

Telephone
 Fax

0044 (0) 207 099 0975
 0044 (0) 207 099 0974
 78 York Street
 London, UK
 W1H 1DP

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Pars Plana Vitrectomy

This is the commonest operation performed for retinal disorders. The operation involves removing the jelly of the eye (vitrectomy). This is performed through three small incisions in the eye which are stitched up at the end of the operation. The operation takes approximately 1 hour to perform.

Use of a Gas Bubble

A few patients need a gas bubble to support the retina, which remains in the eye for a few weeks. At first the gas obscures your vision but gradually over a few weeks you will notice a black line travelling downwards in your vision. This is the edge of the gas bubble as it gets smaller in size. Eventually the bubble breaks up into smaller bubbles and disappears.

- There is a chance you will develop a cataract in the next few years.
- You must not travel by aeroplane whilst you have a gas bubble in the eye.
- The eye does not need the vitreous jelly. It will fill up the space with a watery fluid.

Small Incision Cataract Surgery	Vitreo-Retinal Surgery	Age-Related Macular Degeneration	Diabetic Retinopathy	General Ophthalmology	Glaucoma	Trauma
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Head Positioning

The gas bubble floats in the eye pushing on the retina. To work properly you may need to keep your head:

- Face Down.
- Face Up
- Right Cheek Down
- Left Cheek Down

This will be explained to you.

Do this as much as you can for the first week. It can make a difference to the success or failure of the operation.

Silicone Oil

Sometimes silicone oil is inserted into the eye instead of gas. Silicone oil can cause glaucoma or cataract. Often another operation is required to remove the oil from the eye.

Success Rates

The success rate of the surgery depends upon the reason for the operation.

Complications

Cataract is common after vitrectomy often requiring small incision cataract surgery later on.

The following complications can occur but are uncommon, infection, bleeding, glaucoma, inflammation, retinal detachment, wound problems, drooping eyelid, double vision, distortion, blurred vision.

Recovery Period

It can take 2-6 months for the eye to recover from the surgery.

Anaesthetic

You may be offered:

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- General anaesthetic (GA)
- Local anaesthetic (LA).

You will be asleep for a GA and will therefore usually have to stay in the hospital for at least one night. Having a LA involves injections around the eye to anaesthetise the area. This is similar to having dental work where the dentist uses an injection to “freeze” the tooth, in this case the surgeon uses an injection to “freeze” the eye. You will be awake during the operation but will not be able to see what the surgeon is doing. The advantage of LA is that you do not need to stay overnight in the hospital but can go home after the operation. Sedation may be given to relax you during the LA.

Complications from LA are rare. They include haemorrhage and injury to the eye from the needle.

Some operations are considered too long for a local anaesthetic and therefore GA will be performed.

Postoperative Care

You will be seen on the day after the operation to check that there are no immediate complications of the surgery. You may need to upgrade your glasses two months after the operation.

Eye Drops

You will be asked to put eye drops into your eyes for approximately one month, usually an antibiotic and anti-inflammatory four times a day and a drop to dilate your pupil twice daily. These will help the eye recover.

Remember

- Recovery of vision is usually slow after retinal surgery.
- It may be two months after the operation before we can judge your visual result.
- Some patients need more than one operation.

Retinal detachment

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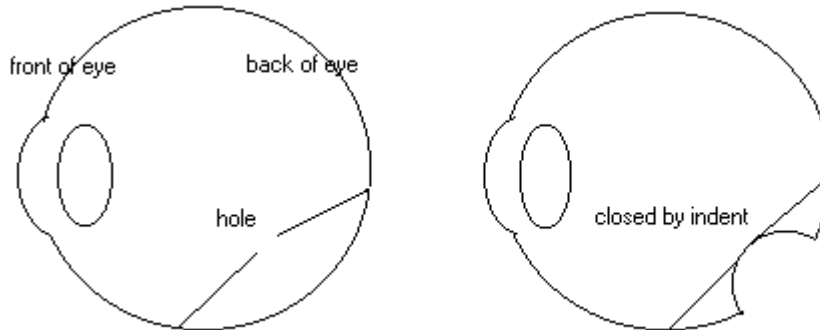
Glaucoma

Trauma

The retina is the lining of the back of the eye, which allows the eye to see. If a hole appears in the retina it will detach rather like wallpaper peeling off a wall. The retina cannot work when it is detached. The only way to repair the retina is by having an operation to find the hole or holes in the retina and seal them.

The retina can be repaired in two ways.

1. Sometimes we can seal a hole by sewing a small piece of plastic onto the outside of the eye creating a dent in the eye ball which will close the hole inside (see drawing). You may be able to feel this plastic on the eye after the operation.



2. Alternatively we can go inside the eye and by removing the jelly in the eye (the vitreous) we can insert a bubble of gas to support the retina. This operation is called a vitrectomy. The bubble will float inside the eye and close the hole. At first the gas obscures your vision but gradually over a few weeks you will notice a horizontal black line travelling downwards in your vision. This is the edge of the gas bubble as it gets smaller in size. Eventually the bubble breaks up into smaller bubbles and disappears. If we use gas you may need to position your head to make it work. Sometime silicone oil is inserted.

Laser or freezing treatment is used to seal the hole.

The surgeon will make the choice of surgery.

Success Rates.

The chance of success depends upon how bad the retinal detachment is. Overall the success rate of the first operation is 85%. This means that some people will require more than one operation. If the retina has produced scar

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tissue the chances of success are reduced. Most patients will obtain good vision but some will lose vision even if the retina is reattached.

- There is a 1 in 100 chance of losing all of your vision in the affected eye despite surgery.

The Other Eye

If you have a retinal detachment in one eye you have an increased risk of detachment in the other eye. The other eye will be examined during the operation and may be treated with some freezing treatment to seal any weak or torn retina. If your eye feels gritty after the operation this is the reason why.

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Diabetes

There are two main reasons why a patient with diabetes needs surgery:

- Haemorrhage
- Retinal detachment.

Haemorrhage

Diabetes causes abnormal blood vessels to appear in the eye. Laser treatment is used to try to prevent these appearing. These blood vessels are fragile and bleed easily. Sometimes they bleed into the jelly of the eye (the vitreous) reducing your vision. The vitreous and the bleed are removed by operation (vitrectomy) and more laser is applied. The eye can still bleed after the surgery but this usually clears more quickly.

Tractional Retinal Detachment

The abnormal blood vessels produce scarring which in turn can produce retinal detachment. This is more serious and requires more complex surgery. Sometimes the retina is so badly affected that more than one operation will be required and the chance of good vision is much less. In this circumstance surgery may be the only way to save any vision but there is still a chance that the vision will be lost.

The vitreous is removed and membranes are dissected off the retina.

Success Rates.

The chance of success depends upon how badly the retina has been affected by the diabetes and whether you have retinal detachment or not. A straightforward bleed can expect a 90% chance of improved vision but a patient with retinal detachment only has a 60% chance of improvement.

The Other Eye

Diabetes usually affects both eyes. The other eye will be assessed to determine whether laser treatment or surgery will be required.

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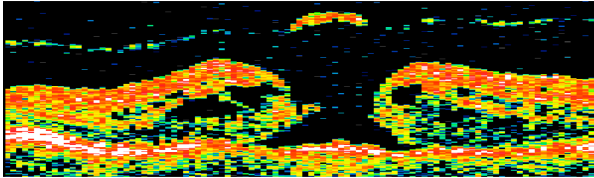
Macular Hole

The macula is the part of the retina, which you use to see fine detail such as reading or recognising faces. There are a number of problems, which can appear in the macula. One of these is a hole in the part of the retina you use to read with (macular hole).

It is possible to operate to try to close the hole and improve the vision. The operation involves removing the jelly of the eye (vitrectomy) and inserting a gas bubble which remains in the eye for a few weeks. The gas bubble floats in the eye and pushes on the hole. At first the gas obscures your vision but gradually over a few weeks you will notice a black line travelling downwards in your vision. This is the edge of the gas bubble as it gets smaller in size. Eventually the bubble breaks up into smaller bubbles and disappears.

Success Rates

The success rate of the surgery is about 90% chance of an improvement in vision. A few patients will experience a drop in their vision.



A scan of a macular hole showing where the retina is missing, the dark patch in the centre of the scan.

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Macular Pucker

Sometimes a membrane appears on the surface of the retina that wrinkles the retina (macular pucker). This blurs your vision and also causes distortion (bending or twisting of straight lines).

It is possible to operate to try to remove the membrane. The operation involves removing the jelly of the eye (vitrectomy) and surgically peeling the membrane off the retina.

One in ten patients need a gas bubble to support the retina, which remains in the eye for a few weeks.

Success Rates

The success rate of the surgery is about an 85% chance of an improvement in vision. This is usually successful at improving the distortion but does not always improve the vision. Some patients will experience a drop in their vision.

Choroidal Neovascular Membrane

The macula is the part of the retina, which you use to see fine detail such as reading or recognising faces. There are a number of problems, which can appear in the macula. Sometimes a membrane appears under the retina that wrinkles the retina. This blurs your vision and also causes distortion (bending or twisting of straight lines).

It is possible to operate to try to remove the membrane.

Success Rates

The success rate of the surgery is about a 60% chance of an improvement in vision. Some patients will experience a drop in their vision.

The membrane unfortunately has a tendency to recur in 33%.

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