

Understanding Thyroid Eye Disease (TED)

Thyroid eye disease (TED) is a serious, progressive and vision-threatening autoimmune disease.^{1,2} TED begins with Active TED that may last for up to three years, after which damage to the eyes can be irreversible.^{1,3}

Common symptoms include light sensitivity, eye grittiness, bulging eyes and double vision, among others – all of which can reduce a person’s independence, ability to work and self-confidence.^{1,4}

TED occurs when the body attacks its own cells around the eyes

TED is caused by autoantibodies activating an insulin-like growth factor 1 receptor- (IGF-1R) mediated signaling complex on cells within the orbit. This signaling complex leads to severe inflammation and expansion of the connective tissue, muscle and fat cells behind the eye in the eye socket.^{5,6}

TED triggers a cascade of symptoms

Patients can experience an array of early symptoms, which are often confused with other conditions, such as allergies or dry eye. Early symptoms of TED may include:⁷

- Light sensitivity
- A feeling of grittiness in the eyes
- Dry eyes
- Excessive tearing
- Swelling of the eyelids
- Redness and irritation

“Because of my thyroid eye disease, I had to quit my job and required eight surgeries to regain some of my vision after being legally blind for many years.”

– LAQUILLA, who lives with TED

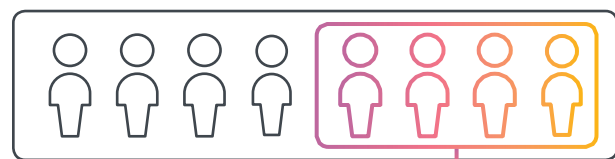
TED can have vision-threatening consequences

As TED progresses, it can cause long-term, irreversible damage. In one study, 72% of people with TED said that the disease interfered with their visual function in some way.⁸

As the disease progresses, characteristics may include:

- Eye bulging (proptosis)
- Misalignment of the eyes (strabismus) reported in more than 50% of people with TED^{9,10}
- Double vision (diplopia) reported in about 50% of people with TED^{11,12,13}
- Vision loss

TED is its own distinct disease



TED is most often seen in patients with Graves’ disease – affecting up to half of people with Graves’ – but it is a distinct disease that requires separate treatment.^{14,15,16} A diagnosis of TED may even precede a finding of Graves’ and can serve as an early warning sign of impending thyroid dysfunction. TED can also occur in Hashimoto’s hypothyroidism or even in euthyroid patients.¹⁶

TED is rare and has known risk factors

Active TED is estimated to affect 15,000 to 20,000 people each year in the United States. The primary risk factors for TED include:

Gender

TED is more likely to affect women; however, men are at a greater risk for more severe symptoms.^{1,17}

Age

TED is typically diagnosed among middle-aged people. In fact, the odds of developing TED increase by 17% with each decade of age progression.¹⁸

Smoking

Smoking is a noted risk factor for TED, increasing the risk two-to-eight-fold.¹

The significant burden of TED can affect many aspects of patients' lives

People living with TED often experience long-term functional, psychological and economic burdens, including inability to work and perform activities of daily living.^{4,11} In addition, pain, impairment of sight, depression, and loss of self-confidence all have a substantial effect on patients' well-being.^{1,4,19}

TED requires precise treatment during a limited window to prevent permanent damage

Effective management of TED requires early diagnosis and active monitoring to identify the best opportunity for medical intervention.¹

TED was painful and scary as I literally watched my vision and outward appearance slip away. Driving was not an option, work was increasingly more difficult, and my whole life came to a bleak and lonely halt.

- WANDA, who lives with TED

TED has a limited window of activity that can last up to three years:

- During Active TED, the autoimmune, inflammatory reactions actively create inflammation and pressure that leads to the progressive symptomatic burden.¹
- TED has only been shown to respond to pharmacological management while the disease is active and inflammation is ongoing.²⁰
- There are currently no FDA-approved treatments for Active TED.

Optimal care includes a team approach

Given the complex nature of TED, it often requires co-management by an endocrinologist and an eye specialist, such as an ophthalmologist or an oculoplastic surgeon.¹ Patients who suspect that they may have TED should visit an eye specialist to have their eyes examined and receive a proper diagnosis and management plan.

Inactive, fibrotic TED:

- When the inflammatory reaction becomes dormant, the disease is marked by the presence of expanded, fibrotic tissues and irreversible damage.³
- At this point, treatment options are limited to surgical interventions. These are complex and may be associated with additional complications depending on the severity of symptoms.¹



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