IIHUK
Idiopathic Intracranial Hypertension

Optic nerve sheathfenestration for Idiopathic Intracranial Hypertension

Optic nerve sheath fenestration

What is Idiopathic Intracranial Hypertension?

Idiopathic Intracranial Hypertension (IIH) is a condition where the cerebrospinal fluid (CSF) builds up around the brain. IIH has been known by other namessuch as Benign Intracranial Hypertension or pseudotumour cerebri. It is a condition with an unknown cause or causes.

When the brain pressure is high, the majority of people will have eye (optic) nerve swelling called papilloedema. There is a rare type of IIH where there is no papilloedema called Idiopathic Intracranial Hypertension without papilloedema (IIHWOP).

How does IIH cause a problem with the vision?

At the back of each eye you have an eye (optic) nerve. The optic nerve takes information from the eye to the brain to allow you to see. In IIH the optic nerves can become swollen due to increased pressure in the fluid that bathes the brain and surrounds the optic nerves (cerebrospinal fluid or CSF). Swelling of the optic nerves is known as papilloedema.

If the optic nerves become severely swollen, there is a risk of losing eyesight. The swelling therefore may need to be reduced urgently in order to protect eyesight. One procedure that can be performed to protect the vision is called Optic Nerve Sheath Fenestration (ONSF). This booklet will help you to understand what Optic Nerve Sheath Fenestration is.

What is an optic nerve sheath fenestration?

Optic nerve sheath fenestration is an operation which is performed to reduce the swelling in the optic nerves in order to protect the eyesight.

It involves a surgeon making a small window in the tough coating surrounding the optic nerve, called optic nerve sheath. This allows the fluid around the nerve to be released. The excess fluid escapes and harmlessly absorbs into surrounding tissues. This reduces the swelling in the optic nerve on the sidethat the procedure is performed. It may also reduce the swelling in the other optic nerve in some people. Some have one eye done at a time, others have both done together.

Reducing the optic nerve swelling may lead to the eyesight improving and the area of vision (visual field) improving.

Is there any alternative treatment to optic nerve sheath fenestration?

Alternative surgeries to rapidly reduce papilloedema and to help protect thevision are shunts. Shunt procedure remove fluid from the brain or the spine toanother part of the body. The commonest shunts are ventriculoperitoneal shunts and lumboperitoneal shunts. For further information, see Shunts and IIHbooklet.

Will my eye sight improve following the optic nerve sheath fenestration surgery?

The surgery is to protect the eye sight from getting worse in IIH. For the majority eye sight does improve and for others it stays the same. For a few people the eye sight may be worse after the surgery. This can be as a rare complication of the procedure. If after the surgery the eye sight gets worse,

immediately contact your doctor to be assessed by an eye doctor (Ophthalmologist).

What do I need to do before the surgery?

You will have a preoperative assessment and a chance to talk to the surgical team to discuss the risks and benefits of the surgery. Please let the medical team know all the tablets you are on. It helps to bring a list. Do let them know any allergies you have.

Your medical team will tell you when to stop eating and drinking before your surgery.

Will I have an anaesthetic for the surgery?

Yes, all optic nerve sheath fenestration surgery is performed in an operating room using sterile instruments under general anaesthetic. An anaesthetic is medicine that stops or greatly decreases pain and other sensations you may feel when undergoing surgery.

How is the optic nerve sheath fenestration done?

The optic nerve is surrounded by a tough coat (the nerve sheath). There are two ways to the optic nerve to perform the surgery.

1. One approach is through the conjunctiva. There is a thin layer around the eye (conjunctiva). This is lifted and one of the eye muscles is cut away from its attachment to the eyeball so that the eye can be gently moved to one side.

2. Another approach is through the upper lid skin crease.

Once the optic nerve sheath is seen one or more cuts along the nerve sheath without damaging the optic nerve are made. The cerebrospinal fluid (CSF) will immediately begin to drain from the optic nerve sheath through this window. This releases the pressure on the nerve. The muscle is then re-stitched to the eye and the conjunctiva replaced.

Do they do one or both eyes together?

For the majority only one eye is done at a time as the eyesight will be blurry fora few days after the procedure.

What are the complications?

As with any surgery there are risks and complications. The risks here have been taken from many medical articles, and as there are no large controlled studies on the procedure the number of reported side-effects vary a lot between studies. For example, some studies suggest between 1 in 20 have a complication and others just less than 1 in 2 people have a complication who have this surgery. Please ask your medical team about these.

Common complications

- Double vision, this can be temporary or permanent in a few.
- Changes in the size of the pupil, this can be temporary and in a fewpermanent.

Rare, but important risks

- Permanent loss of vision can occur from either problems with the bloodsupply to the eye or from damage to the optic nerve.

- Inflammation of the coat of the eye (scleritis) is a rare but serious and painful side effect. It requires additional medications.
- Rarely, one of the eye muscles which has been unattached and reattached might slip back 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.
- Needle penetration into the eye is also a rare complication if the stitches securing the muscle are too deep or the white of the eye (sclera) is thin, a small hole in the eye can occur. Antibiotic treatment is usually prescribed, and occasionally some laser treatment may be required to seal the puncture site. Depending on the location of the hole, the sight could be affected.
- Occasionally if the raised intracranial pressure continues, a few patients may then require a shunt surgery. For further information, see shunts and IIH booklet.

How long do I have to stay in hospital when I have this surgery?

This surgery can be done as a day case procedure, or you may stay overnight. The surgical team will let you know about this when you are assessed before your surgery.

How will I feel as I recover?

You may feel tired and anxious when you first go home. You may be blurry vision or double vision. This is normal and should settle. Rest during the day should help. It is normal to experience mild discomfort. You will have been prescribed short-term painkillers to take at home.

Increase the amount of physical activity gradually when you feel able to.

Are there any warning symptoms that I should seek help with?

- New double or blurred vision (worse than after your check before leaving hospital)
- New sensitivity to light (photophobia), increased temperature (fever),and/ or swelling or redness around the eye could indicate an infection.

What should I do if I think I have a problem after the surgery?

After your surgery, the surgeon will have given you advice on this problem. Often there is an advice line or specialist nurse to contact in routine hours. Outside normal hours, attending accident and emergency and letting the health care team know you have had recent eye surgery on arrival.

Can other people see the surgery?

Depending on how the surgeon has approached the surgery, in the early days you may have a red eye (through the conjunctiva approach) or a swollen eye lid(through the upper lid skin crease). These should settle quickly. After the early days it is likely that no one will be able to notice you have had this surgery.

How long do I need to take off work after having an ONSF procedure?

Everyone is different. It is usual to have between two to three weeks off work torecover from this eye surgery. This will depend on the type of job you do andyour circumstances. Discuss with your medical team to work out the best timefor you.

Is there anything I should not do after they surgery?

With most eye surgeries your doctor may recommend you do not swim or use ahot tub for four to six weeks, due to the risk of infection.

Can I drive after having the operation?

Your surgeon will advise you when you can drive again. This will depend on how bad the vision and area (field) of vision was before the surgery, and how it improves over time.

If you have double vision, do not drive until you have seen an eye doctor and discussed this with them.

Can I fly after the optic nerve sheath fenestration surgery?

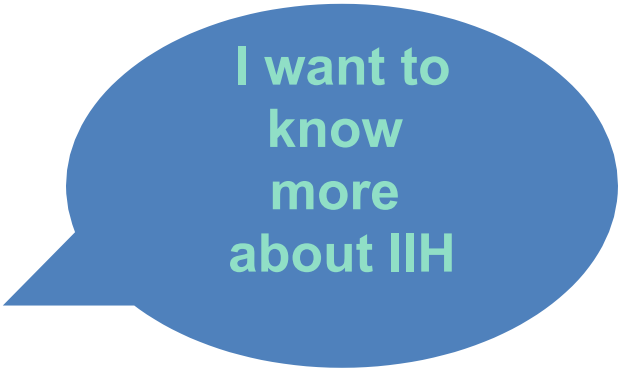
There are no reports of problems with flying after this type of eye surgery. It is always best to check with your surgeon, but normally there is no problem with flying.

Should I avoid any sports after this surgery?

We would recommend against boxing, due to possibility of a direct blow to the eye. We would also recommend protective sports glasses for racquet sports. Swimming and use of a hot tub may be restricted for 4-6 weeks following the surgery due to the risk of infection. Speak to your doctor if you wish to do sportsfor further advice.

Does the surgery last forever?

For some people the procedure may need to repeated or an alternative procedure chosen if the eye nerve swelling (papilloedema) recurs.



Where can I get more information?

IIH UK

website

www.iih.org.uk

Write notes or questions for your appointment here:

A team of people contributed to this booklet. It was written by R. Batra. Reviewed by S. Mollan and A. Sinclair. It was assessed in the draft stage by the ophthalmology nursing team at University Hospitals Birmingham (UHB). It was reviewed by a group of patients who have IIH, and also assessed by friends and family that attended the Joint Idiopathic Intracranial Hypertension clinic at UHB. It was critically reviewed by the IIHUK trustees. R. Batra is responsible for the final version. The views expressed in this booklet are of the authors and not their employers or other organisations.

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