

# The Physiology Of Endocrine System

## I. INTRODUCTION

1. Organ Systems.
2. Control Systems
3. Comparison Of The Control Systems.
4. Types Of Hormone Action.
5. Physiological Effects Of Hormones On The Body Functions.
6. Chemistry Of The Hormones.
7. Regulation Of Hormone Secretions.
8. Modulation Of Target Cell Sensitivity.
9. Hormonal Interaction.
10. Mechanism Of Hormones Action.

## II. PITUITARY GLAND

1. The Anatomic Location Of The Pituitary Gland.
2. Posterior Pituitary Gland.
3. The Relationship Of The Pituitary Gland To The Hypothalamic Neurosecretory Releasing Hormones.
4. Cell Types Of Anterior Pituitary Hormones.
5. Hypophysiotropic Hormones On The Anterior Pituitary Gland.
6. Growth And Growth Hormones.
7. Regulation Of Growth Hormone Secretion
8. Effects Of Hypophysectomy.
9. Oversecretion Of Growth Hormone.

### **III. ADRENAL GLAND**

1. The Anatomic Location Of Adrenal Glands.
2. The Regulation Of Adrenal Cortex Hormones Secretion.
3. Section Showing Both The Medulla & The Zone Of The Cortex As Well As The Hormones They Secrete.
4. Glucocorticoids.
5. Mineralocorticoids.
6. Biosynthetic Pathways For Androgens & Estrogens In The Adrenal Cortex.

### **IV. THYROID GLAND**

1. The Anatomic Location Of The Thyroid Gland.
2. The Thyroid Hormones Synthesis & Storage.
3. Thyroid Hormones Turnover.
4. The Physiological Actions Of Thyroid Hormones.
5. Hypothyroidism.
6. Hyperthyroidism.

### **V. PARATHYROIDS.**

1. The Anatomic Location Of The Parathyroid Glands.
2. Cell Types Of The Parathyroid Gland
3. Effects Of The Parathyroid Hormone.
4. Underactivity Of The Parathyroids.
5. Overactivity Of The Parathyroids.
6. Vitamin D And It's Metabolism.
7. Effects Of Vitamin D On Calcium & Phosphate Metabolism.
8. Some Of The Physiological Actions Of Calcium.
9. Major Inorganic Constituents Of Bone.
10. Distribution Of Calcium In Normal Human Plasma.
11. Calcitonine.

12. Effects Of Calcitonine On Calcium & Phosphate Metabolism.
13. Metabolic Bone Diseases (Abnormality Of Calcium Metabolism )
  - a. Rickets
  - b. Osteomalacia
  - c. Osteoporosis.

## **VI. PANCREAS**

1. Schematic View Of The Pivotal Location Of The Pancreatic Islets.
2. Major Cell Types In A Typical Islets Of Langerhans
3. Hormonal Regulation Of Plasma Glucose Levels.
4. The Insulin & The Insulin Receptors.
5. Metabolic , Hormonal , And Neural Influences On Insulin Secretion.
6. Plasma Glucose Concentration (mg/100 ml) .
7. Biological Effects Of Insulin.
8. Diabetes Mellitus.
9. Hypoglycemic Coma
10. Type II Diabetes Handling.
11. Human Obesity.
12. Glucagon.
13. Glucagon's Principle Target And It's Actions.