Chapter 16
Endocrine System
Objective 1: Pronounce glands and hormones of the endocrine system.
Endocrine System

The endocrine system is composed of glands distributed throughout the body:

- **pituitary gland** (pi-TOO-i-\textit{tar-ē} (gland))
- **hypothalamus** (\textit{hi-pō-THAL-a-mus})
- **thyroid gland** (\textit{THĪ-royd}) (gland)
- **parathyroid glands** (\textit{par-a-THĪ-royd}) (glans)
- **islets of Langerhans** (Ī-lets) (LAHNG-er-hahnz)
- **adrenal glands** (a-DRĒ-nal) (glans)
- **gonads** (ovaries and testes)
- **thymus gland**

PRESENTED IN EARLIER CHAPTERS
The Endocrine System
Endocrine Glands

- **hypothalamus**: located superior to the pituitary gland in the brain; secretes “releasing” hormones that functions to stimulate or inhibit the release of pituitary gland hormones.
Can you solve the MedTerm Mix Up?

M.T. looking forward to his vacation on a small island on the pancreatic coast.

CLUE: M.T. will not need to take his insulin with him.

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Chapter 16

Objective 2: Define and spell word parts related to the endocrine system.
Combining Forms Commonly Used with the Endocrine System Terms

Can you define these combining forms?

1. acr/o
2. calc/i
3. dips/o
4. kal/i
5. natr/o

1. extremities, height
2. calcium
3. thirst
4. potassium
5. sodium
Combining Forms of the Endocrine System

- **Parathyroid/o**
- **Adrenal/o**
- **Oophor/o**
- **Pituitary gland**
- **Thyroid gland**
- **Pancreas**
- **Ovary**
- **Testes**

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More Combining Forms of the Endocrine System

cortic/o  nephr/o

ren/o  cortic/o
Combining Forms Review

Can you define these combining forms?

1. adrenal/o
   1. adrenal gland

2. dips/o
   2. thirst

3. cortic/o
   3. cortex

4. natr/o
   4. sodium

5. thyroid/o
   5. thyroid gland
Suffix

-drome run, running

Might a DRONE run, running across the sky help you recall the definition for the suffix -DROME?
Review Question

Which of the following contains the word root meaning potassium?

a) hypokalemia
b) hyponatremia
Chapter 16

Objective 3: Define, pronounce, and spell disease and disorder terms related to the endocrine system.
enlargement of the extremities

acr o megaly

extremities cv enlargement
Cushing Syndrome
Chapter 16

Objective 4: Define, pronounce, and surgical terms related to the endocrine system.
Surgical Terms Built from Word Parts

- adrenalectomy
- pancreatectomy
- parathyroidectomy
- thyroidectomy
Chapter 16

Objective 5: Define, pronounce, and diagnostic terms related to the endocrine system.
Many diabetics check their blood sugar upon awakening. If nothing has been eaten in the previous eight to ten hours prior to the test, this could be considered a “fasting blood sugar.”
Chapter 16

Objective 6: Define, pronounce, and complementary terms related to the endocrine system.
<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>SYNDROME</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>acute respiratory distress syndrome (ARDS)</td>
</tr>
<tr>
<td>7</td>
<td>acquired immunodeficiency syndrome (AIDS)</td>
</tr>
<tr>
<td>8</td>
<td>polycystic ovary syndrome (PCOS)</td>
</tr>
<tr>
<td>8</td>
<td>toxic shock syndrome (TSS)</td>
</tr>
<tr>
<td>8</td>
<td>premenstrual syndrome (PMS)</td>
</tr>
<tr>
<td>9</td>
<td>Down syndrome</td>
</tr>
<tr>
<td>9</td>
<td>fetal alcohol syndrome (FAS)</td>
</tr>
<tr>
<td>9</td>
<td>respiratory distress syndrome (RDS)</td>
</tr>
<tr>
<td>10</td>
<td>acute coronary syndrome (ACS)</td>
</tr>
<tr>
<td>11</td>
<td>celiac disease (malabsorption syndrome)</td>
</tr>
<tr>
<td>11</td>
<td>irritable bowel syndrome (IBS)</td>
</tr>
<tr>
<td>11</td>
<td>(familial) polyposis (syndrome)</td>
</tr>
<tr>
<td>14</td>
<td>carpal tunnel syndrome (CTS)</td>
</tr>
<tr>
<td>16</td>
<td>Addison disease (chronic syndrome)</td>
</tr>
<tr>
<td>16</td>
<td>Cushing syndrome</td>
</tr>
<tr>
<td>16</td>
<td>metabolic syndrome</td>
</tr>
</tbody>
</table>
Review Question

Hypothyroidism can be detected by:

a) FBS
b) TSH
Learn More about Diabetes at
http://www.diabetes.org
Chapter 16

Objective 7: Interpret meaning of abbreviations related to the endocrine system.
During workup for complaints of excessive urination, excessive thirst, and fatigue, Josephina Blackwater received this blood test used to diagnose diabetes.

HbA1C
A glucometer, lancing device, lancets, and test strips will soon be used by Josephina Blackwater who is newly diagnosed with this chronic disease involving a disorder of carbohydrate metabolism, characterized by hyperglycemia.

DM
Review for Overachievers …

Name the Abbreviation

1. biopsy technique that uses a narrow hollow needle to obtain tiny amounts of tissue for pathologic examination
2. blood test that gives the direct measurement of the amount of thyroxine in the patient’s blood
3. blood test to determine the amount of glucose (sugar) in the blood after fasting for 8 to 10 hours
4. provides an indication of blood sugar level over the past three months
5. nuclear medicine scan that measures thyroid function particularly when distinguishing different causes of hyperthyroidism

1. FNA
2. T4
3. FBS
4. HbA1C
5. RAIU
Chapter 16

Objective 8: Apply medical language in clinical contexts.
A 65-year-old female patient presented to her doctor because of a 10-pound weight gain, fatigue, hair loss, dry skin, and cold intolerance. She was referred to an endocrinologist (en-dō-kri-NOL-o-jist) who established a diagnosis of hypothyroidism (hī-pō-THĪ-royd-izm) after test results indicated an elevated thyroid (THĪ-royd)-stimulating hormone level and a low thyroxine (thī-ROK-sin) level. Approximately 20 years ago she had a painless thyroid nodule. At that time, thyroid sonography (THĪ-royd) (so-nog-ra-fē) and fine needle aspiration were performed; a diagnosis of thyroid cancer was confirmed, but it had not spread beyond the gland. She underwent a thyroidectomy (thī-royd-EK-to-mē) and received thyroid hormone replacement therapy thereafter. She remained in a euthyroid (ū-THĪ-royd) state until she stopped taking the medication 6 months ago. Consequently she became hypothyroid and could have easily developed myxedema (mik-se-DĒ-ma) if she had not sought treatment.
Comprehend Medical Terms in Use
(1 of 3)

Test your comprehension of the terms in the previous medical document by circling the correct answer.

1. On a recent visit to the endocrinologist the patient was diagnosed with:
   a. a state of deficient thyroid gland activity
   b. an enlargement of the thyroid gland
   c. a state of excessive thyroid gland activity
   d. Graves disease
2. After a thyroidectomy the patient remained in a state resembling a:
   a. stressed thyroid gland
   b. normal thyroid gland
   c. hyperactive thyroid gland
   d. hypoactive thyroid gland

3. The patient's earlier diagnosis of Graves disease was characterized by:
   a. thirst, excessive thyroid activity, protruding eyes
   b. protruding eyes, spasms, excessive thyroid activity
   c. excessive thyroid activity, enlargement of the thyroid gland, protruding eyes
   d. enlargement of the extremities, excessive thyroid activities, protruding eyes
4. What type of diagnostic procedure was used to assist in diagnosing hypothyroidism?
   a. computed tomography
   b. nuclear medicine
   c. ultrasound
   d. blood test