

Thyroid Eye Disease

What is thyroid eye disease?

People with hyperthyroidism (overactive thyroid glands) may experience changes around their eyes. Thyroid eye disease may occur in patients who already know they have thyroid disease, or it may be the first sign of thyroid disease. The most common symptoms are prominent eyes, a 'staring' expression and infrequent blinking.

What are the causes?

Hyperthyroidism is an autoimmune disorder in which there is overproduction of thyroid hormones. Abnormal antibodies attack the thyroid gland causing it to become overactive. These 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. Although most patients with thyroid eye disease will have abnormal thyroid hormone levels, some have ocular symptoms even though their hormone levels are normal. If you are newly diagnosed with thyroid eye disease, your ophthalmologist may ask you to see an endocrinologist or internist to check your hormone levels.

What are the symptoms of Thyroid Eye Disease?

The timing of symptoms varies from patient to patient with many experiencing eye problems as soon as their thyroid gland becomes overactive. In 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, but not always to the same degree.

Thyroid eye disease can affect many different parts of the eye and surrounding tissues. Symptoms range from mild to severe. Common symptoms are pressure around the eyes, ocular irritation and tearing. The muscles in the eyelids may tighten, pulling the upper lid up and the lower lid down. This creates a startled look, or 'thyroid stare.' 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.

Typically, the active or inflammatory stage of thyroid eye disease lasts one to three years. After this time, 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 soft tissue 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 Thyroid Eye Disease?

For many people the discomfort from thyroid eye disease can be managed 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 steroids 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 prisms during the active inflammatory stage and after the disease has stabilized, with eye muscle surgery to reposition the enlarged muscles that control eye movement.

Eyelid surgery may be necessary to adjust the position of retracted lids and can improve eyelid closure and restore proper eyelid function. It will also improve the bulging appearance of the eyes. Removal of excessive fat from the eyelids can also improve their appearance. Eyelid surgery is best delayed until after all other eye surgery as the eyelid position may change as a result of other surgeries.

What are the risks and complications?

Bruising and/or swelling should be expected and will usually 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 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 function, comfort, and cosmetic appearance.

Who performs the surgery?

Patients are most commonly treated by ophthalmic plastic and reconstructive surgeons who specialize in diseases and problems of the eyelids, tear drain, and orbit.