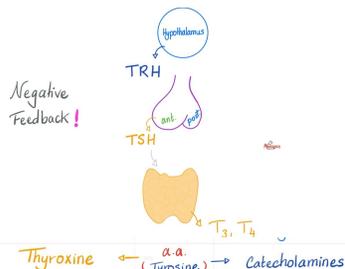
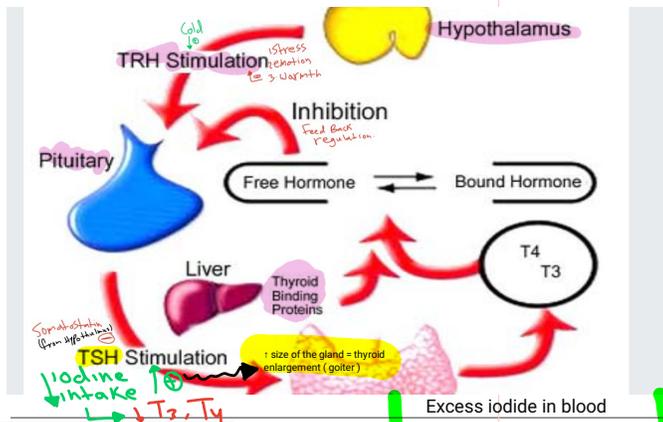


Thyroid gland

L4

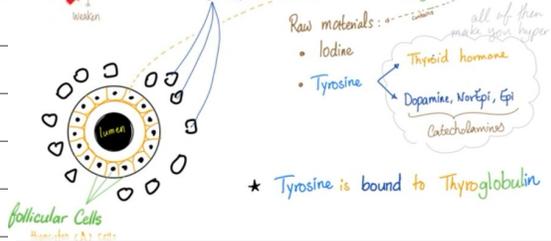


Regulation of thyroid hormone



4 hormones secreted:

- T₄ (Thyroxine)
- T₃
- rT₃
- Calcitonin



Thyroid Hormone Actions

Calorigenic action
 ↑↑ BMR → ↑↑ Body Temperature
 ↑↑ O₂ consumption

Brain development
 increases in reticular activating system

Carotene → **Thyroid Hormone** → **Vitamin A**

Permissive actions on catecholamines
 Thyroid Hormone enhances the action of catecholamines ... How?
 → by ↑↑ the number & sensitivity of β receptors.

Permissive actions on
 Ovarian Cycle
 Spermatogenesis

On protein metabolism:
 - anabolic
 - normal level
 - catabolic breakdown in high level

On carbohydrate metabolism:
 - increase glucose absorption from GIT

lower blood lipid and cholesterol

On CVS:
 - increase all cardiac properties
 - Cutaneous VD
 - increased pulse pressure.

On respiration:
 - increase pulmonary ventilation

↑↑ GI mobility
 - increase appetite and food intake.

Excess iodide in blood
 ↓ T₃, T₄
 TSH ⊖ inhibition

Goiter

non-inflammatory and nonmalignant thyroid enlargement.

Toxic goiter (Graves' disease)

It is an autoimmune disease in which the immune system secretes auto-antibodies called long-acting thyroid stimulators (LATS).



Simple (nontoxic) goiter

associated with normal thyroid function

It is due to: Mild iodine deficiency During puberty and pregnancy, due to increase need for iodine.



Colloid Goiter:

- severe iodine deficiency
- hypothyroidism



وكان من دعائه ﷺ "اللهم اجعل في قلبي نوراً".



سُبْحَانَ اللَّهِ ذِكْرُهُ
 سُبْحَانَ اللَّهِ الْعَظِيمِ