

## **Retinal Re-attachment Surgery**

### **Introduction**

The retina is the light-sensitive layer of tissue that lines the inside of the eye and sends visual images through the optic nerve to the brain. In most cases, retinal detachment is caused by break(s) in the retina which allow fluid to go underneath the retina, causing separation of the retina from its normal position.

Once the retina is detached, its blood supply is compromised, therefore affecting its function and will affect vision. If left untreated, the condition may lead to permanent blindness.

### **The Procedure**

Surgery is required to reattach the detached retina. The procedure is generally performed under general anaesthesia and sometimes under local or regional anaesthesia. The surgical repair involves sealing all the break(s) and re-attaches the detached retina to its normal position. There are different procedures that could be used depending on the circumstances, such as pneumatic retinopexy, scleral buckling and vitrectomy.

#### **1. Pneumatic Retinopexy**

A gas bubble is injected into the eyeball. The gas bubble pushes the retina back to its normal position and closes the break. You will be required to adopt a specific posture in order to maximize the effect of the gas bubble for a period of time after the operation. Laser or cryotherapy would then be used to seal the break(s) in the retina.

#### **2. Scleral Buckling**

Explants are placed on the outside of the eyeball to cause inward indentation of the eyeball whereby apposing the detached retina back to its normal position. If necessary, additional procedures such as vitrectomy, fluid drainage at the site of the detachment etc. will also be performed.

### 3. Vitrectomy

The vitreous gel is removed from the inside of the eye and replaced with special physiological saline solution. Gas bubble or silicone oil may be injected to push the retina back to its normal position. Laser or cryotherapy would also be used to seal off all the retinal breaks. You will be required to adopt a specific posture to maximize the effect of the gas bubble or silicone oil for a period of time after the operation.

The choice of operation depends on various factors. Sometimes more than one procedure is needed, for example scleral buckling procedure may be performed together with the vitrectomy for certain types of retinal detachment.

#### **Possible Risks and Complications**

The surgery is a major operation but is safe in general. However, the following risks and complications may sometimes occur:

- Raised intra-ocular pressure
- Glaucoma
- Cataract
- Anterior segment ischemia
- Intraocular bleeding
- Infection - endophthalmitis
- Exposure of explant and extrusion that may require removal
- Squint and double vision
- Maculopathy - macular pucker
- Retained intraocular heavy liquid, requiring removal
- Failure to re-attach the retina even after multiple surgeries
- Re-detachment of retina
- Retinal folds, fibrosis and scarring
- Venous air embolism causing death
- Change in refractive status, increase in short-sightedness (myopia) after scleral buckling procedure
- Phthisis Bulbi
- Risks of anaesthesia
- The above complications can potentially lead to visual loss or permanent blindness

### **Before the Procedure**

- Inform your doctor if you have other systemic disease(s) such as hypertension, stroke, heart disease, diabetes or on regular western medication(s) (especially blood thinners like Aspirin, Warfarin or Novel Oral Anti-coagulants), traditional Chinese medicine or health foods).
- Blood tests, Chest X-ray may be required if surgery is performed under General Anaesthesia.
- If required, you will be asked to fast before surgery.

### **After the Procedure**

- The operated site will be covered with an eye pad and an eye shield.
- Do not rub your eyes
- You may need to maintain a special head posture for a period of time after the operation.
- There may be some discomfort and tissue swelling after the operation.
- Vision may remain blurred during the early postoperative period especially when gas bubble has been injected into the eye during the operation or when the eye condition is not stable yet.
- As you may not be accustomed to the eye pad or blurring after surgery, leave some light on when you go to toilet at night to avoid falls.
- In order to prevent infection, wear clothes with buttons and not pullovers to avoid the cloth(es) coming into contact with the operated eye.

### **Follow Up**

- Do not remove the patch until you are instructed by the doctor, attend follow-up appointment as scheduled
- Avoid running water coming in contact with the eye until you have sought approval by your doctor. Avoid washing your hair during the first week after operation to prevent infection to the operated eye.
- No vigorous physical activity until allowed by your doctor
- When there is gas bubble in the eye during the post-operative period, do not travel by air or travel to high altitude. Your vision will usually improve gradually when the eye is recovering well and the gas bubble

is being absorbed.

- When there is gas bubble in the eye during the postoperative period, and if you need any other surgical procedure(s) especially under General Anaesthesia, you must inform the surgeon and anesthetist for special precaution and management. Wear your bracelet and keep the gas card until the total absorption of the gas bubble.
- If your vision gets worse or experience signs of infection such as fever and chills, redness, swelling, increasing pain, excessive bleeding, or discharge from the procedure site, you should see your doctor immediately or seek medical attention at nearby Accident and Emergency Department.
- Some people may achieve good vision after surgical repair. Some may achieve various degrees of working or navigational vision. The outcome depends on the extent, chronicity and the complexity of the retinal detachment, especially whether there is involvement of the macula, the response of the eye to the operation and the occurrence of any significant complications. If the retina detachment cannot be repaired, the vision will usually get worse and you may become blind.

### Remarks

This is general information only and the list of complications is not exhaustive. Other unforeseen complications may occasionally occur. The actual risks may be different for different patients. During the operation, unpredictable condition may arise, and additional procedures may be performed if necessary. For further information, please contact your doctor.