



**Faculty of Applied Science**  
**Medical Technical Radiology**  
Radiographic and Medical  
Terminology II  
(MTR110)

## Lecture one

# ENDOCRINE SYSTEM TERMINOLOGY

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Spring Semester

June 11th , 2025

# Outline



What is Endocrine System?  
Major Endocrine Glands  
Essential Endocrine Terminology  
Common Hormones and Their Functions  
Prefixes Related to Endocrine system  
Suffixes Related to Endocrine system  
Common Endocrine Disorders  
Clinical Laboratory Terms  
**Class activity**  
**References**

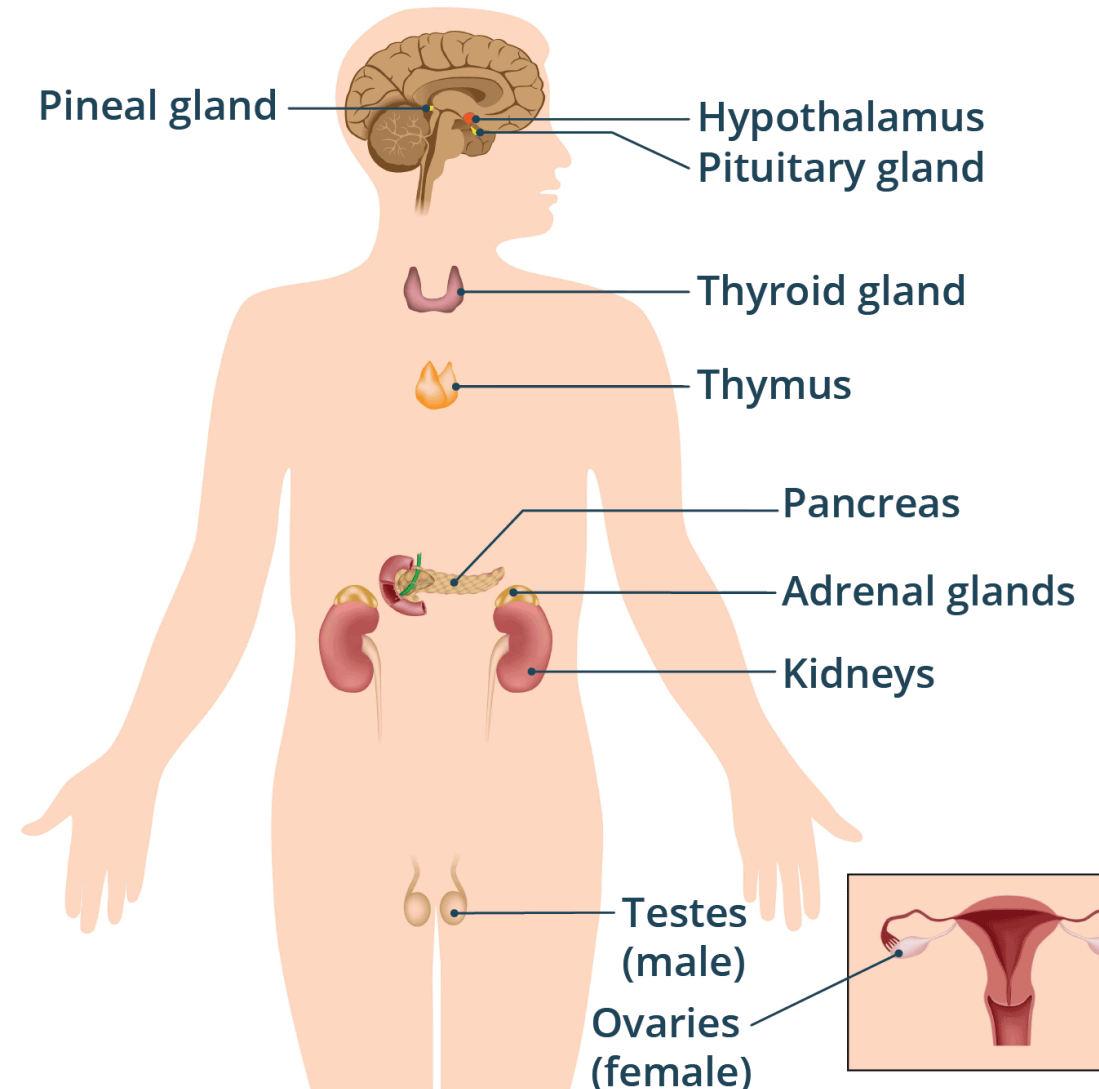


# Learning outcomes

- By the end of this lesson, students will be able to:
  1. Define the endocrine system and its functions.
  2. Identify major endocrine glands.
  3. Understand common endocrine terminology.
  4. Recognize hormones and their functions.
  5. Apply terminology in medical and laboratory settings.

# What is Endocrine System

- The endocrine system is a network of glands and organs that produce, store, and release hormones into the bloodstream. These hormones regulate many body functions, including growth, metabolism, reproduction, stress response, fluid balance, and blood glucose levels.





# Major Endocrine Glands

## **Hypothalamus**

Controls the pituitary gland.

Maintains homeostasis.

## **Pituitary Gland**

Known as the "**master gland.**"

Controls other endocrine glands.

## **Thyroid Gland**

Regulates metabolism and growth.

## **Parathyroid Glands**

Regulate calcium levels in the blood.

# Major Endocrine Glands

- **Adrenal Glands**
- Produce stress hormones such as cortisol and adrenaline.
- **Pancreas**
- Produces insulin and glucagon.
- **Ovaries**
- Produce estrogen and progesterone.
- **Testes**
- Produce testosterone.
- **Pineal gland**
- Produce melatonin

# Essential Endocrine Terminology



Term	Meaning
Endocrine	Hormone secretion directly into the bloodstream
Hormone	Chemical messenger produced by glands
Gland	Organ that produces and releases substances
Target Cell	Cell affected by a specific hormone
Receptor	Protein that binds a hormone
Homeostasis	Maintenance of a stable internal environment
Metabolism	Chemical processes that provide energy
Secretion	Release of a substance from a cell or gland
Feedback Mechanism	System that regulates hormone production
Circadian Rhythm	Biological processes occurring in a 24-hour cycle

# Common Hormones and Their Functions



Hormone	Source	Function
Insulin	Pancreas	Lowers blood glucose
Glucagon	Pancreas	Raises blood glucose
Thyroxine (T4)	Thyroid	Controls metabolism
Triiodothyronine (T3)	Thyroid	Increases metabolic rate
Cortisol	Adrenal Cortex	Stress response
Adrenaline (Epinephrine)	Adrenal Medulla	Fight-or-flight response

# Common Hormones and Their Functions



<b>Growth Hormone (GH)</b>	<b>Pituitary</b>	<b>Stimulates growth</b>
Prolactin	Pituitary	Milk production
Antidiuretic Hormone (ADH)	Pituitary	Water balance
Oxytocin	Pituitary	Labor and milk ejection
Estrogen	Ovaries	Female reproductive development
Testosterone	Testes	Male reproductive development

# Prefixes Related to Endocrine system

Prefix	Meaning	Example
Hyper-	Excessive, above normal	Hyperglycemia
Hypo-	Below normal	Hypothyroidism
Adreno-	Adrenal gland	Adrenocortical
Thyro-	Thyroid gland	Thyrotoxicosis
Pancreato-	Pancreas	Pancreatopathy



# Suffixes Related to Endocrine system

Suffix	Meaning	Example
-emia	Blood condition	Hyperglycemia
-ism	Condition	Hyperthyroidism
-oma	Tumor	Adenoma
-pathy	Disease	Endocrinopathy
-ectomy	Surgical removal	Thyroidectomy

# Common Endocrine Disorders

Disorder	Description
Diabetes Mellitus	High blood glucose due to insulin deficiency or resistance
Hypothyroidism	Underactive thyroid gland
Hyperthyroidism	Overactive thyroid gland
Cushing Syndrome	Excess cortisol production
Addison Disease	Insufficient cortisol production
Acromegaly	Excess growth hormone in adults
Gigantism	Excess growth hormone in children

# Clinical Laboratory Terms

Term	Meaning
Fasting Blood Glucose	Blood sugar after fasting
HbA1c	Average blood glucose over 2–3 months
TSH	Thyroid-Stimulating Hormone
T3	Triiodothyronine
T4	Thyroxine
Cortisol Test	Measures adrenal function
ACTH	Adrenocorticotropic Hormone

# Class activity

## Match the Hormone with Its Function

Hormone	Function
Insulin	
Cortisol	
ADH	
Growth Hormone	
Thyroxine	



# Next lecture

- Group Presentation
- Urinary System Terminology



# References

- Tortora's Principles of Anatomy and Physiology. (2023). Wiley.
- Medical Terminology for Health Professions. (2021). Cengage Learning.
- American Association of Clinical Endocrinology guidelines and educational resources.