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Kingston Hospital NHS
NHS Foundation Trust

Vitrectomy

Patient information leaflet

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What is a vitrectomy?

Vitrectomy is an operation to remove the vitreous gel from the eye. The vitreous gel is a transparent jelly-like structure that lies behind the iris (coloured part of your eye) and lens and in front of the retina (light-sensing tissue at the back of the eye). The vitreous gel is removed because it will have a problem itself or to allow a retinal problem to be treated.

Why do I need a vitrectomy?

There are several sight-threatening or sight-impairing conditions that require vitrectomy. These include:

- **Vitreous haemorrhage**: bleeding into the vitreous gel, due to a tear in the retina or scarring around the retinal vessels e.g. from poorly controlled diabetes.
- **Retinal detachment:** separation of retina from its original position.
- **Macular hole**: hole in the central part of the retina.
- **Epiretinal membrane**: scar tissue on the central part of the retina.
- **Endophthalmitis:** a very severe infection of the entire eyeball.
- **Complicated cataract surgery**: where a fragment of the cataract or a lens implant has fallen into the vitreous cavity.
- **Foreign body in the eye:** where penetrating eye injury leads to a metal or non-metal foreign body is lodged into the eye.

How is the vitreous jelly removed?

Three small incisions are made in the sclera (the white of the eye). Instruments are inserted into the eye through these incisions – these usually comprise a light source, an infusion port (to infuse fluid, e.g. saline, continuously into the eye to keep the eye pressurised during the operation) and a cutting device (vitrector) that cuts and 'sucks out' the vitreous.

Once the vitreous has been removed, further procedures may be performed. These may include: a-applying laser or cryotherapy (freezing treatment) to retina e.g. in the treatment of diabetic retinal changes or retinal tears in retinal detachment; b-removal of scar tissues e.g. when peeling an epiretinal membrane or repairing a macular hole; or c-removal of a foreign body in trauma or lens fragments in complicated cataract surgery.

Will I feel pain or see what is happening during the surgery?

No. The operation is normally performed under local anaesthetic, often with sedation. This means that you will be awake during the operation, but the eye will be numbed, and you will be given an injection into the vein to help you feel more relaxed. Occasionally it is performed under general anaesthetic, where you are asleep.

How long will the operation last?

The operation usually takes 1 to 2 hours, depending on complexity.

Does the vitreous gel get replaced?

No. Once the vitreous is removed, the vitreous cavity is filled with saline (balanced salt solution). This will gradually be replaced by the aqueous humour, which is a clear fluid constantly produced at the front of the eye. This should not affect the quality of the vision in the eye as the both the vitreous and saline or aqueous humour have the same refractive index (i.e. bend the light in a similar way).

The vitreous, however, is sometimes replaced during surgery with one of the following substances:

- Saline (balanced salt solution)
- Air or gas bubble: these naturally get absorbed within 1 to 8 weeks.
- Silicone oil: this will need to be removed at a later date i.e with a second operation.

The vision may be blurred temporarily until the gas bubble reabsorbs or until the silicone oil is removed from the eye.

What are the risks of vitrectomy?

Vitrectomy has a good success rate. Almost 90% of patients with the above conditions are cured or have better vision after only one operation.

However there can be some risks associated with the surgery. The main risks include:

- Red eye – due to mild bruising on the surface of the eye, which clears in 1 to 2 weeks.

- Sore and gritty eye – due to disturbance to the eye surface, which clears in 1 to 2 days.
- Serious eye infection (endophthalmitis) (<1 in 2000).
- Retinal tears or detachment requiring more than one operation (<1:20).
- Transient increase in eye pressure, inflammation or bleeding in the eye.
- Cataract (unless you have already had the cataract surgery) will develop quicker in almost all the patients, requiring surgery within a year or two after vitrectomy surgery.

What should I expect after a vitrectomy?

- You should expect your eye to be red for up to 4 weeks.
- If you have had an air or gas bubble or silicone oil injected into the eye, your vision will be blurry until the air or gas bubble naturally absorbs, or until the oil is removed. You may notice a 'curved edge' of the air/gas bubble in your line of vision as the bubble gets smaller before it completely absorbs.
- You may be required to adopt a particular head position ('posture') for a few days after surgery to get the gas or oil bubble to lie in a good position against the retina to help its healing.
- You will be prescribed eye drops to reduce the inflammation and protect against infection. Sometimes additional drops or tablets may be given to help control the eye pressure.

Are there any activities I need to avoid after vitrectomy?

- You should avoid physical exercise, sports and swimming for 1 month.
- If you have had a gas bubble inserted into the eye, you will be given a wrist band to indicate what gas has been injected and to remind you that you must not fly in an aeroplane or travel to high altitudes until the gas absorbs. Also, in the event that you require general anaesthesia for any other operations, you will need to let the anaesthetist know that you have a gas bubble in the eye.

Do I need to take time off work?

You will need 1 to 2 weeks to recover following vitrectomy surgery. This may vary depending on your job.

When can I drive?

This depends on the vision in your other eye. Your doctor will be able to advise you about this.

Contact details

Royal Eye Unit

Mon-Fri 8.30am to 5pm

0208 934 6404

Moorfields at St Georges' Hospital (Duke Elder Ward)

Mon-Fri 5pm to 8.30am, weekends and Bank Holidays

020 8672 1255 ext 2064/0638