Vitrectomy surgery for floaters

We have given you this factsheet because you have been diagnosed with floaters in your eye. We hope that this factsheet answers some of the questions you may have.

What are floaters?

Floaters are shapes that people can see drifting across their vision. They are made up of small bits of debris floating in the vitreous jelly inside the eye. The jelly is made mainly of water with a kind of mesh holding it together. As we get older, a process known as “vitreous syneresis” occurs. This is where the mesh breaks down and lacks form. The solid portion of the gel forms debris. The debris casts shadows onto the retina, which we see as floaters. They come in a variety of forms such as small black dots, short squiggly lines or even large cobweb shapes. They are more common in short-sighted people and increase with age.

In 70% of people, the liquefied vitreous gel loses its support framework causing it to collapse by the age of 70. This process is known as a posterior vitreous detachment (PVD). As the vitreous gel peels away from the retina, it can cause people to see intermittent flashes of light. The flashing light will usually subside over four to 12 weeks, but in some patients it may take a little longer. When a PVD occurs, people often become aware of a cobweb or net curtain-like floater that can be quite intrusive at first.

A rare cause of floaters is inflammation in the eye.

Treating floaters

Since floaters do not harm the eye, we generally do not recommend any form of treatment for them. We can perform an operation to the eye to remove the vitreous gel called a vitrectomy, which will also remove the floaters. This course of treatment is useful in people with very severe floaters or in those who cannot adapt to them.

What happens if I do not have treatment?

In the vast majority of cases, floaters are harmless and represent the normal, natural ageing change of the eye. Floaters usually become much less obvious with time as the brain adjusts to the change and eventually filters them out.

What if I decide to go ahead with treatment?

Vitrectomy is a form of keyhole surgery performed under a microscope, using three small incisions (1 to 2 mm in size) in the white of the eye for insertion of very fine instruments. Firstly, the vitreous jelly is removed and the eye is then filled with a temporary gas bubble, which presses against the incisions to help them seal. The bubble of gas blocks the vision while it is present, but it will disappear after a few days.

If you have not already had cataract surgery, but are showing early signs, then your eye doctor can perform this at the same time as the vitrectomy. From a patient perspective, having both operations at the same time means fewer visits to the hospital and getting the sight back quicker. Not all patients need this second operation and younger patients may not develop cataracts until later in life.
Patient information factsheet

During your operation
Vitrectomy usually takes 30 to 45 minutes and we can do this under either a local anaesthetic or general anaesthetic. This is usually done as a day case operation. Most patients opt for a local anaesthetic, which involves a numbing injection around the eye so that you cannot feel any pain during the operation. We can also give you some sedation to relax you.

After your operation
You must not fly or travel to high altitude on land while the gas bubble is still in the eye. The bubble will expand at altitude, causing very high pressure resulting in severe pain and permanent loss of vision. If you need a general anaesthetic while the gas is in your eye, then you must tell the anaesthetist so they can avoid certain anaesthetic agents which can cause similar expansion of the bubble. None of these exclusions apply once the gas has fully absorbed. You will notice the bubble shrinking and will be aware when it has completely gone.

Most people will need two weeks off work. Your vision will be reduced while the gas bubble is in the eye and this also affects depth perception. However, it depends on the type of work you do and the speed of recovery. You can discuss this with your surgeon.

Risks
All operations have risks. Specific complications are:

- **cataract**
  This means that the natural lens in eye has gone cloudy. If you have not already had a cataract operation, you will almost certainly get a cataract after the surgery, usually within a year but it can happen very rapidly. As a cataract is inevitable, we may offer you combined surgery with cataract extraction at the same time as the vitrectomy.

- **retinal detachment**
  The retina detaches from the back of the eye in 1 to 2% of patients undergoing vitrectomy. We can repair retinal detachments with a second operation, but there is a chance that this can lead to blindness. If any retinal tears are found at the time of surgery, you may need a longer acting gas bubble to prevent these tears from progressing to retinal detachment.

- **bleeding**
  In rare cases, there may be bleeding in the eye. In severe cases, this can lead to blindness.

- **infection**
  This occurs in about one in 1000 patients but needs urgent treatment as it can sometimes lead to blindness.

- **raised eye pressure**
  It is not uncommon for the pressure in the eye to increase after a vitrectomy operation. In most cases it does not last long and can be controlled with extra eye drops and/or tablets to reduce the pressure. Most patients will be given some of these medications routinely, straight after the surgery, to minimise any pressure increase. Your eye pressure will be checked at your subsequent clinic visits. If the pressure is extremely high or lasts for a long time, there may be some damage to the optic nerve. This would necessitate long term treatment and monitoring.

Once you are discharged from the vitreoretinal service it would be prudent to include a full glaucoma test in the annual review conducted by your optometrist or optician, as there is a small risk that you might develop eye pressure problems some time later.

For a small minority, the vision may end up worse than before the surgery. There is a small risk of total sight loss.
What can I expect for my vision?

There should be a significant reduction in the floaters in your eye. It is physically impossible to remove all of the vitreous from an eye, but the debilitating floaters should be eliminated.

Useful links
For further information on how the operation is done, please visit our website.
www.uhs.nhs.uk/OurServices/Eyes/Departments/EyeInpatientsAndEyeSurgery/Eyeinpatientsandeyesurgery.aspx
www.nhs.uk/conditions/Floaters/Pages/Introduction.aspx

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