Orbital decompression surgery

What is orbital decompression surgery?

Orbital decompression surgery is an operation on the eye socket (orbit) that reduces the bulging of the eye or eyes that can occur with thyroid eye disease (TED). Thyroid eye disease can sometimes be called Thyroid Orbitopathy, Graves' eye disease, Graves' ophthalmopathy or Graves' orbitopathy.

The main reasons for performing the operation are to reduce the bulging forwards of the eye or eyes (sometimes called exophthalmos), and in some patients with severe thyroid eye disease, to relieve pressure on the optic nerve (the nerve connecting the eye to the brain) that can cause reduced vision.

The operation may be performed on one or both (bilateral) eye sockets in the same operation.

Orbital decompression surgery is just one part of the management of patients with thyroid eye disease. Thyroid eye disease is managed in conjunction with your thyroid specialist (Endocrinologist) and GP, and the control of the thyroid hormones is very important. Other operations may be required after orbital decompression surgery, and can include surgery for double vision and for staring or retracted and puffy or swollen eyelids.

What happens in an orbital decompression?

The aim of an orbital decompression is to make more room for the swollen fatty tissue and muscles behind the eyes that cause the eyes to bulge, and can sometimes cause pressure on the optic nerve, reducing vision. More room is created by removing bone from the walls of the bony eye socket (the orbit) to make the orbit bigger and allow the eye to settle back into its socket. Sometimes, fatty tissue is also removed to make more room.

The amount of bone that is removed will depend on the severity of the thyroid eye disease. One, two or three of the four walls of the orbit can have bone removed from them, and the more bone that is removed, the greater the reduction in the protrusion of the eyes.

The roof of the orbit separating it from the brain above the eyes, is not removed, but bone to the outer side, towards the temple (the lateral or outer wall) is commonly removed. This is then followed by the removal of the inner wall (between the orbit and the nasal cavity), then the orbital floor (between the orbit and the cheek sinus).

What are the benefits of orbital decompression surgery?

The potential benefits of orbital decompression surgery are:

- Reduction in the bulging of the eye(s).
- Improved vision if the optic nerve has been squeezed by the swollen muscles behind the eye
- Improved comfort. Many patients with more severe thyroid eye disease have aching or pressure behind the eyes which is improved by orbital decompression surgery. Additionally, the stinging, grittiness and watering of the eyes that is common in thyroid eye disease is often improved after orbital decompression.
- Reduced staring appearance of the eyes. There is often a small reduction in the gap between the upper and lower eyelids, but some patients will still require surgery for their eyelids after an orbital decompression.

What sort of anaesthetic is used?

A general anaesthetic is always used for orbital decompression surgery.

How long will I need to stay in hospital?

You will need to stay in hospital for at least one night after the surgery, and sometimes two or more nights if recovery from surgery is slower.

Where will the scars be?

For orbital decompression surgery, the only externally visible scar is a short scar that runs down at an angle from the outer corner of the eye in one of the 'smile lines'. This heals well and after some months is barely noticeable. All other scars are inside the eyelids and not visible.

What problems can occur with orbital decompression surgery?

All operations carry risks, and orbital decompression is no exception. Problems are uncommon but can include:

- **Excessive swelling and bruising:** it is normal for there to be some bruising and swelling, and this normally increases in the first few days after surgery, then begins to fade. Sometimes the thin skin on the surface of the eye (the conjunctiva) can swell and looks like a blister (sometimes pale, sometimes red) on the white of the eye. This settles with time.
- **Double vision:** double vision is often present before surgery in patients with thyroid eye disease, but can be more noticeable after orbital decompression, or can appear for the first time after orbital decompression. If it does occur, it may be temporary, but in some patients, the double vision may persist and require more surgery to correct it. It can nearly always be treated.
- **Numbness:** some numbness around the eye is very common after orbital decompression surgery. Usually this is over the cheek bone in a small area that can shrink over time. Sometimes the cheek below the eye and the upper lip and teeth can be numb, but this nearly always recovers. The side and tip of the nose can also be numb sometimes, but this is much less common.
- **Loss of vision in one eye:** this is a very serious problem, but extremely rare. It can occur when there is uncontrolled bleeding behind the eye during or after the operation. The risk of this happening is less than one in many hundreds.
- **Sinus problems**: because some of the bone that is removed opens up some of the sinuses next to the nasal cavity, occasionally, the sinuses may not work properly and can become blocked and filled with fluid, or sometimes infected. This is rare but can be treated.
- **Infection:** this is rare after orbital decompression surgery.

Follow up care

After discharge from hospital, you will usually be seen again in the clinic after about a week, and then again about 2 to 3 months after the surgery.

During the first week or two, you will be asked to apply ointment to the eyelid wounds, and sometimes also lubricating drops, gels or ointments for the eye. Pain killers may be required in the first week or more, but rarely very strong pain killers are needed. The eyes and eyelids are usually bruised and swollen for some weeks after the surgery.

Usually, patients can resume their normal activities within a few weeks, unless they have trouble with double vision, in which case, it may take some months to get back to normal activities such as driving.

Orbital decompression surgery#183 | Owner: Opal Unit | Last published: 05/10/17 | Next review: 05/10/19