



# TWOP News

TWOP News exclusively delivering informations, ideas and connects people in The World of Optometry



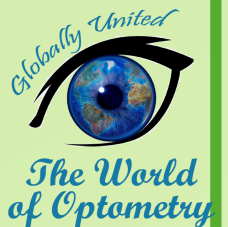
*The*

**THYROID**

*World of optometry*

**AWARENESS**

**MONTH**



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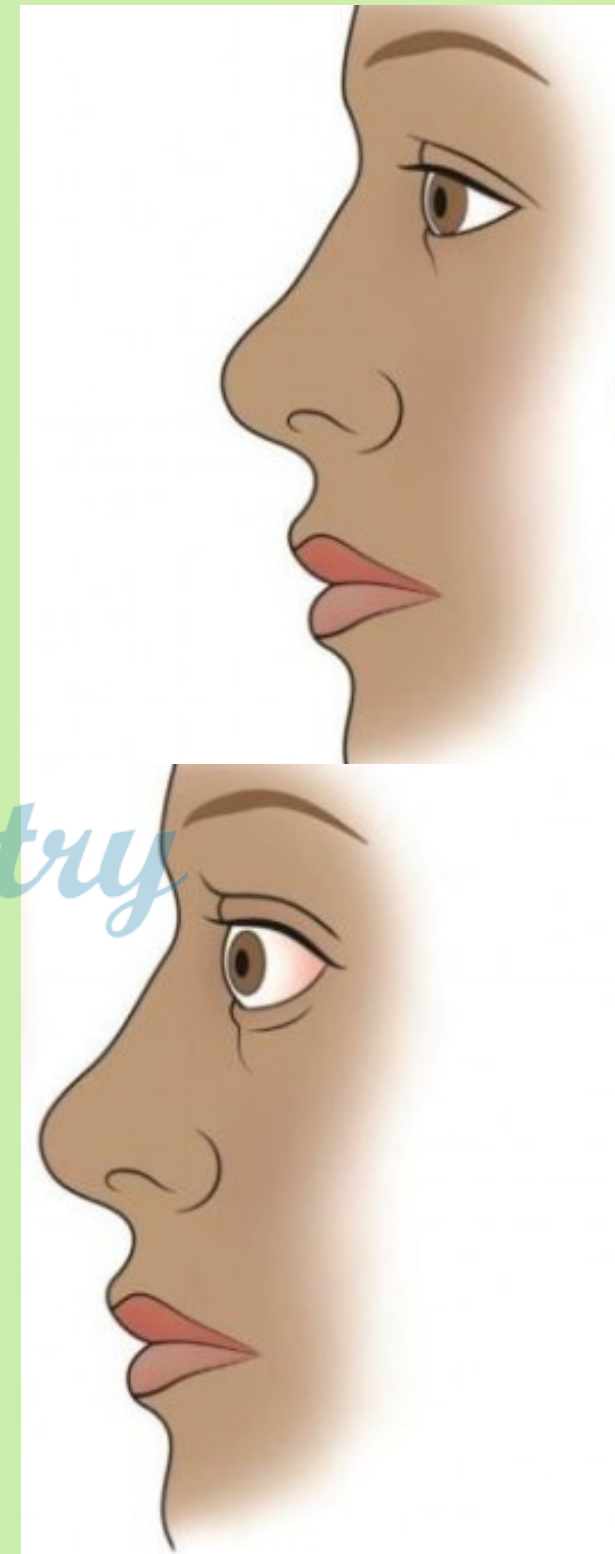
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# Introduction

- Thyroid Eye Disease (TED) is an inflammatory disease of the eye and the surrounding tissues, where the inflammation is due to autoimmunity in which the body's immune system is attacking tissues within and around the eye socket.
- is sometimes referred to by other names, such as **Graves' ophthalmopathy**, **Graves' orbitopathy**, **thyroid-associated ophthalmopathy**, and/or **thyroid orbitopathy**.

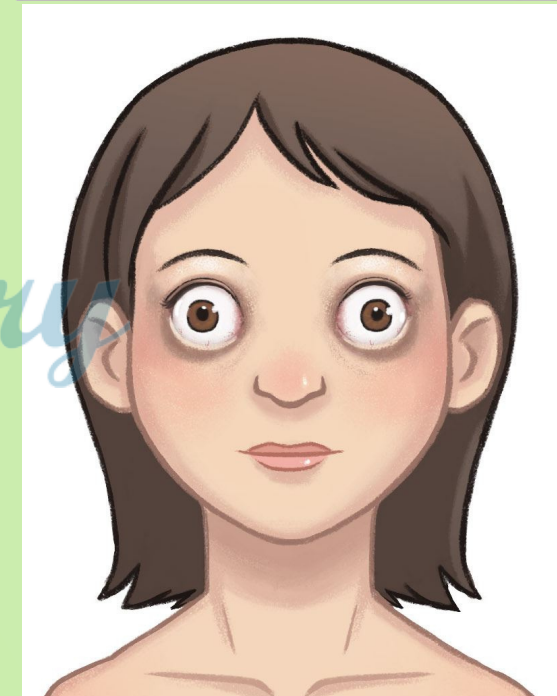
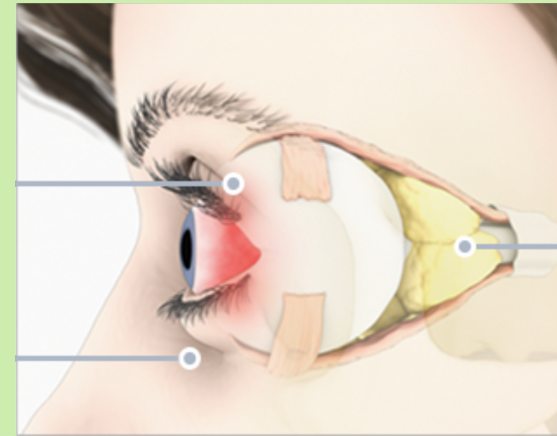


# Signs and Symptoms

Some of the most common manifestation of TED:

- Swelling in and around the eye socket
- Retraction (tightening) of the eyelids
- Strabismus (the eyes are not in alignment with each other) and diplopia (double vision)
- Dry, irritated, red eyes

\*Most patients with TED have signs and/or symptoms in both eyes, however the severity can differ between the eyes.



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# Signs and Symptoms

Let's have some visuals:

These patients have some of the classic signs and symptoms of TED. Note the swelling around the eye, retraction of the eyelid, and injection of the conjunctiva.

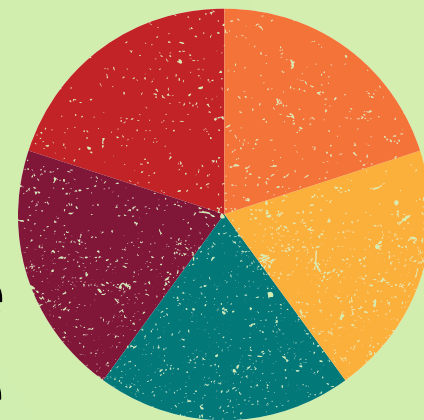


# Epidemiology



- TED is the most common cause of both orbital disease and exophthalmos (external protrusion of the eyeball from the socket) in North America and Europe.

- TED occurs more frequently in women than in men, with both sexes having two age ranges in which TED is most likely to be diagnosed.

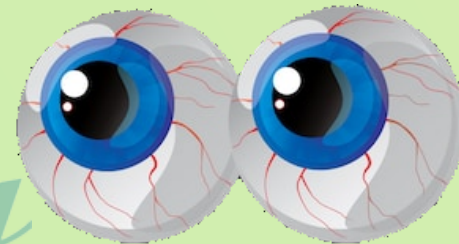
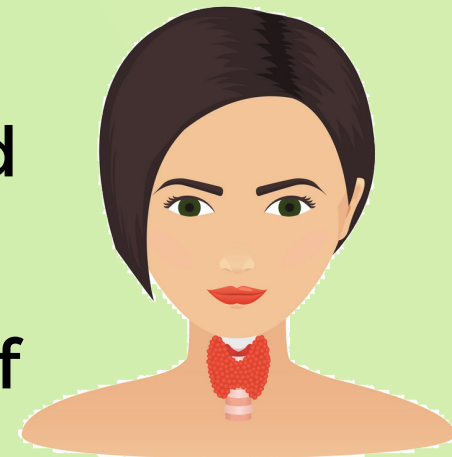


- **Females:** 16 per 100,000 (0.016%) females have TED
- Most diagnoses occur between 40-44 and 60-65 years old
- **Males:** 3 per 100,000 (0.003%) males have TED
- Most diagnoses occur between 45-49 and 65-69 years old



# Risk Factors

- Age
- Sex (females more likely to be diagnosed with TED)
- Ethnicity (higher incidence among people of black and Asian/Pacific Island ethnicity)
- Family history of TED or other thyroid disorders
- Smoking, or exposure to tobacco smoke
- Thyroid dysfunction (particularly hyperthyroid)
- Presence of thyroid stimulating hormone receptor antibodies/thyroid stimulating immunoglobulin Radioactive iodine therapy



# Severity of TED

The **signs, symptoms** and **severity** of TED can be worsened by both genetic and environmental factors:

- Smoking or exposure to cigarette smoke
  - Smokers are twice as likely to develop Graves' disease.
  - Smokers with Graves' disease are over 7x more likely to develop TED, when compared to nonsmokers.
  - Smokers tend to have a longer duration of the active phase of TED (2-3 years for smokers, compared to 1 year for nonsmokers).
- Selenium deficiency
- Vitamin D deficiency
- Increased stress levels



# Mechanism of TED

- TED patients produce autoantibodies (proteins of the immune system that aberrantly react against the body's own cells) that bind to fibroblast cells within the eye socket.
  - When these antibodies bind, they cause the fibroblast cells to produce and release chemical signals and biologic materials that lead to swelling and congestion in and around the eye socket.
  - The main autoantibody produced by TED patients is known as Thyroid Stimulating Immunoglobulin (TSI), and this autoantibody can be measured in the blood to help monitor disease activity.
- The amount of TSI present in a TED patient correlates with TED severity
- However, sometimes TED can occur without TSI formation





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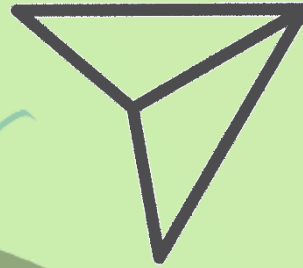
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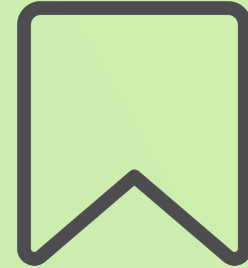
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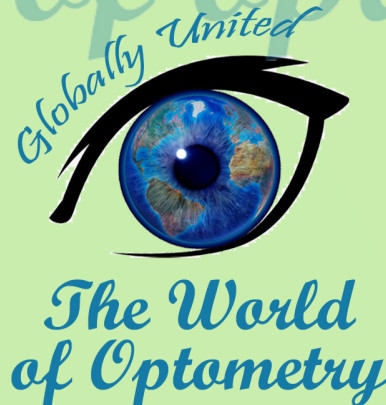


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