

WHAT IS THYROID EYE DISEASE? GRAVES' ORBITOPATHY

People with *hyperthyroidism* (overactive thyroid glands) may experience changes around their eyes. The most common abnormalities are prominent eyes, a staring expression, dry eyes and infrequent blinking.

What are the causes?

Hyperthyroidism is a condition in which there is overproduction of thyroid hormones. Abnormal antibodies that attack the thyroid gland cause it to become overactive. Abnormal antibodies may also cause swelling and inflammation of the soft tissues around the eyes and the muscles that move the eyes and eyelids. As a result, the eyes may protrude, the lids may open too widely, or the eyes may not move together well causing double vision.

What are the symptoms?

Many patients start experiencing eye problems as soon as their thyroid gland becomes overactive. For some, the eye changes may develop before hyperthyroidism is detected, while others may not develop symptoms until months or years later. Both eyes are usually affected, however they may not be affected to the same degree.

Common symptoms are pressure around the eyes, ocular irritation and tearing. Overexposure during the day and difficulty closing the eyes at night can lead to dryness or injury to the *cornea* (the clear front of the eye).

Inflammation of the eye muscles may result in restricted eye movement causing double vision. If the muscles become too swollen, the enlarged muscles can compress the optic nerve resulting in progressive visual loss.

After several months, the active inflammation subsides. Many patients will be left with some degree of protrusion, lid retraction, or double vision that may require additional treatment.

Is thyroid eye disease serious?

Chronic eye exposure from protrusion or lid retraction can lead to corneal scarring. Double vision can be severe and disabling.

If the swelling is severe enough, the pressure in the *orbit* (eye socket) can become extremely high and compress the optic nerve. The person may experience progressive *loss* of vision, and possibly blindness if the condition is not treated promptly.

What are the treatments?

For many people, the discomfort from thyroid

eye disease can be treated with topical lubricants, wrap-around tinted glasses, sleeping with eye shields and with the head elevated.

When there is active inflammation with more severe symptoms, oral cortisone or other anti-inflammatory medications may be needed to reduce the swelling. Radiation is sometimes used to treat active inflammation as well. If the swelling behind the eye is severe enough, surgery may be necessary to decompress the orbit.

The function and appearance of the eyes can usually be improved by reconstructive eyelid or orbital surgery. Surgical treatment is generally delayed until the active inflammation subsides. The particular surgical technique used will depend on the type and severity of the eye problems.

Orbital decompression (removing part of the bony orbit and fat behind the eye to relieve pressure within the eye socket) can prevent damage to the optic nerve, and allow the eyes to move back into a more normal position in the eye socket.

Misalignment of the eyes and double vision can be improved with eye muscle surgery to reposition the enlarged muscles that control eye movement.

Eyelid surgery to adjust the position of retracted lids can improve eyelid closure and restore eyelid function. Removal of excessive fat from the eyelids can also improve their appearance.

What are the risks and complications?

Minor bruising or swelling may be expected and will likely go away in one to two weeks. Bleeding and infection, which are potential risks with any surgery, are very uncommon. As with any medical procedure, there may be other inherent risks that should be discussed with your surgeon.

Is the surgery effective?

While it may not be possible to completely eliminate all of the consequences of thyroid eye disease, surgery to correct these conditions is generally successful in satisfactorily restoring uncton, comfort, and cosmetic appearance.

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