Medical Terminology

Lec 10

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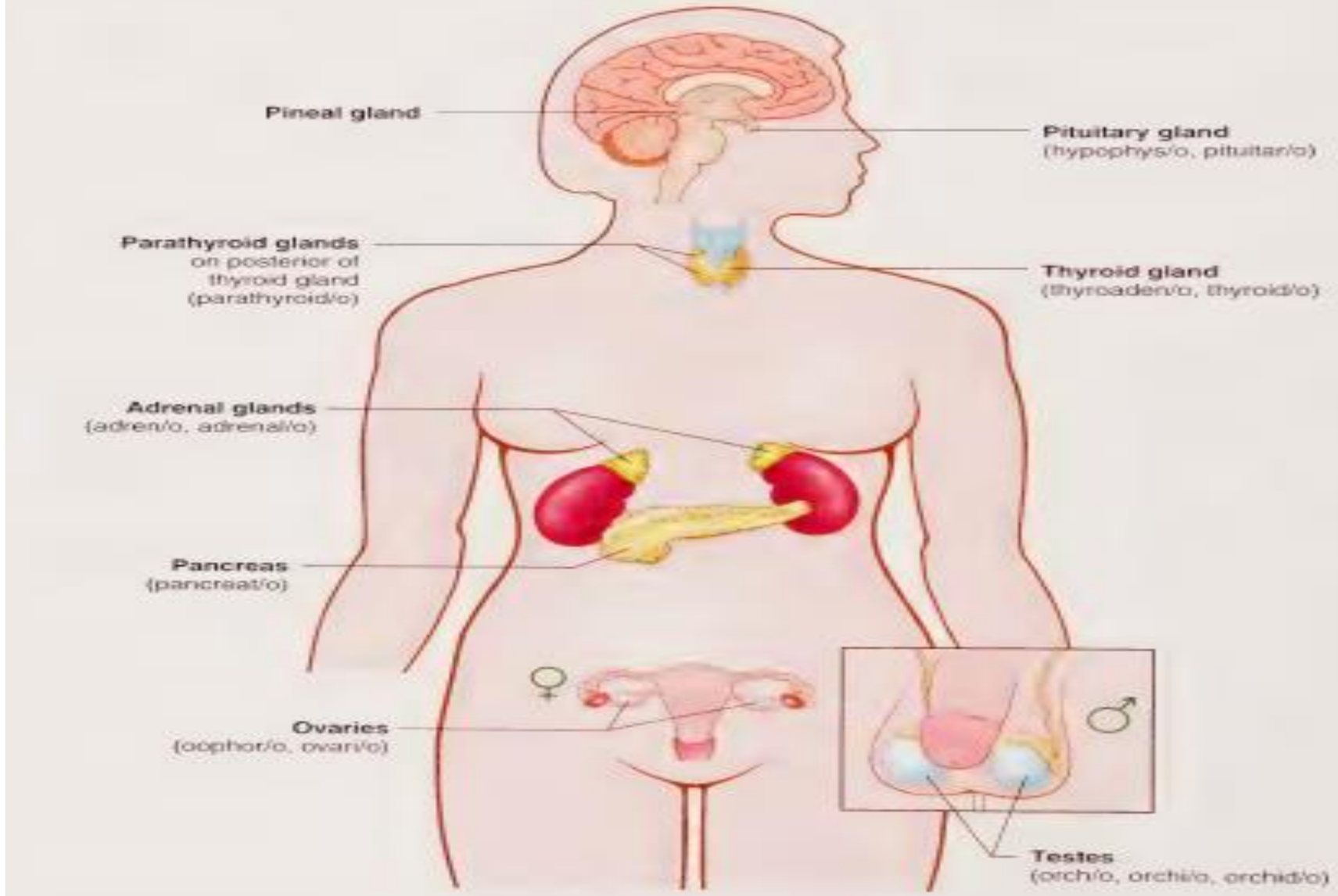
Endocrine System

ANATOMY

ENDOCRINE SYSTEM

ANATOMY



Endocrine glands secrete (form and give off) hormones into the bloodstream. The hormones travel throughout the body, affecting organs (including other endocrine glands) and controlling their actions. *(Modified from Chabner D-E:* The Language of Medicine, *ed 11, St. Louis, 2017, Elsevier.)*

Combining Form	Meaning
Pineal/o	Pineal gland
adren/o, adrenal/o	adrenal gland
hypophys/o, pituitary/o	pituitary gland
oophor/o, ovari/o	ovary
orch/o, orchi/o , orchid/o	Testis; testicle
pancreat/o	pancreas
parathyroid/o	parathyroid gland
thyroaden/o thyroid/o	thyroid gland

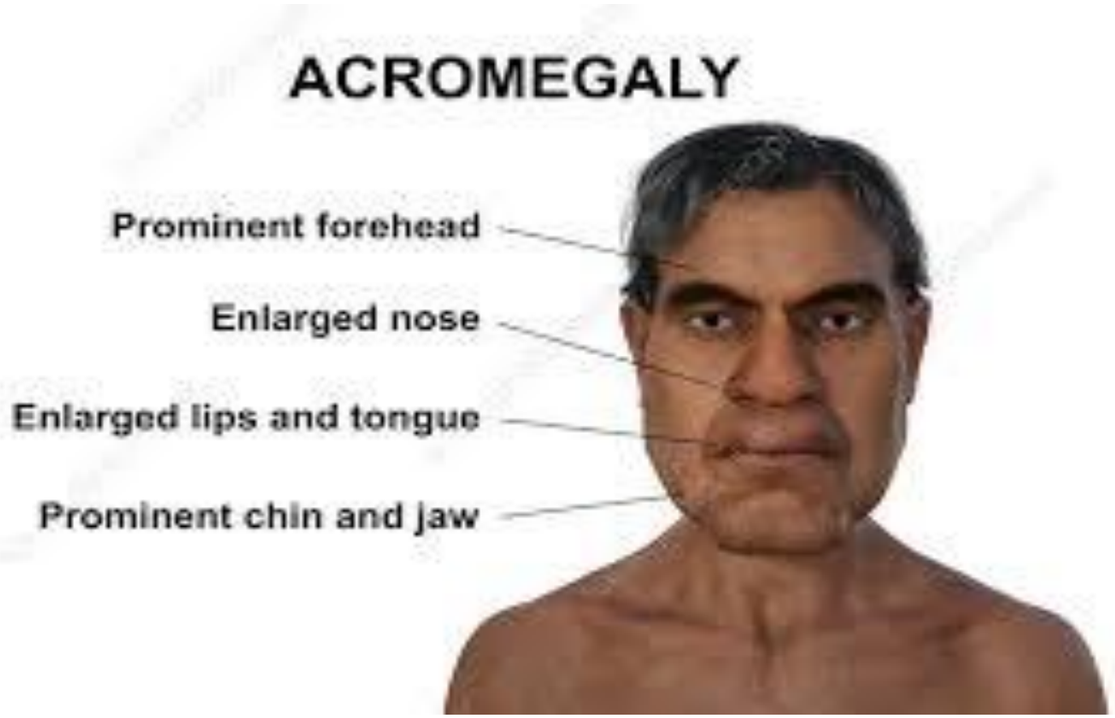
Pathology

Acromegaly: Enlargement of extremities caused by hypersecretion from the anterior portion of the pituitary gland after puberty.

Cushing syndrome: Group of clinical features produced by excess secretion of cortisol from the adrenal cortex. These signs and symptoms include obesity, moonlike facies (fullness of the face), hyperglycemia, and osteoporosis.

Diabetes mellitus: Disorder of the pancreas that causes an increase in blood glucose levels (hyperglycemia). Type 1 diabetes, with onset usually in childhood, involves complete deficiency of insulin in the body. Type 2 diabetes, with onset usually in adulthood, involves some insulin deficiency and resistance of tissues to the action of insulin.

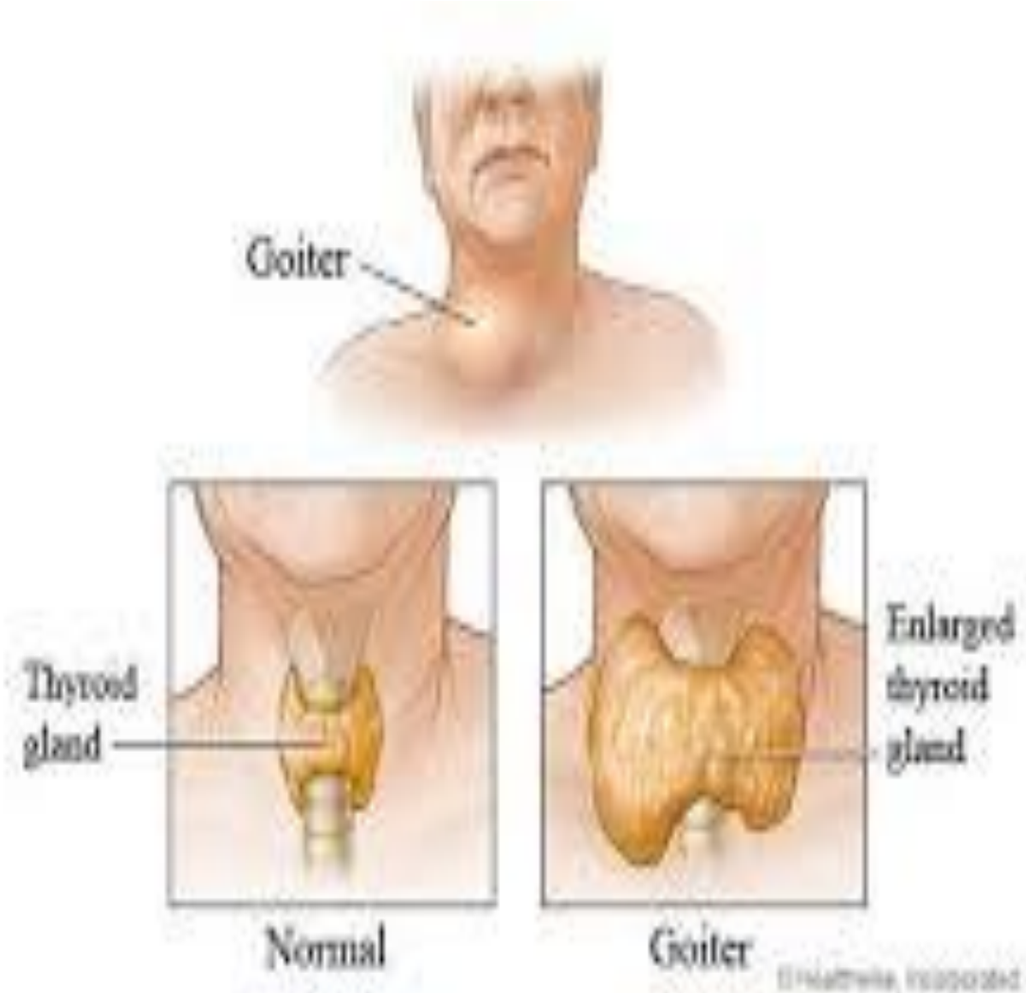
Cushing syndrome



Goiter: Enlargement of the thyroid gland.

Hyperthyroidism: Over activity of the thyroid gland; also called Graves disease.

Exophthalmus in graves disease


Goiter
Thyroid gland
Enlarged thyroid gland
Normal
Goiter

Laboratory Tests & Diagnostic Procedures

Computed tomography (CT scan): Cross-sectional x-ray images of the pituitary gland and other endocrine organs.

Exophthalmometry: Measurement of eyeball protrusion (exophthalmos) as an indicator of Graves disease (hyperthyroidism).

Fasting blood sugar (glucose) test: Measurement of glucose levels in a blood sample taken from a fasting patient.

Glucose tolerance test Measurement of glucose levels in a blood sample taken from a fasting patient and in specimens taken 30 minutes, 1 hour, 2 hours, and 3 hours after the ingestion of 75 g of glucose. Delayed return of blood glucose to normal levels indicates diabetes mellitus.

Magnetic resonance imaging (MRI): Magnetic waves produce images of the pituitary gland, and other endocrine organs in all three planes of the body.

Radioactive iodine uptake: Measurement of how much of a radioactive element (iodine) is absorbed by the thyroid gland. The radioactive iodine is given by mouth and measured as evidence of thyroid function.

Serum and urine tests: Measurement of hormones, electrolytes (such as sodium and potassium), and glucose levels in blood (serum) and urine as indicators of endocrine function.

Thyroid function tests: Measurement of levels of T4 (thyroxine), T3 (triiodothyronine), and TSH (thyroid-stimulating hormone) in the bloodstream.

Thyroid scan: Procedure in which a radioactive compound, injected intravenously, localizes in the thyroid gland. A scanning device produces an image showing the presence of tumors or nodules in the gland.

ABBREVIATIONS

ACTH = Adrenocorticotropic hormone (from the pituitary gland)

DM Diabetes mellitus

GH Growth hormone (secreted by the pituitary gland)

GTT Glucose tolerance test (measures the ability to respond to a glucose load; test for diabetes mellitus)

HbAlc Hemoglobin Alc measures the average amount of glucose in red blood cells. Useful to follow control of glucose in diabetic patients.

ABBREVIATIONS

K Potassium (an electrolyte)

Na Sodium (an electrolyte)

RAIU Radioactive iodine uptake (test for thyroid function)

T3 Triiodothyronine (hormone from the thyroid gland)

T4 Thyroxine (hormone from the thyroid gland)

TSH Thyroid-stimulating hormone (from the pituitary gland)

A Match the term in Column I with its location in Column II.

Column I		Column II
1. thyroid gland		A. Two paired male glands located in the scrotal sac
2. ovaries		B. Organ at the base of the brain in the sella turcica (round depression at the base of the skull)
3. testes		C. Gland in the neck on either side of the trachea
4. parathyroid glands		D. Two glands, one above each kidney
5. pituitary gland		E. Gland adjacent to the stomach
6. pancreas		F. Four glands behind the thyroid gland
7. adrenal glands		G. Two paired organs in the female abdomen

9 Match the combining form in Column I with the secretion or function in Column II.

Column I	Column II
1. hypophys/o	A. Regulates calcium in the blood and bones
2. orchid/o	B. Secretes epinephrine (adrenaline) and cortisol
3. oophor/o	C. Secretes insulin, which allows sugar to enter cells
4. thyroaden/o	D. Secretes testosterone
5. pancreat/o	E. Secretes growth hormone and hormones that control the thyroid gland, ovaries, and testes
6. adren/o	F. Secretes estrogen and progesterone
7. parathyroid/o	G. Secretes thyroxine (T4), which increases metabolism of body cells

4 Match the medical term in Column I with its meaning in Column II

Column I	Column II
1. thyroadenitis	A. Disease of the adrenal glands
2. oophoritis	B. Pertaining to the pituitary gland
3. orchiopexy	C. Inflammation of the thyroid gland
4. hyperparathyroidism	D. Removal of the thyroid gland
5. thyroidectomy	E. Surgical fixation of an undescended testicle
6. adrenopathy	F. Increased secretion of parathyroid hormone
7. hypophyseal	G. Inflammation of an ovary