

# **Vitrectomy Surgery**

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## **1-What is the vitreous and what is a vitrectomy?**

The vitreous is a jelly/watery material, which occupies about 80% of the volume of the eye. It is located inside the eye in a cavity (the vitreous cavity), which is like the cavity air occupies inside a basketball. As one ages the vitreous liquefies and breaks into clumps, which some people see and call 'floaters'. After age 50 the vitreous is mostly liquid, while in childhood it is like jelly. A vitrectomy is removal of the vitreous jelly/fluid inside the eye.

## **2-Why is a vitrectomy needed?**

Although in most people the vitreous causes no problems, in some it is responsible for eye disease. The vitreous, like the appendix, is not an essential tissue for function and the eye can see very well without the vitreous jelly. The vitreous was important when the eye was developing in the human embryo, but after birth it has no useful function. The vitreous actually can cause or play a role in potentially blinding eye diseases including retinal tears, retinal detachment, macular hole, macular pucker, macular edema, and bleeding inside the eye.

## **3- how is the vitreous removed?**

The vitreous is removed using 'space age technology'. Vitrectomy surgery is more than 25 years old and has evolved and been greatly refined since the late 70's. There are usually three to four instruments inserted into the sides of the eye, very close to where the colored part of the eye (iris) meets the white part of the eye (sclera). The instruments are less than one mm in diameter. Some instruments are so small that suturing the wound used to insert the instrument is not necessary. In general, one instrument infuses a saline solution; one provides light or lighted instruments, and another cuts and gently aspirates the vitreous out of the eye. The saline solution infused into the eye is replaced in less than 24 hours with the body's naturally formed fluid. Other instruments also used include, but are not limited to fine picks, spatulas, laser probes, aspiration devices, and forceps. Sometimes a colored dye is necessary to enable the surgeon to better identify pathology. These dyes are called ICG, Trypan Blue, and Kenalog (not really a dye but Kenalog shows vitreous attachments to the retina). Sometimes the surgery is combined with a scleral buckle, which is a silicone band encircled about the eye and is usually used if there is a complex retinal detachment. In very complex cases silicone oil is inserted into the eye, which usually requires removal about three months after it is inserted. Experienced retina surgeons may also use 'heavy liquids' to attach the retina. These are all tricks of the trade and are used as the case progresses. Although the doctor will always try to inform you what will be done, it is not always possible to predict exactly what will be needed to give the eye the best chances to regain sight. Although we always have a 'game plan' it is not always possible to

determine beforehand exactly what will be needed during the operation.

#### **4- where is surgery performed?**

Vitrectomy surgery is always performed in an operating room (surgery center or hospital OR); it is not an office procedure. Ninety percent of cases are performed as an outpatient; patients usually go home after the surgery. Usually preoperative blood work and a cardiogram are needed to be sure patients are well enough to undergo the operation. Preoperative antibiotics are used if the patient has a prosthesis (such as an artificial hip or knee...not an intraocular lens implant).

#### **5-What are the risks of Vitrectomy Surgery?**

The risks of vitrectomy surgery are small but are similar to the risks of any other surgery performed on the human body. It is NOT minor surgery. The surgery is performed under general or local anesthesia which itself carries risks; the most severe include stroke and death. This is why preoperative medical clearance is important. The vitrectomy operation itself carries risks, which include bleeding, infection, retinal detachment, a vascular occlusion, injury to the optic nerve, damaging the lens, and total blindness. In some eyes, which fail surgery, the eye may become painful and have to be removed.

Fortunately, these complications are rare, less than 3%, but do occur so surgery should never be taken lightly. In people older than fifty, cataract s usually develops within a few years of the operation (for reasons not clear) and may require cataract removal. There are also risks of not doing surgery; some diseases such as retinal detachment will usually progresses to total blindness of that eye if nothing is done. Sometimes there are other alternative operations to vitrectomy (lots of ways to 'skin a cat'), but vitrectomy has been chosen in your case because in your particular situation, the surgeon has felt this is the best operation for you. Sometimes, for retinal detachments, vitrectomy is combined with scleral buckling. There are other entities such as macular pucker and most macular holes where vitrectomy is the only option (versus no treatment). If you would like a second opinion we can provide the names of reputable vitreoretinal surgeons in San Diego or most other cities and will provide a copy of your records.

#### **6-How well will I see after the surgery and how long is the recovery?**

No one can predict the future, and the disease being operated upon heavily influences the visual outcome. Sometimes surgery is performed just to keep the eye from getting worse; often vision is better after surgery. No guarantees can be made because every eye is different. Your surgeon will discuss with you an estimate of what you may expect. In some cases we can give you the 'odds' for success, but these are really informed 'guesses' based upon experience and the world literature.

Visual return after vitrectomy surgery is measured in weeks to months to years. Eyes don't usually get back 100% perfect normal vision after vitrectomy surgery because the disease before the operation has damaged the eye. A good rule of thumb is that about 80% of what will recover will do so in three to six months. It takes about a year for 90% recovery, and at the end of two years; usually what you see is what you get!

**7-Will drops be needed, will my eye be patched, when should I return?**

The eye is usually patched for a day or two, and sometimes longer. Stitches take about a week to dissolve so the eye may feel irritated for a week or two. Artificial tears help to comfort the eye. Other eye drops are required for pressure, comfort and to try to prevent infection, Always wash your hands before putting in drops, and never use an eye drops that were opened and used before surgery for they may be contaminated with bacteria. If the eye drops are not comfortable let your surgeon know promptly. Do not stop the drops unless the surgeon instructs you to do so. Follow up is usually the day following surgery, and then every week or two until we are sure the eye is recovering. Although there may be modest pain the first day, it should improve within eight to twelve hours after the operation. A good rule of thumb is that the eye should feel and see the same or better than it did on the first postoperative day, if it feels or sees worse it must be immediately brought to the attention of the surgeon. Although you are given drops and/or pills for pressure, sometimes after vitrectomy the eye pressure sometimes rises to a high level. You may feel a deep pressure in the eye or in the eyebrow. If this develops contact the surgeon immediately. If a gas bubble is inserted into the eye you must not travel over 4000 feet or fly. Bubbles may last a few days to nine weeks and shrink on their own. It is usually not necessary to surgically remove a gas bubble with another operation.

**8-When should I contact the doctor if I think I am having a problem?**

Please contact the surgeon immediately if you think you are having any problem or concerns such as decreased vision, persistent or severe pain, a yellow discharge (one of the drops will leave white stringy material on the eye), or if your eyelids develop more swelling, redness or become more tender.