The Royal Wolverhampton
NHS Trust

Squint Surgery for Adults

Ophthalmology

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.**

Introduction

This leaflet aims to answer some of the questions you may have about your squint surgery. Please note it will not cover everything, as every person and their squint are different. Your Consultant will discuss your individual case with you but if you are unclear about any aspects of this surgery or you have any further questions then please ask the Consultant or Orthoptist.

What is squint surgery?

There are six muscles that are attached to the surface of each eye. These muscles are responsible for moving the eye in different directions. They are attached quite closely to the front of the eye under the conjunctiva (the clear surface layer).

Squint surgery is a very common operation. It usually involves tightening or moving one or more of the eye muscles. It may be carried out on one or both eyes. On some occasions only muscles of the squinting eye are operated on. At other times it may be necessary to operate on muscles of the non-squinting eye as well, as this may give better results (by 'balancing' the eyes).

Your Consultant will explain what is to be done and why this approach has been chosen. Stitches (usually ones that dissolve) are used to attach the muscles in their new positions.

Overall, about 75% of patients are where we expect them to be after squint surgery[1] and in general, about 90% of patients notice some improvement in their squint. However the squint might not be completely corrected by the operation and this might not be the aim. This is because the amount of correction that is right for one person might be too much or too little for another, even if they have exactly the same size squint.

Although your eyes could be straight just after the surgery the eye may drift with time. Some patients require more than one operation in their lifetime and if the squint has returned it may have drifted in either the same or opposite direction. It is not possible to predict if or when this may occur.

The operation is carried out under general anaesthetic (this is where you are given medication that will put you to sleep), and usually takes around an hour, depending on the number of muscles that need surgery. However, you will be in the operating theatre department for longer than this as you will need to spend time in the recovery area until you have fully woken up. When you have recovered fully from the anaesthetic and the Nurses are in agreement that you can leave you will be able to go home. This will usually be a few hours later.

Consent

We must seek your consent for any procedure or treatment beforehand. Your Consultant will explain the risks, benefits and alternatives where relevant before they ask for your consent. It is therefore important that you understand the contents of this information leaflet before you decide to go ahead with surgery. If you are unsure about any aspect of the procedure or treatment proposed please do not hesitate to ask for some more information.

What are the benefits of squint surgery?

The benefits of the surgery depend on the type of squint or eye movement disorder that you have.

The aim of the surgery usually is:

- To improve your appearance by making the squint less obvious. This can help if you are very conscious of the appearance of your squint
- In some patients it can improve how the eyes work together to achieve binocular (3D) vision. This generally applies when the squint is controlled for some of the time
- In some patients it can stop or reduce the amount of double vision (diplopia) that you are experiencing
- Improvement in the movement of the eyes, if this is abnormal when you are looking in one or more direction
- To improve an unusual tilt or turn of the head (compensatory head posture)

What are the risks of squint surgery? [2,3]

Squint surgery is generally a safe procedure. However, as with any operations, complications can and do occur. Generally, these are minor but on rare occasions they could be serious. We have listed all of the complications below that could occur, however, please be aware that the vast majority of people have no significant problems after this operation.

Under and over-correction

As the results of squint surgery are not completely predictable, the original squint might still be present (under-correction). The squint might also change and occur in the opposite direction (over-correction). An example of this is when an eye turned inwards before the operation but is turning outwards following the surgery. Occasionally a different type of squint might occur. Therefore in some cases another operation will be needed. The surgeon may purposely leave you with a small squint to improve the long-term outcome.

Double vision

You may notice double vision after surgery as your brain adjusts to the new position of your eyes. This is normal and often settles in the following days or weeks. Some patients might continue to be aware of some double vision when they look to the side. Rarely, the double vision can be permanent, in which case further treatment may be needed. There are tests that the Orthoptist's performs to see if you are more likely to get double vision following the surgery. Your individual risk will be discussed with you.

Redness

The redness in your eye following surgery can take as long as three months to disappear. Occasionally the eye does not completely return to its normal colour. This can occur more frequently in patients who have had more than one squint operation.

Scarring
Generally after three months any scarring of the conjunctiva (clear layer over the white of the eye) is not noticeable. Occasionally visible scars will remain, especially with repeat operations. It is very important to use the eye drops or eye ointment that you are given after the surgery. This will reduce the chance of scarring.

Allergy / Stitches
Some patients might have a mild allergic reaction to the eye drops or eye ointment they have been given. This can cause itching or irritation, some redness and puffiness of the eyelids. This usually settles very quickly when the medication is stopped.

An infection or swelling around the stitches could develop. This is more likely to happen if you go swimming within the first four weeks of surgery; therefore this activity is not recommended.

A cyst can develop over the site of the stitches, which could need further surgery to remove it.

Lost or slipped muscles
Rarely, one of the eye muscles might slip back from its new position during the operation or shortly afterwards. If this occurs, the eye is less able to move around and if severe, further surgery can be required. Sometimes it is not possible to correct this. The risk of a slipped muscle is 0.06%.

Perforation of the globe (eyeball)
If the stitches are too deep or the white of the eye is too thin a small hole can occur in the eye. If this happens then antibiotics and possibly some laser treatment to seal the hole may be needed. Depending on where the site of the hole is within the eye, the sight may be affected. The risk of the needle passing too deeply within the eye is about 0.08%

Infection
Infection is a risk with any operation and although rare can result in loss of the eye or vision. The risk of a severe infection is 0.06%.

Endophthalmitis
Endophthalmitis is an inflammation of the internal eye tissues, most commonly caused by infection. This can lead to reduced vision and if not treated sight loss. This is extremely rare and occurs in approx. 1 in 24,000 cases.

Altered eyelid position
The eyelid position can be affected following squint surgery. This occurs in very few patients but is more common in those patients who have had vertical muscle squint surgery.

Limitation of eye movements
Squint surgery can result in a slight limitation of your eye movements when you look on extreme positions of gaze. This is usually slight and causes no problems, however, if a larger limitation occurs this could occasionally result in you experiencing some slight double vision in those positions.

Haemorrhage or bleeding
The risk of a significant bleed that could affect your vision is extremely low, however, smaller bleeds may happen which are controlled at the time of surgery. This can give you a red eye. It is extremely rare for any substantial blood loss.

Anaesthetic risks
Anaesthetics are usually safe, but there can be small and potentially serious risks.

Serious problems are uncommon with modern anaesthetics. Most patients recover quickly and are soon back to normal after their operation and anaesthetic. Some patients may suffer side effects like sickness, shivering or a sore throat. These usually only last a short time and there are medicines to treat them if necessary.

Looking at rarer complications, approximately 1 in 10,000 healthy adult patients develop a serious allergic reaction to the anaesthetic.

The risk of death from anaesthesia for healthy patients having minor or moderate non-emergency surgery is probably less than 1 in 100,000. Most of the deaths that occur around the time of surgery are not directly caused by the anaesthetic but by other reasons connected with the health of an individual or the operation they are having.[1]

Pupil Dilation
Rarely after an operation for a vertical squint, you may notice that the pupil is slightly larger on the side that has been operated on.

Loss of vision
Although it is extremely rare, loss of vision in the operated eye may happen as a result of this surgery. The risk of loss of vision are 0.0004% or 1 in 2400 operations.

Remember; These complications are detailed for your information; the vast majority of patients have no significant problems.

Are there any alternatives to this procedure?

Squint surgery has been advised by your Consultant and after discussion of the options is the only surgical way to treat the eye misalignment.

Botulinum toxin injections are only useful for certain squints and only give a temporary effect.

What will happen if I decide to not have squint surgery?

Please discuss this with your Consultant or Orthoptist and clarify your reasons.

What is shared decision making?

The choice about which treatment is best for you will be made together with your Consultant. This will be based on the risks and benefits of the treatment and your individual circumstances.

What happens before the day of surgery?

An orthoptic pre-assessment is performed a few weeks before your surgery date. This is performed by an Orthoptist. They will take up to date measurements of the angle of your squint.

A general health pre-assessment will also take place. An appointment will be sent to you to attend the ophthalmology pre-assessment clinic which is located on the first floor of the ophthalmology department next to the orthoptic department (A33). You will be seen by a nurse who will explain what will happen on the day of surgery and also ask you questions about your general health. You may need to have a blood test or ECG performed during your consultation. You will have a swab taken to check for MRSA. You will also see one of our junior doctors who will assess your fitness to have a general anaesthetic and discuss the risks of this with you.

What sort of anaesthetic will I be given?

You will have a general anaesthetic. General anaesthesia is a drug-induced unconsciousness. It is always provided by an Anaesthetist who is a Doctor with specialist training.

Appropriate pain relief will be given whilst you are under anaesthesia, and further pain relief provided as necessary for you to be as comfortable as possible after your operation.

What happens on the day of surgery

You will be given a time to arrive at the Mary Jones ward which is situated on the first floor of the ophthalmology building at location A33. You will be welcomed to the ward and allocated a bed or chair. Please note that although a relative or friend may bring you to the ward they will not be allowed to stay with you. We will call your relative or friend for you when you are ready for discharge and they will then be allowed onto the ward to collect you.

The Anaesthetist and Consultant will visit you on the ward and confirm that you are happy for the surgery to go ahead. They will also check that you are well. Your Ophthalmologist will mark which eye is to be operated on at this time.

You should not drink or eat before the operation (the exact timings of this will be given to you prior to the surgery date). Please make sure that you follow the fasting (starving) instructions which should be included with your surgery appointment letter. Fasting is very important before an operation. If you have anything in your stomach whilst you are under anaesthetic, it might come back up whilst you are unconscious and get into your lungs.

You will be away from the ward for approximately 1.5 – 2 hours. The operation usually takes approximately 30-40 minutes depending upon the number of muscles that need surgery. The other time is spent putting you to sleep and then waking you up.

What should I expect to happen once I have had my operation?

After the surgery you will be taken back to the Mary Jones ward. The Nurses on the ward will then monitor your pulse, temperature, and the eye that has been operated on. Once you are awake from the anaesthetic you can start drinking and eating your normal diet.

The minimum recovery time before discharge is two hours. This is usually enough time for us to check that you are recovering well. It also gives us time to check that you are passing urine (having a wee) after the operation.

When you have recovered from the anaesthetic and the Nurses are happy for you to be discharged you are free to go home; usually a few hours later. Before being discharged you will receive some eye drops with instructions. A follow-up appointment will be sent out to you in the post.

You cannot go home on public transport after a general anaesthetic. You will need to go home by car or ambulance. A responsible adult will need to stay with you for 24 hours after the operation. During this 24 hours you must not drive a motorised vehicle, go to work or operate machinery. Do not drink alcohol or sign any legally binding documents. Occasionally the anaesthetic may leave you feeling sick for the first 24 hours. The best treatment for this is rest and small frequent amounts of fluid, toast and biscuits. If you are sick and this continues for longer than 24 hours, please contact your GP.

You may be sent home wearing a pad over the eye that has been operated on. This is simply to help prevent you from rubbing that eye. The eye, or surgery, will not be damaged if the pad is removed.

Your Consultant may have told you of an option for an operation with adjustable sutures (stitches). This is a method of doing some ‘fine tuning’ of the eye position under a local anaesthetic, by tightening or weakening the sutures once you have woken up from the general anaesthetic. This is done routinely but in patients where we feel it is of benefit. The Consultant will discuss this procedure with you before surgery.

How long will I be in hospital?

Squint surgery is nearly always a day-case procedure, which means that you will be in and out of hospital on the same day.

Caring for your eye after surgery

Immediately after the surgery the white part of the operated eye(s) will be red and there may be some swelling of the eyelids. Start your prescribed eye drops the following morning after surgery. Please remember to wash your hands before and after putting the drops in, to reduce the risk of infection. You should continue to wear your glasses unless you have been advised not to by your Consultant or Orthoptist.

You may be aware of your eye feeling a little sore and gritty for the first two – three days following surgery. Paracetamol is usually enough to relieve this discomfort. If this does not help or you are concerned then please get in touch with us. If you are already taking pain relief medication for a different condition continue with these but do not take both. The redness can take up to 12 weeks to settle and disappear, but eventually there will be little evidence that you have had eye muscle surgery.

The alignment (position) of your eyes may vary for the first few weeks immediately after surgery and will take some time to settle. You may also have some awareness of double vision (seeing two of things). If this persists or you are concerned please speak to your Orthoptist.

Try not to rub your eyes, as this could cause irritation and can increase the risks of infection. Avoid irritants, such as soap and shampoo, getting into your eyes. You should avoid using any eye make-up for two weeks.

It is common to have some blood stained tears for the first few days. This will be noticeable on a tissue if you wipe your eye and also on your pillowcase.

Most of the stitches that we use will slowly dissolve by six – eight weeks after surgery.

Getting back to normal

Normal activity, including sports (apart from swimming) can be resumed as soon as you feel comfortable to take part. Swimming should be avoided within the first four weeks after surgery. Do not play contact sports for four weeks following squint surgery.

If you normally wear contact lenses you will need to allow at least four weeks for the conjunctiva (surface of the eye) to heal before you start wearing them again. During this time we advise that you wear your normal prescription glasses.

Returning to work

You need to allow time to recover from the general anaesthetic, but generally you should be able to return to work one week after the operation unless you work in a dirty environment. Your Ophthalmologist will be able to advise you on an individual basis for this.

Follow-up care

An appointment will be made for you to see or speak to the Orthoptist approximately two weeks after your surgery. If you should experience any problems during this time, please call the Orthoptist's directly.

Will the surgery cure a lazy eye or the need for glasses?

No, the operation will not change your vision or your need for glasses.

What if I have double vision following the squint surgery?

Occasionally you may experience some diplopia (double vision) immediately following the surgery as your eye settles into its new position. If this does not resolve then the Orthoptist can put a plastic prism onto your glasses to help to join the images.

Will the squint surgery hurt?

After your operation, your eye(s) will be red and sore and your vision may be blurry. Start the drops the following evening and use painkillers that are suitable for you, such as paracetamol and ibuprofen, as required. The pain usually wears off within a few days. The redness and mild discomfort can last for up to three months, particularly with repeat squint operations.

Will I need any further squint surgery?

Sometimes more than one operation is needed to get the best result. If you need a further operation this will be carried out at a later date.

Contacts and useful numbers and links

If you have any worries or queries about your eye once you get home, or you notice any signs of infection or bleeding, please telephone the Orthoptic department (Mon–Fri, 8:30am–5:00pm) or the Eye Referral Unit (Every day 8:30am–5:00pm). Outside of these hours you can contact NHS Direct on 111 or your GP.

Orthoptic Department
New Cross hospital
01902 695830

Orthoptic Department
Cannock Eye Centre
01543 576702

Eye Referral Unit (ERU)
New Cross Hospital
01902 695805

Further information regarding squints can be found on www.nhs.uk/conditions/squint

Useful videos and further patient information leaflets about anaesthetics can be found at:

https://rcoa.ac.uk/patient-information/about-anaesthesia-perioperative-care/patient-faqs

References

1. Common Events and Risks in anaesthesia. Patient information leaflet from The Royal College of Anaesthetists. https://www.rcoa.ac.uk/sites/default/files/documents/2019-11/Risk-infographics_2019web.pdf
2. Bradbury J. What information can we give to the patient about the risks of strabismus surgery. Eye (Lond). 2015 Feb; 29(2): 252-7
3. Bradbury JA. Taylor RH. Severe complications of strabismus surgery. J AAPOS 2013; 17(1): 59-63
4. Ritchie Ailsa. Ali Nadeem. The incidence and clinical outcome of complications in 4,000 consecutive strabismus operations. J AAPOS 2019; 23(3) – Paper validated findings of 3.

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。

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