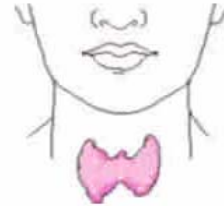


thyroid

The **thyroid** gland is a small gland, located in the front of the neck. It is made up of two halves, called lobes that lie along the windpipe (trachea) and are joined together by a narrow band of thyroid tissue, known as the isthmus. The thyroid is situated just below the larynx.



The function of the thyroid gland is to take iodine, found in many foods, and convert it into thyroid hormones: thyroxine (T4) and triiodothyronine (T3). Thyroid cells are the only cells in the body which can absorb iodine. These cells combine iodine and the amino acid tyrosine to make T3 and T4. T3 and T4 are then released into the blood stream and are transported throughout the body where they control metabolism (conversion of oxygen and calories to energy). Every cell in the body depends upon thyroid hormones for regulation of their metabolism.

Iodine is needed by the thyroid gland to manufacture thyroid hormones. The iodine needed for this is normally obtained in food, but in some parts of the world the soils are deficient in iodine and the food does not contain enough iodine. Some foods that are naturally rich in iodine include; iodized salt or sea salt, seafood, including fish, shellfish and seaweed, eggs and dairy products - including milk, cheese, and yogurt. Additionally all fruits and vegetables grown in iodine rich soil are good sources.

The thyroid gland is under the control of the pituitary gland, which is found at the base of the brain. When the level of thyroid hormones (T3 & T4) drops too low, the pituitary gland produces Thyroid Stimulating Hormone (TSH) which stimulates the thyroid gland to produce more hormones. Under the influence of TSH, the thyroid will manufacture and secrete T3 and T4 thereby raising their blood levels. The pituitary senses this and responds by decreasing its TSH production.

The most common diseases are an over-active or under-active gland. These conditions are called (e.g., Grave's disease) and hypothyroidism. Sometimes the thyroid gland can become enlarged from over-activity (as in Grave's disease) or from under-activity (as in hypothyroidism).

What is a goitre?

A **goitre** is simply a swelling of the thyroid gland. The presence of goitre can indicate that something is wrong with the thyroid. Iodine deficiency can lead to a goitre as the body tries to compensate by overstimulating the thyroid gland. The inflammation associated with Hashimoto's thyroiditis can lead to a goitre, while the over stimulation of the thyroid gland by Graves' disease antibodies can also lead to a goitre.

Types of Thyroid Conditions

Hypothyroidism (under active thyroid) is the most common thyroid disorder and is more common on women than in men, and affects 6% to 10% of women over the age of 65. The signs and symptoms of an underactive thyroid are:

- low energy
- depression
- slow heart rate
- weight gain
- cold intolerance
- muscle fatigue
- dry skin
- hair loss
- constipation
- goitre

Hypothyroidism is diagnosed through a simple blood test and treated with thyroid hormone replacement, known as Thyroxine tablets. It can take many months to find the correct dose of thyroxine, as too much thyroid hormone causes symptoms of hyperthyroidism, whereas too little causes symptoms of hypothyroidism to persist. The effect of treatment also takes some time (weeks to months) to become apparent, as thyroid hormone is relatively slow-acting. The most common cause of Hypothyroidism is an autoimmune condition called Hashimoto's Thyroiditis in which antibodies and white blood cells attack the thyroid.

Hyperthyroidism (overactive thyroid) affects approximately 2% of women and 0.2% of men. The signs and symptoms of an overactive thyroid are:

- irritability
- rapid heart rate
- weight loss
- sleeplessness
- heat intolerance
- diarrhoea

Hyperthyroidism is diagnosed through a simple blood test. There are three main treatments for overactive thyroid - anti-thyroid drugs, radioiodine therapy and thyroidectomy (surgical removal of the thyroid). All are effective, though no treatment ever results in a complete cure. The most common cause of Hyperthyroidism is an autoimmune condition called Graves' disease in which antibodies stimulate the thyroid uncontrollably.

Thyroid cancer is usually treated by the surgical removal of the thyroid gland, followed by radioactive iodine ablation of any remaining thyroid tissue. Hypothyroidism follows and is treated with thyroxine replacement. In contrast to other cancers, most forms of thyroid cancer are potentially curable.

On the SureSlim Program

Soy products will be removed for clients with any thyroid problem. If blood test results indicate an underactive thyroid the following foods will be removed: brussel sprouts, broccoli, spinach, silver beet, cabbage, peach, pear, nashi pear. For any abnormal results the client will be referred to their medical practitioner.

References: www.endocrineweb.com/thyfunction.html
http://www.chronicillness.org.au/invisible/thyroid_a.htm
<http://www.thyroid.org.au/Information/Conditions.html>