to put eye drops into your child's eye(s) very frequently. It is very important to follow the instructions carefully as the drops help the eye to heal and prevent inflammation and infection in the eye.

We will give you a plastic eye shield for your child to wear over the eye at night for two weeks after the operation. This protects the eye during sleep.

You should avoid getting water into the eye for at least two weeks after the operation. This means no swimming, and taking care when washing the face and hair and when showering or bathing.

Your child may need up to two weeks off nursery or school after the cataract operation.

If your child is going to wear contact lenses, we usually fit these for the first time one week after the operation. If the eyes have not settled enough to wear contact lenses after one week, then your child can wear glasses until the eyes are ready for contact lenses.

If you have any concerns about your child's eyes after the operation, please contact us.

## **Follow-up appointments**

Your child will have follow-up appointments at week one, and then every few weeks for several months. After this, your child will have an appointment every few months. Most children will have regular appointments for many years. It varies between each child, and some will need to be seen more than others. Please be prepared to attend the hospital for frequent appointments, particularly in the early months after the operation.

## **Replacing the focusing power of the lens**

### **Implant lenses**

An implant lens is an artificial lens, which the surgeon will place inside the eye after removing the original lens. The surgeon can do this either at the time of the cataract operation or at a later date. Implant lenses are not suitable for all eyes. Your doctor will discuss this with you. We use an implant lens with the correct focus for a fully-grown eye. This is to avoid having to operate repeatedly to change the implant lens as the eye grows. Your child will still need to use glasses or contact lenses while the eye is growing.

### **Contact lenses**

Contact lenses are not suitable for everyone. We understand that you may be concerned about putting contact lenses into your child's eyes and we are here to support you. With practice, most parents cope well, and most babies tolerate the lenses. We will supply you with contact lenses and the solutions needed to keep the lenses clean.

### **Glasses**

Most children who have had a cataract operation will wear glasses at some point either to provide all of the focusing power, or in addition to an implant lens or contact lens to fine-tune

the focus. We understand that you may worry about your child keeping the glasses on, but most babies and children tolerate them well. We will advise you about the best type of glasses for your child.

If your child does need glasses or contact lenses, it is important that you encourage your child to wear them as advised to help the visual system develop. If your child does not wear their lenses or glasses for more than a day or two, the visual system will not be stimulated and will not be developing properly.

We may need to change the prescription in the glasses or contact lenses frequently, particularly in the early years as the eyes grow.

## **Focusing distances**

The natural lens inside the eye is able to change shape to focus on objects at any distance. Implant lenses, contact lenses and glasses are all fixed focus lenses that cannot change, so we need to choose the lens power to give the best point of focus for each child.

Babies spend very little time looking in the distance. Most of their interest is in objects that are nearby, such as parents' faces, food and toys, so we provide contact lenses or glasses that focus within a metre. This does not mean that your baby cannot see any thing beyond a metre, but objects in the distance will not be as clear.

When a child begins to walk, they are usually more interested in distant objects. We need to change the glasses or contact lens power at this point so that the focus is further away. This gives a good balance between near and distance vision.

When a child starts school and needs good focus for near and distance, we will change the contact lenses or glasses to focus for distance. We will also give them bifocals or reading glasses to give extra focus for reading.

## **Patching**

### **Cataract in one eye**

Once the eye surgeon has removed the cataract and corrected the focus, a child who had a cataract in one eye will need to start patching the normal eye. The orthoptist will give you eye patches, advise you about how long your child needs to use the patch for each day, and help with ways to keep the patch on.

Covering the better eye means that your child has to use the affected eye and this will improve the vision. Even after the operation, the affected eye will not have the same quality of vision as the normal eye. The eye needs continued extra stimulation until visual development is complete. Your child may need to wear an eye patch until they are aged about eight years old. This is when the visual system is mature.

Research has shown that by the time visual development is complete, the vision in the affected eye is eight times better in children who wore their patch well compared to those who did not.

### **Cataract in both eyes**

Many children who have had an operation for cataracts in both eyes do not need to use an

eye patch. However, in some cases, even though the cataracts were in both eyes, one eye may start to see more than the other. If this occurs, we may advise you to use a patch to stimulate the weaker eye and improve its development.

## Will my child need any more operations?

Many children with cataracts only need the first operation(s) to remove the cataract(s) from one or both eyes. However, some children, especially younger children, may need further operations for the following reasons:

### Lens regrowth

After a cataract has been removed, some of the cloudy cells can grow back. They will need to be removed if they affect the vision.

### A misshapen pupil

Instead of being round, the pupil may become oval or even off-centre after a cataract operation. This does not usually cause problems. If the pupil becomes too off-centre, your child may need another operation.

### Implanting an artificial lens

Sometimes children require a further operation to put in an implant lens after the initial cataract removal.

### Removal of a loose stitch

The stitches used during the operation usually dissolve after a few weeks, but sometimes we need to remove them.

### Examination under anaesthetic

Sometimes it is not possible to examine a child's eyes thoroughly enough without giving them a short general anaesthetic.

## Further eye problems

Most children with cataracts do not have any further eye problems. However, some children do develop other eye conditions. The most common are:

### Glaucoma

This is raised pressure inside the eye. It is a relatively common problem in older adults, but it can also occur in people who have had cataracts removed at an early age. Sometimes, the increase in pressure does not occur until many years after the cataract operation. Your child's eye pressures will be checked at each appointment. If the pressure is high, we can give them eye drops. Occasionally, laser treatment or an operation to reduce the eye pressure may be required.

### Nystagmus

This is where the eyes make constant, small movements. This develops in some children with cataracts and may result in blurred vision.

### Squint

Many children with cataracts will develop a squint. A squint is a turn or wander in one eye. Many do not need treatment, but we can straighten the eye by performing an operation on the muscles which move the eye if necessary.

## What can my child see after treatment?

This is our most asked question. We can only answer it accurately as your child gets older. This is because vision changes (and usually improves) as the eyes develop, and the tests we use to assess vision in very young children cannot predict what their vision will be like later on. Over time, we will understand more of your child's vision levels.

The following results are for children who had a cataract operation as a baby. Vision results tend to be better in children where the cataract did not develop or deteriorate until a later age.

### Cataracts in both eyes

Many children who had cataracts in both eyes will develop reasonably good levels of vision after treatment. However, for some children, the vision can be quite reduced despite treatment.

The national average vision in people who had an operation for cataracts in both eyes as a baby is 6/18. This means that they can read about half way down the eyesight chart, and can see at six metres what an eye with perfect vision can see at 18 metres.

The level of vision will depend on many factors, the most important being using contact lenses and glasses properly. The occurrence of secondary problems such as glaucoma and nystagmus will also affect the vision levels.

### Cataract in one eye

Children with a cataract in one eye only will usually have good vision in the unaffected eye. However, the vision results for the affected eye tend to be poorer than the results for cataracts in both eyes. This is because the affected eye is at such a disadvantage to the other eye, and the good eye tends to take over nerve connections from the affected eye.

The national average vision for the affected eye in people who had an operation to remove a cataract in one eye as a baby is 6/60. This means that the eye can see the top line on the standard vision testing chart and can see at six metres what an eye with perfect vision can see at 60 metres.

It is important to wear the eye patch properly to achieve the best vision in the affected eye. However, in some children, the visual system on the affected side is too under-developed to improve. This means that the vision in the affected eye will always be low, but as the vision in the other eye is good, a child will be able to do almost all activities normally.

Eye patching can be difficult for some children, and if the other eye has normal vision, some parents decide not to go ahead with treatment for a cataract in one eye only. We will work with you to decide on the best option for your child.

## Who will see my child in the clinic?

When you visit the clinic, you may see the orthoptist who assesses your child's vision, the optometrist who measures and fits contact lenses and glasses, and the ophthalmologist (eye surgeon) who will perform your child's operation and is in charge of your child's eye care.

## What can I do to help?

Parents and carers have a number of vital roles. The most important are to bring your child

to all their appointments, to put eye drops in after the operation, ensure that your child wears their contact lenses or glasses, and that they do eye patching if needed. These things are extremely important and will help develop the best vision possible for them. The operation alone is not successful without these key points of aftercare.

If you cannot attend an appointment, please rearrange it as close to the original date as possible. It is important that we check regularly for any early signs of problems before they need urgent attention.

If you have any concerns, please contact us immediately.

### Case histories

We are very grateful for the following stories from parents and guardians regarding their children's eye operation:

**Benjamin** is now five months old. He was born with cataracts in both eyes, and when he was nine and ten weeks old, he had a lensectomy and implant lenses. He had a further operation on his left eye a few weeks later to reposition an off-centre pupil. He has had some raised pressure in his eyes after the operations, which required more drops. Benjamin comes to clinic every few weeks to monitor his eye pressure. His parents put contact lenses in his eyes every day and bring him over to Southampton from Guernsey for his appointments. He and his parents are tired, but doing well.

**Hayley** is eight years old. Her mother was born with cataracts so we monitored Hayley from a young age. She developed cataracts in both eyes when she was three years old. She had a lensectomy and implants in both eyes at four years old. She later had another operation on each eye to remove some regrowth of the lens fibres. She comes back to clinic every six months. She loves reading and has excellent vision in her bifocal glasses.

**Taylor** is seven years old. He has an eye problem, which has caused the lenses in his eyes to slowly move out of position. He has special contact lenses and although he does not have cataracts, he may need an operation to remove the lenses as they move further out of position. He comes to clinic every six months and loves playing football.

**Adam** was born without cataracts, but developed them in both eyes between eight and twelve weeks of age. He came to clinic with dense cataracts, and had lensectomy at 14 and 15 weeks of age. We gave him glasses and contact lenses shortly after his operations. He is now six months old, no longer uses eye drops and comes to the clinic each month with his parents.

**Rebecca** is 12. She was born with cataracts in both eyes and had an operation to remove them at eight and ten weeks old. She wears contact lenses with glasses or sometimes just her glasses alone. Rebecca has had five further surgeries over the years to remove some regrowth of lens fibres and for glaucoma, which she has developed in both eyes. She uses eye drops every day for the glaucoma and comes to clinic every few months. She is able to see almost to the bottom of the letter chart. Rebecca has helped to raise money for our children's eye clinic through various fundraising events.

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## Useful links

The paediatric glaucoma & cataract family association  
[www.pgcfa.org](http://www.pgcfa.org)

Look – national federation of families with visually impaired children  
[www.look-uk.org](http://www.look-uk.org)

## Contact us

If you have any concerns or enquiries, please call the number below and ask for Elizabeth O'Flynn, Rory McClenaghan, or Mr Jay Self.

Telephone: **023 8120 4789**  
Monday to Friday (8.30am to 5pm)

For urgent enquiries out of hours, please call the eye casualty department.  
Telephone: **023 8120 6592**

## Clinic appointments

Telephone: **023 8120 4789**

## Admissions team

Telephone: **023 8120 8734**

## Secretaries

Telephone: **023 8120 4645**

## Vision impairment support team

Telephone: **023 8120 4789**

## Contact lens queries

Telephone: **023 8120 8744**

## Dispensing optician

Telephone: **023 8120 5708**

1 Royal College of Ophthalmologists, national survey.

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For help preparing for your visit, arranging an interpreter or accessing the hospital, please visit **[www.uhs.nhs.uk/additionalsupport](http://www.uhs.nhs.uk/additionalsupport)**