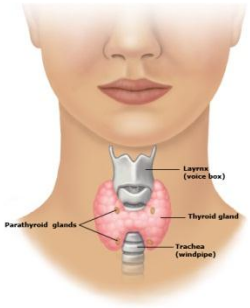
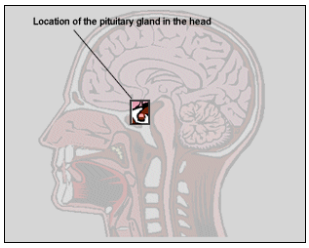
HYPOTHYROIDISM (UNDERACTIVE THYROID)

The thyroid is a butterfly-shaped gland that is located centrally in the neck, just above the collarbones and below the larynx (voicebox).



The main function of the thyroid is to regulate the body's metabolism through production of thyroid hormones, T4 and T3.

The production of T4 and T3 is controlled by TSH (thyroid stimulating hormone), which is produced by the pituitary gland. Too much or too little production of thyroid hormones by the thyroid is recognised by the pituitary gland, resulting in a reduction or increase in TSH levels respectively.



Symptoms and signs

An underactive thyroid (hypothyroidism) can cause the following symptoms and signs:

- Feeling fatigued, sluggish and sleepy
- Feeling cold all the time
- Weight gain
- Depressed mood
- Constipation
- Dry skin and hair
- Swelling of the hands, feet and around the eyes
- Slow heart rate (bradycardia)
- High cholesterol

Causes of Hypothyroidism

1. The vast majority of cases of hypothyroidism are due to abnormal function of the thyroid gland itself. The most common cause of this is due to Hashimoto's disease, in which the body produces antibodies which incorrectly identify the thyroid as foreign tissue (autoimmune disease) and attack it, thereby reducing its function
2. Hypothyroidism can result from treatment of hyperthyroidism (overactive thyroid) through surgery, drugs, or radioactive iodine therapy
3. Hypothyroidism may rarely be caused by abnormal function of the pituitary gland
4. Transient hypothyroidism may occur following an episode of hyperthyroidism (overactive thyroid) related to subacute thyroiditis or postpartum thyroiditis (after having a baby)

Diagnosis

Hypothyroidism (underactive thyroid) can be easily diagnosed on routine blood tests which measure TSH, T4 and T3 levels. Thyroid antibody tests may also be useful, depending on circumstances. These do not need to be done while fasting.

Treatment

Hypothyroidism is treated by thyroid hormone replacement, generally using synthetic formulations of T4 (thyroxine). This is very effective and essentially similar to the hormone naturally made by the thyroid gland. It is converted by an enzyme to T3 in the body's tissues. This tablet is generally taken once daily, 1 hour before or 2 hours after food.

As thyroid hormone lasts for a long time in the body, it will usually take at least 2 weeks to notice a difference in symptoms after commencing, or changing dose of the medication. Thyroid function tests would generally take at least 6 weeks to stabilise following initiation or dosage change of the medication.

It is important that regular thyroid function tests (at least 6 monthly) are done throughout the duration of treatment with thyroid hormone replacement (thyroxine), as dose changes may intermittently be required throughout life.

Pregnancy

We recommend that women with any degree of underactivity of the thyroid and/or positive thyroid antibodies have thyroid function checked prior to trying to fall pregnant and consult with their endocrinologist regarding target TSH levels at conception and in the first trimester of pregnancy (TSH<2.5).