

Thyroid

October 2014, ½ hour

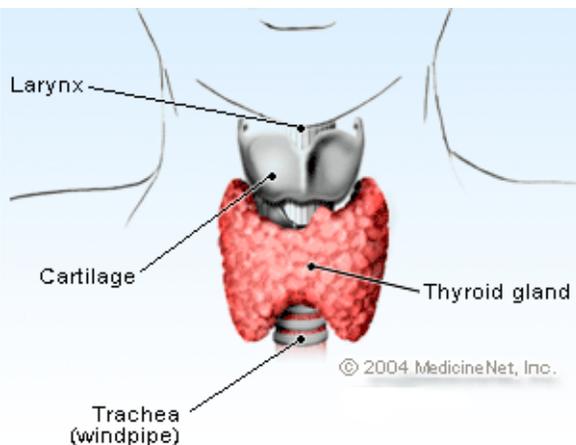
What is the thyroid?

The thyroid is one of the largest endocrine glands in the body. The endocrine system is a group of glands throughout the body that secrete hormones directly into the bloodstream. The thyroid gland is an important organ for producing thyroid hormones, which maintain our body's metabolism. The thyroid gland is located in the front

of the neck below the Adam's apple. Shaped like a butterfly it is wrapped around the windpipe, which is also known as the trachea.

The thyroid gland produces two primary hormones, thyroxine (also known as T4) and tri-iodothyronine (also known as T3). T3 is produced in smaller amounts but is more active than T4. Most of T4 is converted to T3. Smaller amounts of the hormones T3 and T4 in the bloodstream result in a decreased metabolism and higher

amounts of these hormones in the bloodstream increase the metabolism. Iodine is crucial for the production of thyroid hormones. Humans require approximately 150 mcg (micrograms) every day. Iodine is found in most of the food we consume, but iodized salt is the best way to supplement dietary iodine.



The thyroid is controlled by the pituitary gland, which is located at the base of the brain. The pituitary gland produces a hormone called thyroid-stimulating

hormone or TSH. TSH causes the thyroid to release more T3 and T4. The pituitary decreases the amount of TSH produced if there is too much T4 in the blood, which then causes the thyroid activity to slow down. The pituitary gland also increases the production of TSH if there is too little T4.

Did You Know?

- ⇒ The thyroid gland is important for healthy metabolism
- ⇒ Iodine is crucial for the production of thyroid hormones
- ⇒ Hyperthyroidism affects women more than men, and rarely affects children
- ⇒ The most common cause of hyperthyroidism is Graves' disease.
- ⇒ The most common cause of hypothyroidism in the United States is Hashimoto's thyroiditis.

Hypothyroidism

Hypothyroidism or an underactive thyroid is a condition where the thyroid gland does not produce enough thyroid hormone. This can happen because of problems within the thyroid gland itself or because of a feedback mechanism involving the brain which regulates the function of the thyroid gland. This feedback mechanism involves the pituitary gland and the hypothalamus. Hypothyroidism affects the whole body and can cause a person to feel tired and weak. It can also raise your cholesterol levels if it's not treated. Age is not a risk factor for hypothyroidism, people of any age can get it; however, hypothyroidism is more common in women age 60 and older, and in older adults.

The most common cause of hypothyroidism in the United States is Hashimoto's thyroiditis. Hashimoto's disease is when your immune system attacks your thyroid gland, which results in the thyroid gland not being able to make enough thyroid hormone.

Signs and symptoms of hypothyroidism include:

- Fatigue / sluggishness
- Increased sensitivity to cold
- Constipation
- Pale, dry skin
- A puffy face
- Hoarse voice
- Unexplained weight gain — occurring infrequently and rarely exceeding 10 to 20 pounds, most of which is fluid
- Muscle aches, tenderness and stiffness, especially in your shoulders and hips
- Pain and stiffness in your joints and swelling in your knees or the small joints in your hands and feet
- Muscle weakness, especially in your lower extremities
- Excessive or prolonged menstrual bleeding (menorrhagia)
- Depression

Source: <http://www.mayoclinic.org/diseases-conditions/hashimotos-disease/basics/symptoms/con-20030293>

Other symptoms may be dry skin, brittle nails, thin brittle hair, and memory problems.

Generally hypothyroidism is not a medical emergency. Make an appointment with your physician if you have symptoms like these. Having your doctor examine you and ordering blood tests can show if you have hypothyroidism. The goal of treatment is to replace the thyroid hormone the person is lacking. Usually medication is prescribed to treat hypothyroidism and the person will more than likely have to take medication the rest of his or her life.

Hyperthyroidism

Hyperthyroidism or an overactive thyroid is a condition where the thyroid gland produces too much thyroid hormone, and is less common than hypothyroidism. Hyperthyroidism causes the metabolism to speed up. Hyperthyroidism can happen at any age. Women are affected more than men and it rarely affects children.

The most common cause of hyperthyroidism is Graves' disease. Graves' disease is when your immune system attacks the thyroid gland and the thyroid gland responds by making too much thyroid hormone.

Signs and symptoms of hyperthyroidism include:

- Nervousness and irritability
- Palpitations and tachycardia
- Heat intolerance or increased sweating
- Tremor
- Weight loss or gain
- Increase in appetite
- Frequent bowel movements or diarrhea
- Lower leg swelling
- Sudden paralysis
- Shortness of breath with exertion
- Decreased menstrual flow
- Impaired fertility

Other causes of hyperthyroidism are:

- Thyroid nodules or abnormal growths in the thyroid gland
- Thyroiditis - the body makes antibodies that damage the thyroid gland
- Family history of thyroid problems
- Tumors
- Eating foods that contain large amounts of iodine
- Taking medicines that have a large amount of iodine in them

- Sleep disturbances (including insomnia)
- Changes in vision
- Photophobia, or light sensitivity
- Eye irritation with excess tears
- Diplopia, or double vision
- Exophthalmos, or forward protrusion of the eyeball
- Fatigue and muscle weakness
- Thyroid enlargement
- Pretibial myxedema (fluid buildup in the tissues about the shin bone; may be seen with Grave's disease)"

Source: http://www.emedicinehealth.com/hyperthyroidism/page2_em.htm#hyperthyroidism_symptoms

Hyperthyroidism can be diagnosed with blood tests that measure the levels of thyroid hormones in the body. The doctor may also order an antithyroid antibody test if you are diagnosed with hyperthyroidism. A radioactive thyroid scan and a radioactive iodine uptake test may be done to find the cause of the hyperthyroidism.

Treatment for hyperthyroidism depends on the person's age, the cause of the hyperthyroidism, how much thyroid hormone their body is making, and any other medical conditions the person may have. Treatments used for hyperthyroidism include antithyroid medication, radioactive iodine, and sometimes surgery. Sometimes the thyroid

can release a large amount of thyroid hormones in a short period of time this is known as thyroid storm. Signs and symptoms may include: high fever, high heart rate, shortness of breath, palpitations, chest pains, profuse sweating, and confusion. In this case it is extremely important to seek emergency medical treatment.

THYROID TEST

Name: _____

Date: _____

Role/Title: _____

Agency: _____

Please provide contact information (email address, fax number, or mailing address) where you would like your certificate to be sent:

You must submit your completed test, with at least a score of 80%, to receive **1/2 hour** of training credit for this course.

- * To submit via fax, please fax the test and evaluation to 814-728-8887. Please fax only the test and evaluation, not the entire training packet.
- * To submit via email, please send an email to training@northwesthc.org. Please put "Thyroid Test" in the subject line, and the numbers 1—10, along with your answers, in the body of the email, OR scan the test and evaluations pages and email as attachments.
- * To submit via mail, send the test and evaluation pages to Milestone HCQU NW, 247 Hospital Drive, Warren PA 16365.

1. Iodine is crucial for the production of thyroid hormones. True False
2. Hyperthyroidism is a condition in which the thyroid gland produces too much thyroid hormone. True
False
3. Hashimoto's thyroiditis is the most common cause of hypothyroidism in the United States. True
False
4. Hypothyroidism can raise your cholesterol level if it is not treated. True False
5. Hyperthyroidism causes the body's metabolism to speed up True False
6. The thyroid gland is part of the endocrine system. True False
7. Hypothyroidism may cause a person to gain weight. True False
8. Hypothyroidism is more common than hyperthyroidism. True False
9. The most common cause of hyperthyroidism is Grave's disease. True False
10. Thyroid storm is when the thyroid gland releases large amounts of thyroid hormones in a short period of time.
True False

References:

http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Thyroid_gland_explained?open

<http://simple.wikipedia.org/wiki/Thyroid>

<http://www.webmd.com/a-to-z-guides/hypothyroidism-topic-overview>

<http://www.mayoclinic.org/diseases-conditions/hashimotos-disease/basics/symptoms/con-20030293>

http://www.emedicinehealth.com/hyperthyroidism/page2_em.htm#hyperthyroidism_symptoms

EVALUATION OF TRAINING

Training Title: Thyroid

Date: _____

- | | |
|--|---|
| <input type="checkbox"/> Direct Support Professional | <input type="checkbox"/> Provider Administrator/ |
| <input type="checkbox"/> Program Specialist | <input type="checkbox"/> Provider Clinical Staff |
| <input type="checkbox"/> Consumer/Self-Advocate | <input type="checkbox"/> Family Member |
| <input type="checkbox"/> Support Coordinator | <input type="checkbox"/> Support Coordinator Supervisor |
| <input type="checkbox"/> PCH Staff/Administrator | <input type="checkbox"/> County MH/MR/IDD |
| <input type="checkbox"/> FLP/LSP | <input type="checkbox"/> Other (please list): _____ |

Please circle your PRIMARY reason for completing this home-study training:

- It's mandatory
 interested in subject matter
 need training hours
 convenience

Please circle the best response to each question.

5 = **Strongly Agree** 4 = Agree 3 = Undecided 2 = Disagree 1 = **Strongly Disagree**

- | | | | | | | |
|----|--|---|---|---|---|---|
| 1. | As a result of this training, I have increased my knowledge. | 5 | 4 | 3 | 2 | 1 |
| 2. | I learned something I can use in my own situation. | 5 | 4 | 3 | 2 | 1 |
| 3. | This training provided needed information. | 5 | 4 | 3 | 2 | 1 |
| 4. | The training material was helpful and effective. | 5 | 4 | 3 | 2 | 1 |
| 5. | Overall, I am satisfied with this training. | 5 | 4 | 3 | 2 | 1 |
| 6. | I am glad I completed this training. | 5 | 4 | 3 | 2 | 1 |

Suggestions for improvement: _____

Additional information I feel should have been included in this training: _____

I would like to see these topics/conditions developed into home-study trainings: _____