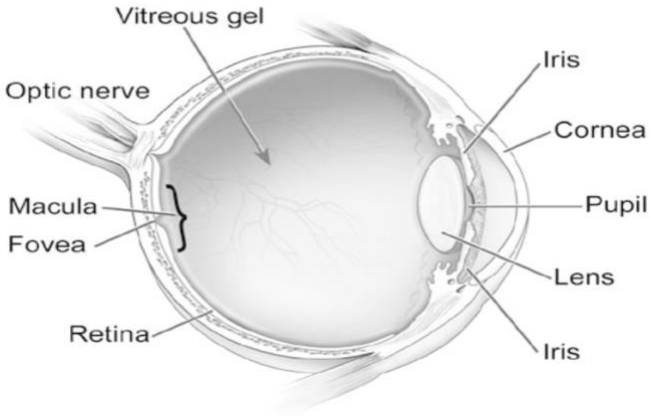
Vitreous Floaters Information Leaflet

You have approached me complaining of vitreous floaters and we have started a discussion regarding surgery to remove these. This leaflet will help to explain this condition and the 'pros and cons' of going ahead with surgery. Unlike my other information leaflets where I have made the diagnosis, Floaters is not a condition I diagnose, it is a condition you present with and it is important to understand the risk and befits of proceeding to surgery.

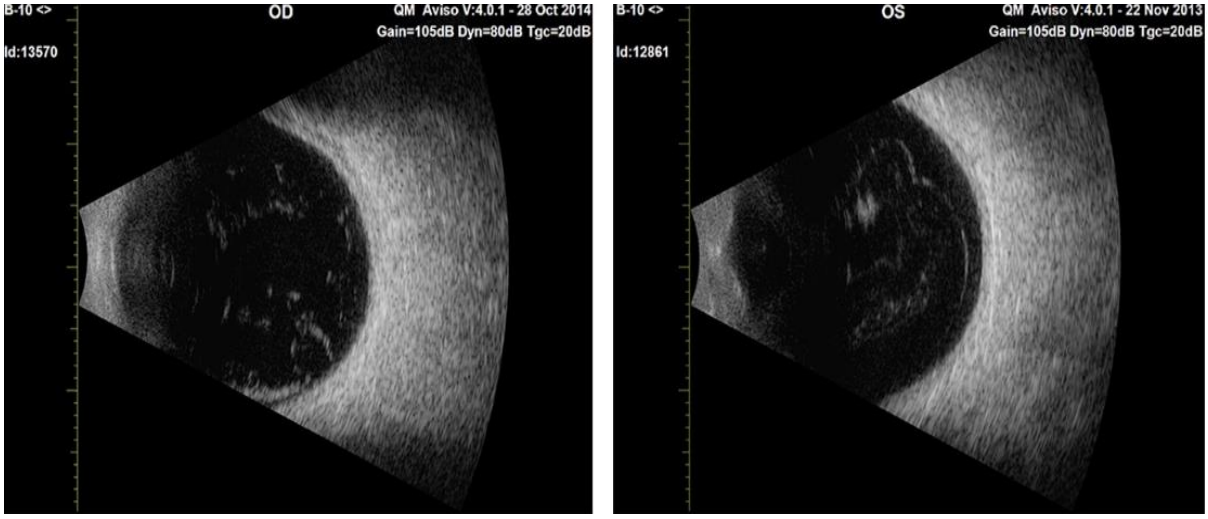
What Are Vitreous floaters?

The vitreous gel fills the eye. It is extremely important before birth in supporting the developing eye but degenerates from birth. This degeneration takes the form of the fibres clumping together and fluid pockets appearing and you will see these a 'bits' floating around in the eye. They come in all shapes and sizes from flecks to strands to beads on a string and more. It is very unusual to notice them in your teens but as you age the gel changes and more will appear. Oskala looked at the Gel In various age groups with ultrasound and found in the under 20s it was a clear, but found 'debris' in 60% of 50 -60 year olds and 80% in over 60s. They increase if you are short-sighted and they can change significantly after cataract surgery. Most people will see a significant worsening of floaters after a Posterior Vitreous Detachment (PVD). Age is again a factor with 25% of 50 year olds having a PVD but 80-90% of 80-90 year olds. If you have a PVD you may get flashes and floaters and you should seek review with an optometrist to ensure you have not developed a retinal tear or detachment.



The normal anatomy of the eye
Image courtesy of the National Eye Institute

Fig 1: **Vitreous Floaters on Ultrasound scan (Left NO PVD, Right PVD present)**



NO PVD *PVD Present*

How common are Floaters?

We are now aware that they are much more common than we previously thought. Webb reviewed 603 smartphone users and found that nearly 80% noticed floaters with nearly 200 citing noticeable vision impairment as a result of their floaters. Furthermore, short-sighted and long-sighted people were 3.5 and 4.4 times, respectively, more likely to report moderate severe floaters.

Why do I have Floaters?

In most cases it is simply A.D (Year of our Lord!). However, most people I see have had an event that has resulted in the subtle increase with age becoming more obvious and interfering with the vision. PVD would be a common event but also after cataract surgery, especially in people who have had a multifocal lens placed. PVD causes the gel to bunch up and can reduce your contrast sensitivity by half. (**A note on contrast sensitivity as it is very important for floaters-Think of sight like hearing, volume would be the equivalent of contrast- black on white like a 'loud sound' grey on grey a 'soft sound', and the pitch of the sound like the 'frequency of edges' with tiles on a roof 'high frequency' and houses next to each other 'low frequency'. When we test your sight on a test chart it is black on white (High Contrast) and narrower and narrower lines on the letter (High Frequency), the real world is not like**

this). After cataract surgery this bunching can move even further forward in the eye to sit just behind your new lens at an important point in the eye the Nodal point. It simply sits right in the way of your line of sight!

In my experience there are two types of floaters, the small bits that float around and the clouds that come and go. The clouds are more detrimental to vision than the bits as they cause a global reduction in vision. An example of this 'cloud' can be seen on the video on the floaters page of my website. These clouds can really reduce your contrast sensitivity and may even reduce the clarity of your vision on a test chart.

People tell me to put up with them but they are driving me mad- am I alone?

You are not alone. An incredible study by Wagle on the effect of floaters on young economically active people found that they were willing to take a 7% risk of blindness in order to get rid of them. The effect on life is similar to mild angina and stroke. Yes, sometimes in a turbulent world, it can be easier to blame something physical for your mental state and floaters can be a focus for this especially if you are introspective, anxious or perfectionist. However, many people have a measurable adverse effect on vision with floaters.

How is it treated? Laser?

I do not do YAG laser Vitreolysis. The research is early and scarce and it seems specialised lasers are required to perform this safely and effectively. As a VR surgeon I perform Vitrectomy- removal of the gel by an operation. I am a hammer, perhaps everything looks like a nail?

The operation for floaters is completed under a local anaesthetic as day case surgery and usually takes between 10 minutes to half an hour to complete. Your eye will be numbed with anaesthetic such that you will be unable to move your eye and you may find the vision becomes dull as a result of the anaesthetic. I work with an anaesthetist who can give you a 'G n T' in the vein to calm you down but with this sedation you will not be asleep. You will not see instruments coming towards your eye and you will feel nothing. Most of what you are afraid of happening will not happen. The surgery involves removing the jelly from the centre of your eye (Vitrectomy). Sometimes I will remove early cataract at the same time to reduce your hospital visits and improve your recovery time as cataracts usually develop quickly in older

people (>60) following this type of surgery, usually within 6 to 12 months. Most of the jelly is removed with a tiny instrument that cuts and sucks the jelly from the eye. I will search around the eye for small tears it the retina (3% of cases) and if I find any will treat them with freezing therapy. A small air bubble may be placed in the eye which usually goes away slowly over a few days but sometimes you will need a gas bubble in the eye which can last a couple of weeks. I would use a gas bubble only if there were significant tears found on the retina. Following surgery, you may rarely require tiny stitches in the eye that will dissolve over a few weeks and can be a little gritty. You will have an eye pad and shield to wear the first night and drops for one month. It is important to keep the eye clean for the first week. You will be reviewed around two weeks after surgery and I will chat to you on day one to ensure you are ok.

What if I choose not to have it treated?

You may get used to the floaters. I would usually ask you to wait for 2-3 months to see if you can adapt but after this time it is unlikely you will adapt.

Will my vision be much better if I have the operation?

The main aim of surgery is to improve the overall quality of your vision and sometimes the quantity of vision (reading down the test chart) but it is mainly about *quality* especially in dim light and adverse lighting. *Re read the explanation of contrast sensitivity under the section '**Why do I have Floaters**'.*

What are the risks of having surgery?

The risks of surgery for floaters is the same as risks for vitrectomy for other indications. This is in fact the first part of every operation I perform as a VR surgeon, I just stop rather than carry on to do other things inside the eye. The main risks of surgery are retinal detachment at around 1-2 patients in 100. Success rates for retinal detachment are at around 90% and you would need to present as early as possible for treatment- this may be in the NHS. If we do not do cataract surgery at the same time then cataract is likely to develop within a year and require further surgery. The most common complication during surgery is a small tear on the retina in around 3 out of one hundred patients and this will be treated at the time of surgery and may require a gas bubble. You cannot see or fly with gas in the eye and the vision returns as the bubble gets smaller and rounder and lower over the two weeks. The risk of serious

complication and loss of sight is around 1 in one thousand people, usually due to infection or severe bleeding in the wall of the eye. Raised pressure can occur after surgery but in most cases this settles with drops short term and does not damage the nerve of vision (glaucoma). However around 1 in 100 may require long term treatment for this.

Should I have it done?

'If it ain't broke don't fix it'. If you can live with them, live with them. No one jumps out of a first-floor window but if a lion walks in the room most will jump. Floaters can interfere with vision significantly and measurably but only have surgery if you are willing to take a small risk to get rid of them.

References

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