

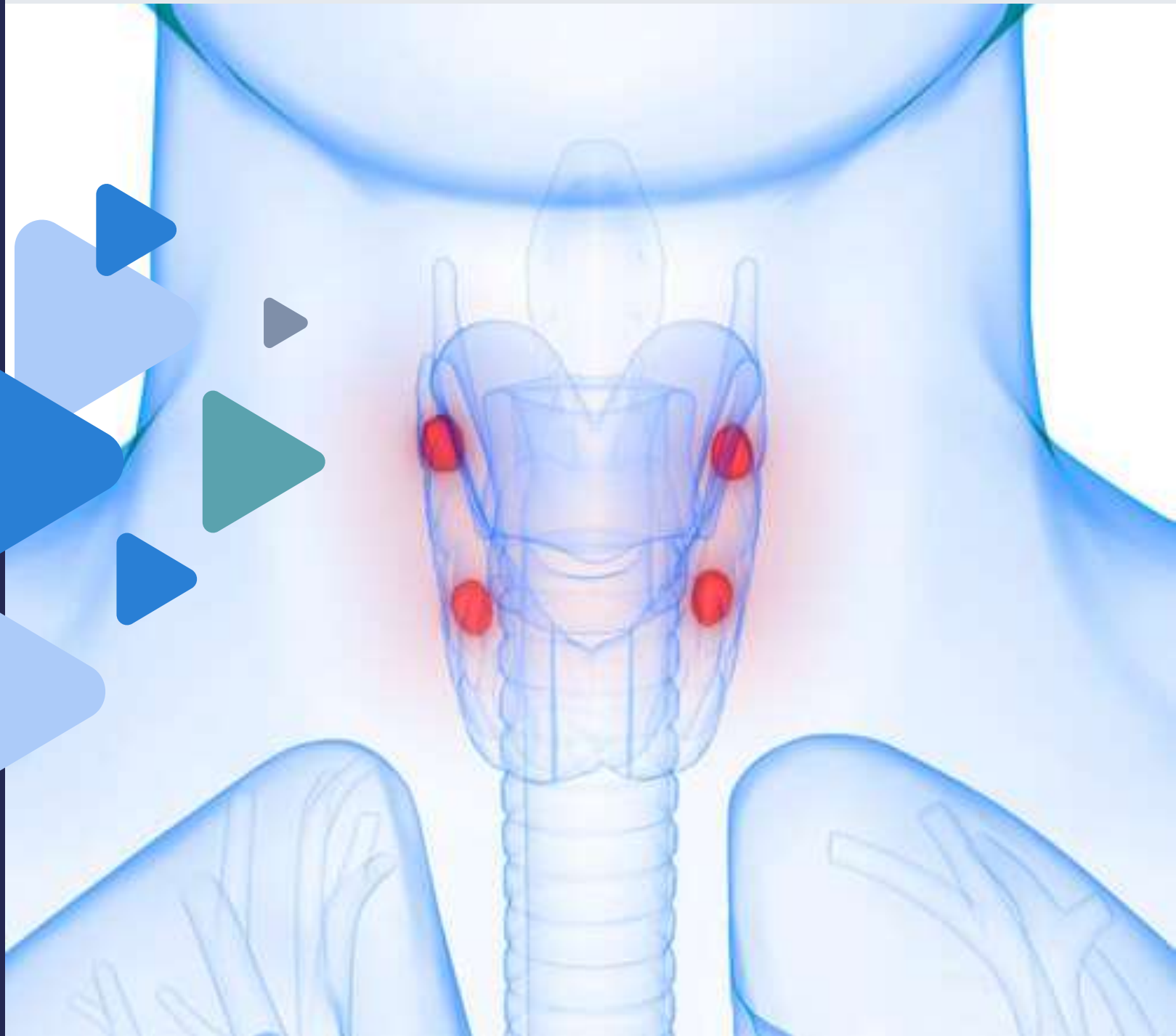
# Parathyroid Hormone

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## **ILOs:**

**1 Introduction**

**2 Define parathyroid hormone.**

**3 Discuss parathyroid hormone function.**

**4 Describe Control of parathyroid secretion by calcium ion concentration.**

**5 Discuss Mechanism of parathyroid Synthesis.**

**6 List type disorder of parathyroid hormone.**

## Introduction...

□ Parathyroid hormone is secreted by four parathyroid glands, so these tiny glands are present in the neck behind the thyroid gland. Parathyroid hormone controls and regulates the levels of calcium in the blood and raise their levels when they are too low and this gland performs it's function through its actions on the bones, intestines and the kidneys

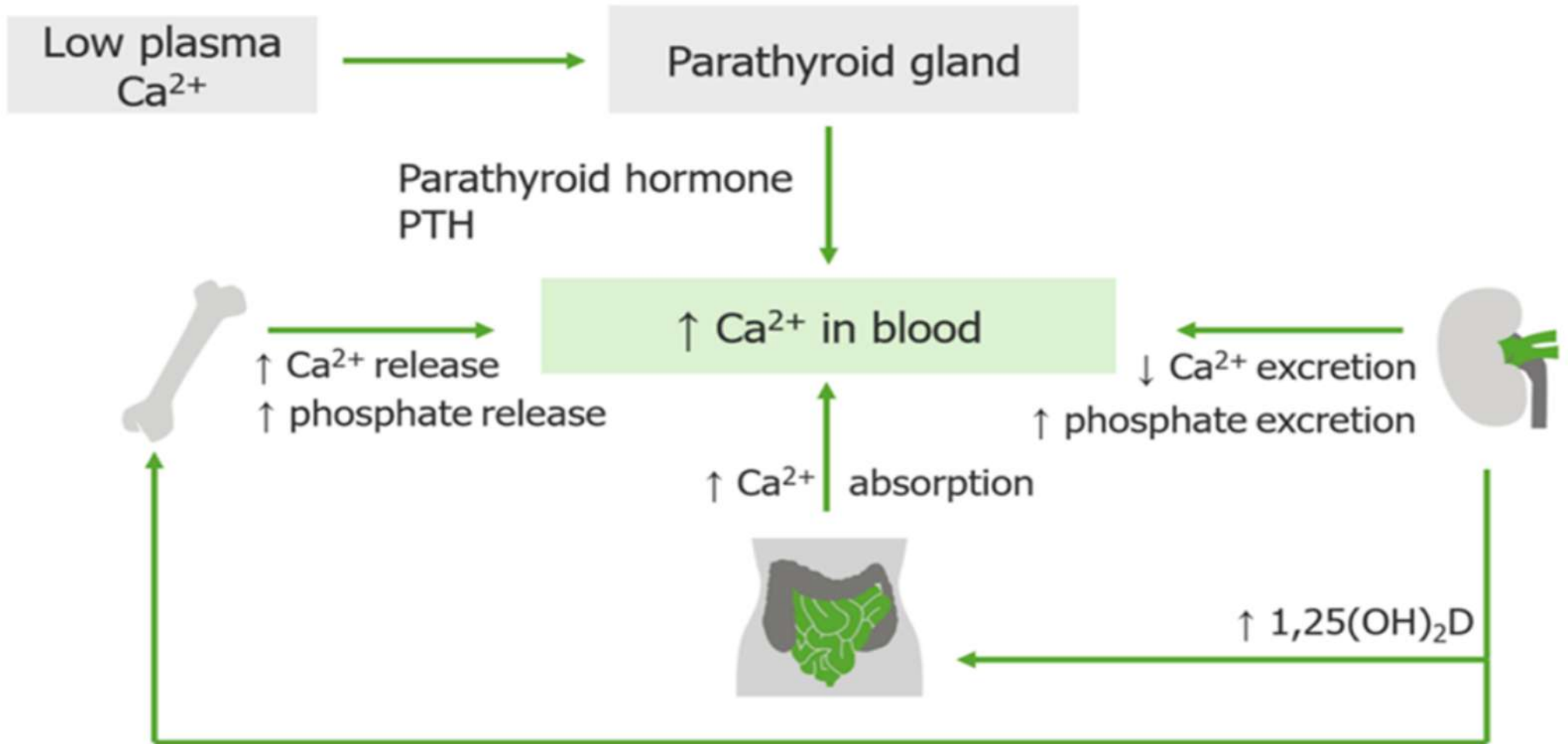


## Define parathyroid hormone...

- ❑ Parathyroid hormone is the most important endocrine regulator of calcium and phosphorus concentration in extracellular fluid. This hormone is secreted from cells of the parathyroid glands and finds its major target cells in bone and kidney.

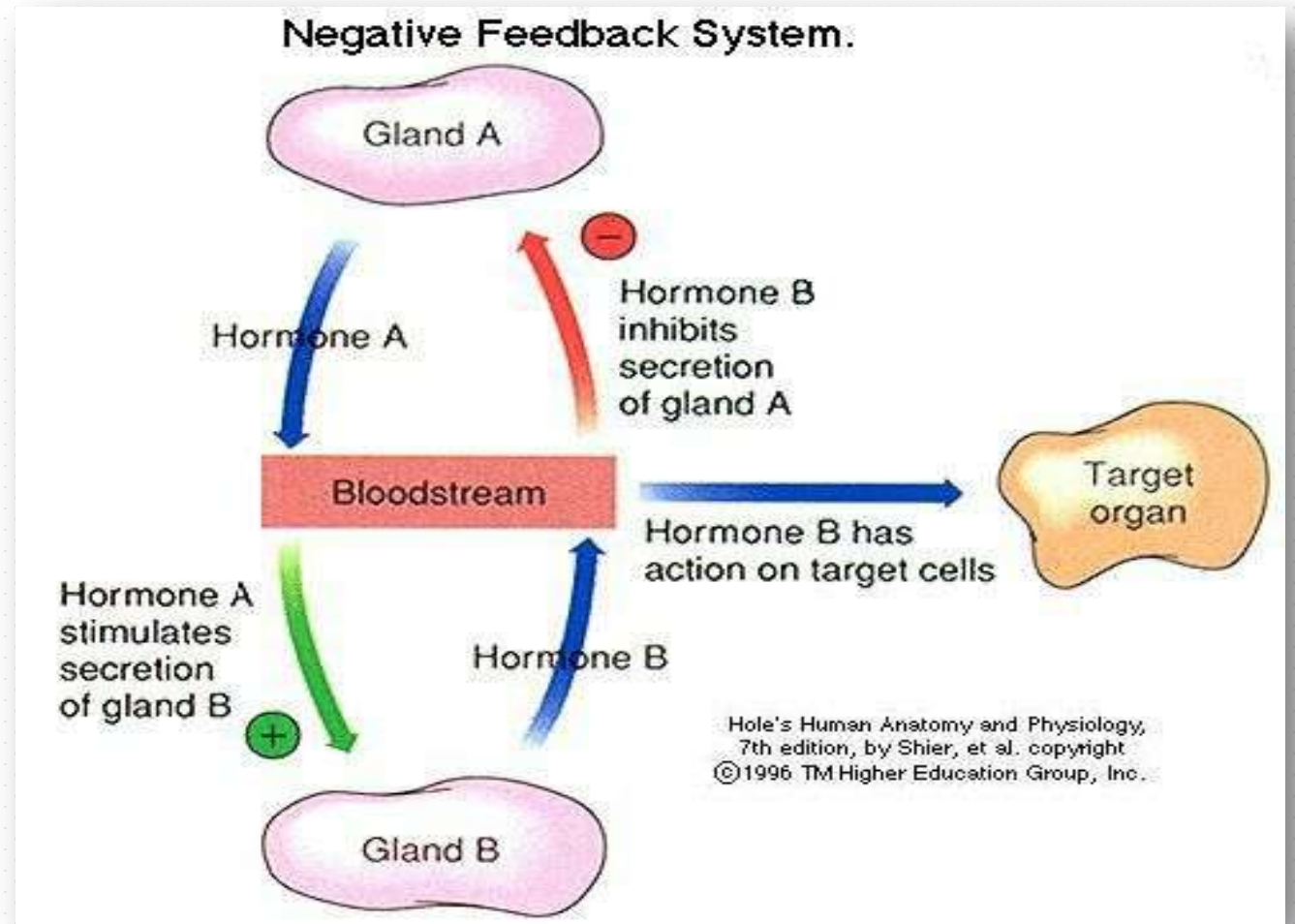


## Functions of parathyroid hormone...



# Control of parathyroid secretion...

- Parathyroid hormone is mainly controlled by the negative feedback of calcium levels in the blood to the parathyroid glands. Low calcium levels in the blood stimulate parathyroid hormone secretion, whereas high calcium levels in the blood prevent the release of parathyroid hormone



# Mechanism of parathyroid synthesis...

 sqadia.com

Low  $[Ca^{2+}]$

Calcium(-)

CaR





## Disorders of parathyroid hormone...

### ☐ Hyperparathyroidism

- Parathyroid gland release high level of parathyroid hormone

#### Causes

Tumor

Vitamin D deficiency

Calcium deficiency

#### Treatment

Surgical removal of 1-2 of glands

Regulate levels of Ca and vit D





## Hypoparathyroidism

➤ **Parathyroid gland does not make enough parathyroid hormone**

### □ **causes**

- ✓ Autoimmune disease
- ✓ Cancer radiation treatment
- ✓ Low magnesium level



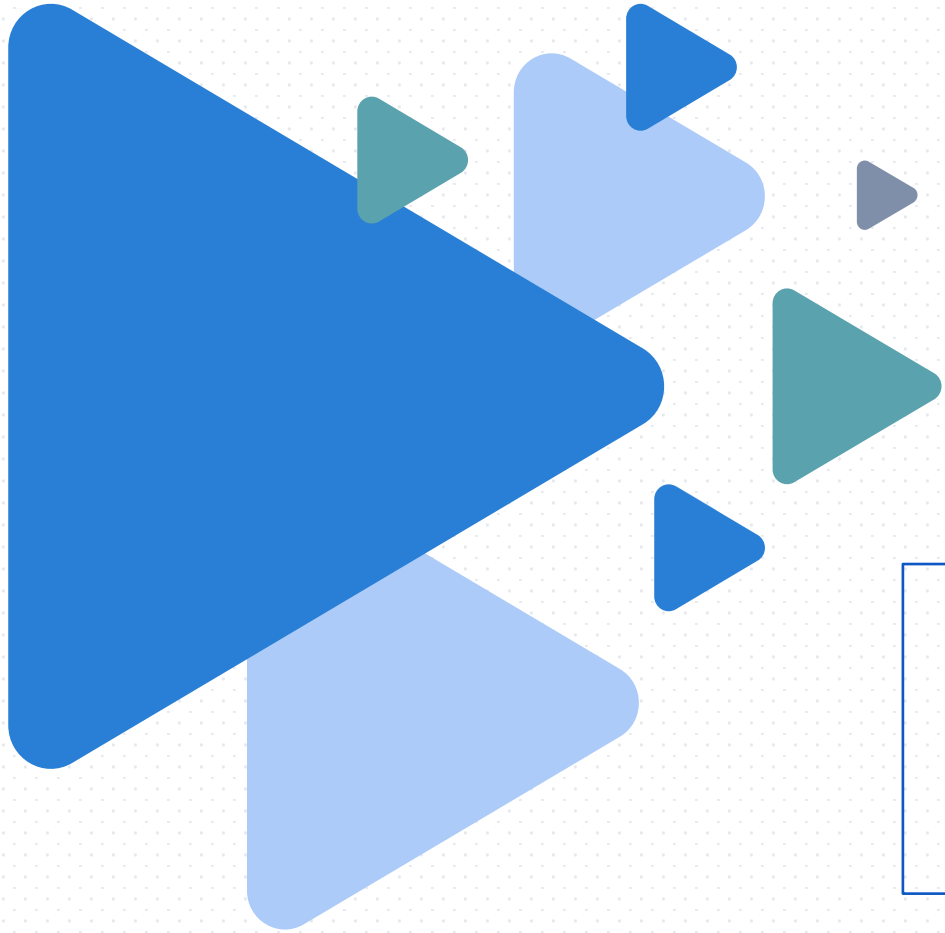
## Summary...

- ❑ Parathyroid hormone is secreted by four parathyroid glands, it controls and regulates the levels of calcium in the blood ,by its actions on the bones, intestines and the kidneys,which is mainly controlled by the negative feedback of calcium levels in the blood to the parathyroid glands.
- ❑ Its levels increases in cases of hyperparathyroidism which may caused by :Tumor, Vitamin D deficiency, Calcium deficiency .
- ❑ While it levels decreases in cases of hypoparathyroidism which may caused by : Autoimmune disease , radiotherapy or chemotherapy, Low magnesium levels.



## References...

- ✓ <https://byjus.com/biology/parathyroid-hormone/>
- ✓ <https://www.healthline.com/health/hypoparathyroidism#causes>
- ✓ <https://www.yourhormones.info/hormones/parathyroid-hormone/>
- ✓ <https://youtube.com/watch?v=bLETdKf49GU&feature=share>



**THANK YOU FOR  
LISTINING ...**

