

## Proptosis ('exophthalmos', or 'bulging' of the eye)



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### **Qu: What is 'Proptosis'?**

Proptosis (or exophthalmos) describes a forward-movement of the eye relative to its *normal* position in the eye socket. This position is genetically determined, with a spectrum existing from individuals with naturally 'deep set' eyes, to others appearing to have 'bulging eyes'.

Any change behind the eye can result in proptosis, and these changes can be acute (sudden) or chronic (slow). Rarely, an orbital abnormality can be congenital and cause proptosis. Depending on the rapidity of developing proptosis, and any associated inflammation, proptosis may or may not be painful. Other symptoms that can accompany proptosis include ocular irritation, double vision, reduced vision, and watering.

### **Qu: What are the causes of proptosis?**

The most common cause for proptosis of one or both eyes is thyroid eye disease, in which abnormal thyroid activity – for reasons unknown – can cause swelling of the muscles and fat around the eye. There is no single test to confirm or monitor the activity of TED: a diagnosis is made chiefly on clinical grounds, corroborated by blood tests and typical appearances on imaging. Treatment is aimed primarily at correcting the abnormal thyroid function, and this, together with cessation of smoking, often leads to reduction of the proptosis. In more severe TED, other specific eye-related treatments may be required, as discussed in the section on TED (See information leaflet).

Inflammations – either localised to the eye socket or being part of a generalised disorder – can cause swelling around the eye in addition to proptosis. Specific blood tests and a chest X ray may be required, in addition to a biopsy of any abnormal swelling shown on scanning. If the symptoms do not settle on non-steroidal tablets, a biopsy may be required before a short course of stronger anti-inflammatory medication (such as steroid tablets) can be given. If a biopsy *is* necessary, this is usually done as a day case under general anaesthetic.

Rare congenital causes of proptosis include deep orbital cysts, which may become inflamed, and collections of vessels (which include venous and lymphatic type channels). Whilst the former generally require intact removal to prevent recurrent

inflammation, complete removal of the latter is often difficult, with surgery for any abnormality causing proptosis carrying varying degrees of risk to the vision itself.

Very rarely indeed, a growth behind the eye, or benign changes in the bony wall of the socket can also cause proptosis. Again, a careful clinical examination, imaging, and frequently obtaining a biopsy will lead to a diagnosis and therefore the appropriate treatment.

**Qu: How is proptosis treated?**

This depends on the cause of the proptosis, and whether the ocular surface is exposed by the relatively prominent position of the eye. A thorough history and examination are required first, this often followed by certain investigations which may include testing the visual fields, blood tests, and imaging of the orbits and sinuses. A diagnosis is made before definitive treatment can begin, although certain inflammatory conditions can settle with a course of aspirin-type ('non-steroidal) anti-inflammatory tablets.

Where proptosis results in corneal exposure, consideration is also given to adequate topical lubrication and, in severe cases, the lids can require suturing closed - this being a temporary measure until the proptosis is managed, and the cornea is no longer at risk of exposure.