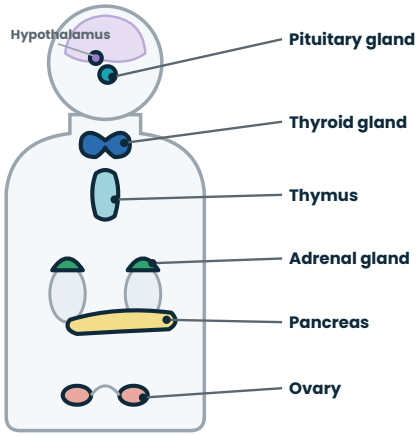
# Endocrine System

**Study Sheet · Learn It with Prof. Melanie**

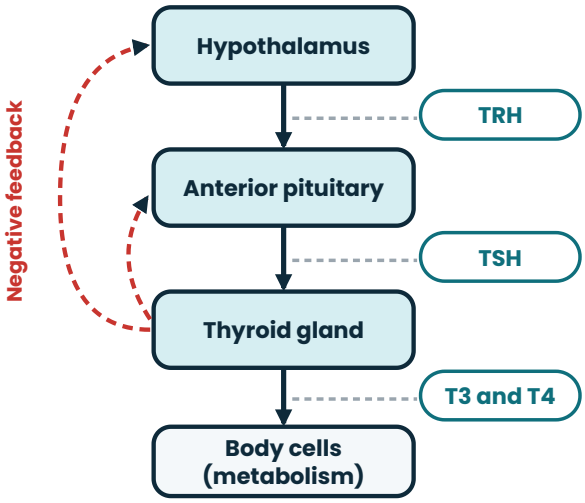
## 1 Glands



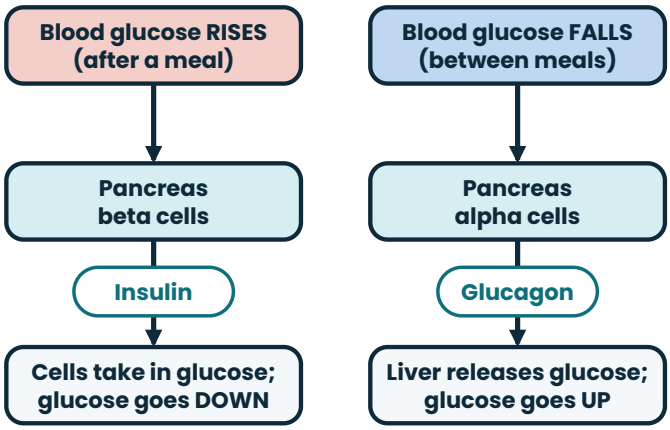

## 2 Glands and Hormones

| | |
|---|---|
| **Ant. pituitary** | GH, TSH, ACTH, FSH, LH, prolactin |
| **Post. pituitary** | ADH, oxytocin (from hypothalamus) |
| **Pineal** | Melatonin |
| **Thyroid** | T3, T4; calcitonin ↓ Ca |
| **Parathyroids** | PTH ↑ Ca |
| **Thymus** | Thymosin (T cells) |
| **Adrenal cortex** | Cortisol, aldosterone |
| **Adrenal medulla** | Epinephrine |
| **Pancreas** | Insulin (β), glucagon (α) |
| **Gonads** | Estrogen, progesterone, testosterone |

## 3 Thyroid Feedback




## 4 Glucose Control




Most hormones use **negative feedback**. Oxytocin in labor is **positive feedback**.

# Endocrine System · Study Sheet

## 5 Endocrine Disorders

| Disorder | Key facts | Disorder | Key facts |
|---|---|---|---|
| **Hypothyroidism** | Slow, cold, weight gain; Hashimoto's | **Cushing's** | ↑ cortisol; moon face, buffalo hump |
| **Hyperthyroidism** | Fast, hot, weight loss; Graves' | **Addison's** | ↓ cortisol; low BP, dark skin |
| **Goiter** | Enlarged thyroid | **Pheochromocytoma** | Adrenal tumor; BP spikes |
| **Acromegaly** | ↑ GH in adults | **Hyperparathyroidism** | ↑ Ca; kidney stones |
| **Gigantism** | ↑ GH in children | **Hypoparathyroidism** | ↓ Ca; tetany |
| **Diabetes insipidus** | ↓ ADH or ADH resistance; dilute urine | **PCOS** | Irregular periods, insulin resistance |

## 6 Diabetes Lab Values (ADA)

| Test | Normal | Prediabetes | Diabetes |
|---|---|---|---|
| **A1c** | <5.7% | 5.7–6.4% | ≥6.5% |
| **Fasting** | <100 | 100–125 | ≥126 |
| **2-hr OGTT** | <140 | 140–199 | ≥200 |

Glucose in mg/dL. Confirm with repeat testing.

## 7 Diabetes Essentials

- **Type 1:** autoimmune; needs insulin · **Type 2:** insulin resistance
- **3 P's:** polyuria, polydipsia, polyphagia
- **Hypoglycemia:** <70; rule of 15
- **DKA:** fruity breath, deep breathing; emergency
- **Yearly:** eye, kidney, and foot exams

## 8 MA Skills

- **Fingerstick glucose:** QC, check strips, side of fingertip, record exactly, report abnormal results
- **Insulin:** subcutaneous; rotate sites; unopened in refrigerator · rapid lispro · long glargine
- **Fasting:** 8 hours, water OK · **Thyroid:** TSH first · **Foot exam:** monofilament

## 9 Word Parts

| Part | Meaning | Part | Meaning | Part | Meaning |
|---|---|---|---|---|---|
| **aden/o** | Gland | **glyc/o** | Sugar | **-tropin** | Stimulating |
| **adren/o** | Adrenal | **calc/o** | Calcium | **-dipsia** | Thirst |
| **thyr/o** | Thyroid | **acr/o** | Extremities | **eu-** | Normal |


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