About
Graves’ disease, a form of hyperthyroidism, is a systemic autoimmune disease that affects the thyroid gland.

One-third of patients with Graves’ disease are likely to present with ocular symptoms. Thyroid eye disease (TED, also known as Graves’ ophthalmopathy) can be debilitating and lead to diplopia, ocular hypertension, optic nerve damage, and glaucoma. An estimated 20,000 patients will experience active TED annually. TED arises more often in younger women, but men and advancing age increase the risk for a severe form of the disease. About 90% of TED cases are associated with Graves’ disease.

TED develops in two phases: active (first 12-18 months) and inactive. The active phase is usually managed with immunosuppressive drugs. Until recently, the only option for relief of structural eye issues was surgery, and that was effective in just 30-50% of patients. In 2020, the first and only drug treatment, teprotumumab was approved for early management of TED.

Risk Factors
- Gender
- Smoking
- Radioiodine therapy
- Thyrotropin receptor antibodies
- Older age
- Stress

Symptoms
- A gritty or foreign object sensation in the eyes
- Excessive tearing that worsens with cold air, wind, or bright lights
- Eye pain
- Blurred vision
- Diplopia
- Color vision desaturation
- Loss of vision
- Periorbital swelling

The range of signs and symptoms of TED varies depending on severity, but even mild TED will have an adverse effect on a patient’s quality of life.

When to suspect TED? Patients who complain about new symptoms of puffy, red, irritated, or overly dry eyes, should be evaluated as these eye changes may be the first sign that a patient has Graves’ eye disease.

Lab Findings
There is no disease marker for TED. Lab studies often show hyperthyroidism, but TED may exist with euthyroid or hypothyroid status as well.

Diagnosis
Diagnosis is clinical, based on the constellation of signs and symptoms, often in the presence of thyroid dysfunction.

Management
Management of TED may involve a multi-specialty approach, depending on the severity, which is classified as mild, moderate, severe, or sight threatening. Treatment may include behavior modification, symptom management, steroids, monoclonal antibodies, and surgery.

References
