THYROID DISORDER



Thyroid disease is a general term for a medical condition that keeps your thyroid from making the right amount of hormones. Your thyroid typically makes hormones that keep your body functioning normally.

Thyroid disorders are conditions that affect the thyroid gland, a butterflyshaped gland in the front of the neck. The thyroid has important roles to regulate numerous metabolic processes throughout the body. Different types of thyroid disorders affect either its structure or function.

The thyroid gland is located below the Adam's apple wrapped around the trachea (windpipe). A thin area of tissue in the gland's middle, known as the isthmus, joins the two thyroid lobes on each side. The thyroid uses <u>iodine</u> to produce vital hormones. Thyroxine, also known as T4, is the primary hormone produced by the gland. After delivery via the bloodstream to the body's tissues, a small portion of the T4 released from the gland is converted to tri iodothyronine (T3), which is the most active hormone.

The function of the thyroid gland is regulated by a feedback mechanism involving the brain. When <u>thyroid hormone</u> levels are low, the hypothalamus in

the brain produces a hormone known as thyrotropin releasing hormone (TRH) that causes the <u>pituitary gland</u> (located at the base of the brain) to release thyroid stimulating hormone (TSH). TSH stimulates the thyroid gland to release more T4.

Since the thyroid gland is controlled by the pituitary gland and hypothalamus, disorders of these tissues can also affect thyroid function and cause thyroid problems.

There are specific kinds of thyroid disorders that includes:

- Hypothyroidism
- Hyperthyroidism
- Goiter
- Thyroid nodules
- Thyroid cancer

Hypothyroidism results from the thyroid gland producing an insufficient amount of thyroid hormone. It can develop from problems within the thyroid gland, pituitary gland, or hypothalamus. Symptoms of hypothyroidism can include:

Fatigue

- Poor concentration or feeling mentally "foggy"
- Dry skin
- Constipation
- Feeling <u>cold</u>
- Fluid retention
- Muscle and joint aches

- Depression
- Prolonged or excessive menstrual bleeding in women

Some common causes of hypothyroidism include:

- Hashimoto's <u>thyroiditis</u> (an autoimmune condition that causes inflammation of the thyroid gland)
- Thyroid hormone resistance
- Other types of thyroiditis (inflammation of the thyroid), such as acute thyroiditis and postpartum thyroiditis

Hyperthyroidism

<u>Hyperthyroidism</u> describes excessive production of thyroid hormone, a less common condition than hypothyroidism. Symptoms of hypothyroidism usually relate to increased metabolism. In mild cases, there may not be apparent symptoms. Symptoms and signs of hyperthyroidism can include:

- <u>Tremor</u>
- Nervousness
- Fast <u>heart</u> rate
- Fatigue
- Intolerance for heat
- Increase in bowel movements
- Increased <u>sweating</u>
- <u>Concentration problems</u>

Unintentional <u>weight loss</u>

Some of the most common causes of hyperthyroidism are:

- Graves' disease
- Toxic multinodular goiter
- Thyroid nodules that overexpress thyroid hormone (known as "hot" nodules)
- Excessive iodine consumption



Thyroid disorders can be treated by medications or, in some cases, surgery. Treatment will depend on the particular disease of the thyroid.

Thyroid medications

Medications can be given to replace the missing thyroid hormone in hypothyroidism. Synthetic thyroid hormone is given in pill form by mouth. When hyperthyroidism is present, medications can be used to decrease production of thyroid hormone or prevent its release from the gland. Other medications can be given to help manage the <u>symptoms of hyperthyroidism</u>, such as increased heart rate. If hyperthyroidism is not controlled with medications, radioactive ablation can be performed. Ablation involves giving doses of iodine labeled with radioactivity that selectively destroys the thyroid tissue.



