

# Endocrine System Worksheet

## 1. Work with your partner and match the diseases with their definition

<b>1. Acromegaly</b>	a) Disorder in which an underactive thyroid produces too little thyroxine.
<b>2. Addison's disease</b>	b) Disorder in children in which the anterior pituitary overproduces growth hormone, resulting in abnormal enlargement of the extremities (nose, jaw, fingers, and toes) and the long bones, causing unusual height.
<b>3. Cushing's syndrome</b>	c) Disorder caused by an overproduction of steroids (mostly cortisol) by the adrenal cortex, resulting in obesity and muscular weakness.
<b>4. Diabetes mellitus</b>	d) Disorder in which an overactive thyroid produces too much thyroxine.
<b>5. Gigantism</b>	e) Disorder in which the anterior pituitary overproduces growth hormone, resulting in abnormal enlargement of the extremities—nose, jaw, fingers, and toes; in children, the disorder produces gigantism.
<b>6. Hyperthyroidism</b>	f) Disorder in which the adrenal cortex underproduces cortisol and aldosterone, resulting in the disruption of numerous bodily functions.
<b>7. Hypothyroidism</b>	g) Disorder in which the body's cells cannot absorb glucose, either because the pancreas does not produce enough insulin or the cells do not respond to the effects of insulin that is produced.

## 2. Fill the gaps.

### Addison's disease

Addison's disease is a disorder in which the adrenal cortex produces too little cortisol and aldosterone, resulting in the \_\_\_\_\_ (DISRUPT) of \_\_\_\_\_ (NUMBER) bodily functions. About 4 in every 100,000 people suffer from this disorder. It strikes men and women of all ages.

The most common cause of Addison's disease is the \_\_\_\_\_ (DESTRUCT) or shrinking of the adrenal cortex. In about 70 percent of the cases, this is caused by an autoimmune disorder: a condition in which the body produces antibodies that attack and destroy the body's own tissues instead of foreign \_\_\_\_\_ (INVADE) such as viruses and bacteria. In the case of Addison's disease, antibodies attack and destroy cells of the adrenal cortex.

Addison's disease tends to be a gradual, \_\_\_\_\_ (SLOW) developing disease. By the time symptoms are noted, about 90 percent of the adrenal cortex has been destroyed. The most common symptoms include fatigue and \_\_\_\_\_ (LOSE) of energy, decreased appetite, nausea, vomiting, diarrhoea, abdominal pain, muscle \_\_\_\_\_ (WEAK), \_\_\_\_\_ (DIZZY) when standing, and dehydration. Unusual areas of darkened skin and dark freckling also appear. Women suffering from the disease may stop having normal menstrual periods. As the disease progresses, the symptoms become more severe: abnormal heart rhythms, \_\_\_\_\_ (CONTROL) nausea and vomiting, a drastic drop in blood pressure, kidney \_\_\_\_\_ (FAIL), and \_\_\_\_\_ (CONSCIOUS).

Individuals suffering from Addison's disease are treated with steroid medications that replace cortisol and aldosterone in the body. Taking these medications for the rest of their lives, those individuals can expect to live a normal life span.

### 3. Listening

#### Cushing's disease

Watch the video and discuss the following questions with your partner:

1. Is there a difference between Cushing's disease and Cushing's syndrome? If so explain what.
2. How do we find out that a person is suffering from Cushing's disease?
3. Who is susceptible to this disease?
4. What treatment options are at our disposal?
5. What are the adverse effects of bilateral adrenalectomy?

### 4. Reading questions

1. Can you name the main parts of endocrine system?
2. What is the difference between endocrine and exocrine glands?
3. How is the level of calcium in blood regulated?
4. What are positive and negative feedback mechanism?
5. Can you give an example of positive feedback mechanism?

### 5. Glands and their hormones

Complete the grid with appropriate hormones.

cortisol	PTH	testosterone	erythropoietin	vasopressin	melatonin	somatostatin	oestrogens
calcitonin	insulin	adrenalin	growth hormone				

1 Hypothalamus	_____	inhibits release of growth hormone
2 Thyroid gland	_____	reduces blood $Ca^{2+}$
3 Pineal gland	_____	controls circadian rhythm
4 Anterior pituitary gland	_____	controls growth and cell production
5 Posterior pituitary gland	_____	controls reabsorption of water
6 Pancreas	_____	controls intake of glucose
7 Kidney	_____	controls erythrocyte production
8 Adrenal glands	_____	anti-inflammatory activity
9 Adrenal medulla	_____	boosts intake of oxygen/glucose to brain/muscles
10 Testes	_____	controls maturation of sexual organs
11 Ovarian follicle	_____	female secondary sex characteristics
12 Parathyroid gland	_____	stimulates release of $Ca^{2+}$ from bones

### 6. Discussion

Every woman should have the right to decide whether she wants a home birth or to be in a hospital.

The trade with human organs should be legalized.

Couples should have the right to choose the sex of their baby.

It is cruel to talk to a grieving family about donation.