

## thyroid eye disorders

The thyroid gland, located in the front of the neck, produces hormones that help regulate your body's metabolism (the process in which the body transforms food into energy).

In a small number of people, the thyroid gland malfunctions and produces more hormones than the body needs. This is called hyperthyroidism, or Graves' disease.

The overproduction of thyroid hormones in Graves' disease can cause various eye and vision problems.

### HOW DOES GRAVES' DISEASE AFFECT THE EYES?

Graves' disease can affect your eyes in many different ways. The symptoms may vary from person to person and may fluctuate or clear up suddenly without any treatment. Following are several common eye problems associated with the disease:

**Eye protrusion.** The excess hormones in Graves' disease cause the muscles in and around the eye to swell and push the eye forward. This eye bulge is a characteristic symptom of Graves' disease and causes patients to look as if they are constantly staring.

**Eyelid retraction.** The combination of eyelid swelling and eye protrusion may cause the eyelids to retract and reveal the white parts of the eye above and below the iris.

**Dry eye.** Due to eye protrusion and eyelid retraction, your eyes are more exposed to environmental elements, such as wind and dust, and may become very dry.



**Eye protrusion and eyelid retraction caused by Graves' disease.**

Dry eye can cause several side effects including:

- irritation and discomfort of the eye;
- inflammation of the eye;
- excessive tearing;
- light sensitivity;
- blurred vision;
- ulcers on the cornea (the clear front window of the eye);
- scarring of the cornea.

If untreated, severe dry eye can lead to vision loss.

**Double vision.** Muscle swelling may cause double vision. It may occur constantly or only when looking in certain directions. Prolonged and excessive muscle swelling can also compress and damage the optic nerve (the nerve in the eye that sends visual impulses to the brain) and in severe cases cause blindness.

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**Eye “bags.”** Eyelid swelling can also cause fatty tissue around the eyes to bulge forward. This causes the appearance of “bags” around the eyes and can make patients look prematurely aged.

### HOW ARE EYE AND VISION PROBLEMS TREATED?

Your ophthalmologist (Eye M.D.) will monitor eye protrusion and eyelid retraction by taking precise measurements of your eyes. If the measurements are increasing, or if your symptoms are getting worse, treatment may be needed.

A combination of non-surgical and surgical methods may be used to treat your symptoms. Non-surgical treatment options may include:

- applying lubricating ointment, artificial tears, or both to relieve some symptoms of dry eye;
- elevating your head at night to reduce muscle swelling;
- taking steroid medications by mouth to control the eye muscle swelling and inflammation;
- wearing sunglasses to relieve light sensitivity;
- applying cool compresses to the eyes to relieve the discomfort associated with eye irritation and inflammation;
- using eyeglasses with prisms to reduce double vision.

Surgical treatment options may include:

- repositioning the eye, the eye muscles, or both to relieve double vision and improve cosmetic appearance;
- repositioning eyelid muscles to correct eyelid retraction, relieve the effects of dry eye, and improve cosmetic appearance;
- removing scarred tissue from the muscles of the eye or eyelid;
- relieving compression on the optic nerve to preserve sight.

Eye disorders caused by thyroid disease can usually be managed very successfully.

### COMPLIMENTS OF YOUR OPHTHALMOLOGIST:

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