

Gas in your eye

At the end of your eye operation your eye was filled with medical air or medical gas. Gas is commonly used in vitrectomy eye operations to keep the retina in place whilst it is healing.

Why do I have to posture?

For the gas to have the right effect, it is necessary for you to keep your head in a certain position. You have received separate instructions as to what your individually prescribed head posture is. This will depend on where in your retina there a tear is. You must posture in such a way that the gas in your eye rises to cover the retinal tear(s). This is the best way for the retina to heal properly and for your sight to improve. The commonest postures are right side, left side, or face down.

For face down posturing, you do not necessarily need to lie flat and face down (unless this is what you find most convenient). It is often more comfortable to sit up and lean forward, usually over a table or a specialised head rest. You are aiming to have your face be parallel to the floor to allow the gas bubble to be positioned towards the back of your eye. You may find it helpful to roll up a towel to rest your forehead on or to hire a posturing aid, which usually looks like a head rest from a massage chair or table. It may be possible to place a book or device screen underneath, so you could look down at it while posturing.

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When will my sight come back?

For the first week you will only be able to see light and dark with your eye. This is because the gas makes everything badly out-of-focus. Some people can see objects held very close to the eye.

Later, your sight will begin to return. The timing depends on the type of gas used: short-acting gas (SF₆) takes 2 to 3 weeks to disappear; mid-acting gas (C₂F₆) 4-6 weeks; long-acting gas (C₃F₈) takes about 2 months. When the gas bubble is down to half size, you will see a horizontal line across your vision, bobbing up and down with head movement. This is where the gas meets the fluid which is gradually replacing it. It is just like a spirit level. You will have sight above this line, and blackness below it. Day by day the line will move lower down; the seeing area will get bigger, and the black area will get smaller until it is just a circle at the bottom of your vision, and then it disappears.

Do I need to come back?

As the gas is naturally replaced by fluid, you need regular eye examinations at the clinic. This is to make sure that those areas of retina no longer covered by gas remain in place. The usual time intervals are after two weeks then at another point when the gas has gone. Occasionally, the retina can get loose (detached) whilst the gas leaves the eye, or shortly after. So, any time in the next few months, if you notice a worsening in vision in between appointments, please arrange for your appointment to be brought forward.

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General Anaesthesia

If you need a general anaesthetic for something else whilst you still have gas in your eye, it is very important that you let the anaesthetist know. He or she must not use nitrous oxide gas during the anaesthetic. Nitrous oxide moves into the gas bubble and can cause a dangerous rise in pressure in the eye.

Flying

If there is gas in your eye you must not fly in an aircraft. The pressure in the cabin of an aircraft is dropped to about $\frac{2}{3}$ of the atmospheric pressure. If there is a gas bubble in your eye, this will expand to 1.5 times its size, with a corresponding rise in pressure in your eye. This would be very painful and would lead to loss of sight.

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Atmospheric pressure

The same thing, but to a lesser extent, happens if you were to travel by road across mountains. You would feel pain in the eye as you reach higher altitudes, and the eye becomes comfortable again as you come down on the other side.

An opposite effect, this time of a pressure drop, is noticed if going significantly below sea level, such as when travelling through the Channel tunnel. This effect is very small and usually not significant enough to cause any long-term problems.

Diving

SCUBA diving is contraindicated when you have gas in your eye. If submerging underwater, the rapidly rising pressure will significantly reduce the gas volume in your eye and the eyeball may collapse, with potentially vision-threatening complications.

Scientific Evidence

The advice in this booklet is based on a variety of sources, including latest research published in peer-reviewed scientific journals. It has also been scrutinized by a panel of experts from the Britain & Eire Association of Vitreoretinal Surgeons (“BEAVRS”). If you require further information about this, please ask your surgeon.

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