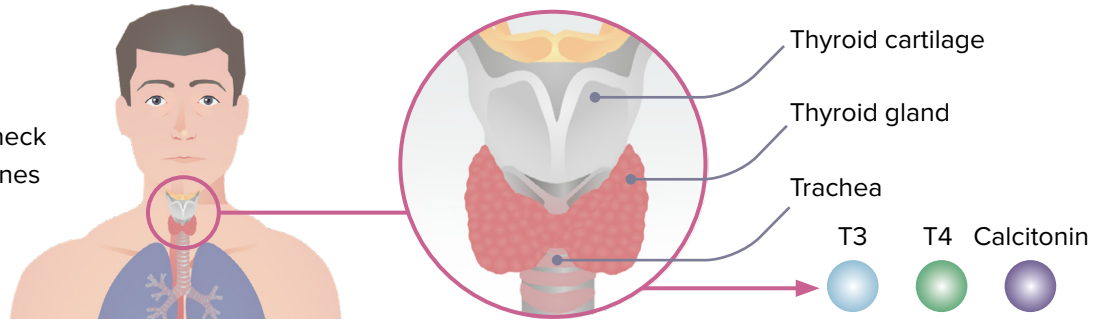# THE THYROID: FUNCTION AND DISORDERS

The thyroid is a butterfly-shaped hormone gland in the front of the neck that produces and releases hormones which regulate body metabolism, growth and development.

Thyroid cartilage
Thyroid gland
Trachea

T3   T4   Calcitonin

T3 (Thyroxine) and T4 (Triiodothyronine) Regulate:

- Body temperature
- Pulse
- Heartbeat

- Reflexes/activation of the nervous system
- Basal metabolic rate
- Brain maturation (in children)

- Growth (in children)
- Calcitonin ➜ decreasing Ca-levels in the bloodstream

LEARNING TIP:

Iodine is one of the main building blocks of T3 and T4. It is obtained from a diet that includes fish, dairy, eggs, or supplements such as iodized salt.

Common Disorders of the Thyroid

Graves' disease
Autoimmune disorder that attacks the thyroid gland, causing an overproduction of thyroid hormones

Hashimoto's thyroiditis
Autoimmune disorder involving chronic inflammation of the thyroid causing gradual decline in thyroid function leading to hypothyroidism

Thyroid storm
Life-threatening medical emergency due to extreme fever and heart issues, caused by high levels of thyroid hormone and low levels of thyroid-stimulating hormone (TSH) in the blood

Goiters
- An overall enlargement of the thyroid, or it may be the result of irregular cell growth that forms one or more lumps (nodules) in the thyroid
- Goiters may cause an increase or decrease in hormones produced.

Hypothyroidism Underactive thyroid, not enough hormones		Hyperthyroidism Overactive thyroid, too many hormones	
Symptoms			
Fatigue	Weight gain	Rapid and/or irregular heart rhythm	Fatigue related to sleep issues (insomnia, difficulty falling asleep)
Constipation	Depression		
Numbness/tingling	Muscle weakness	Mood disorders (e.g. irritability, anxiety, and panic attacks)	Irregular or light menstrual cycle
Dry, scaly skin	Brittle hair and nails		
Loss of sexual drive	Irregular menstrual cycles	Sweating and/or warm skin	Puffiness or bulging of eyes
Sensitivity to cold temperatures		Restlessness and hyperactivity	Weight loss
		Diarrhea	Tremor

NOTES