

## Thyroid Conditions

### What is a thyroid gland?

The thyroid gland is a butterfly-shaped gland located in the lower neck and its primary function is to make and release thyroid hormones into the blood stream. Thyroid hormones help the body use energy, stay warm and keep the brain, heart, muscles and other organs working as they should. It also controls the body's metabolism.

### What are underactive and overactive thyroid conditions?

- When the thyroid gland produces too little hormone (underactive) it is called **hypothyroidism**
- When the thyroid gland produces too much hormone (overactive) it is called **hyperthyroidism**
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### Underactive thyroid

An underactive thyroid is a common disorder and mostly occurs in individuals who are aged in their 40s and 50s. It is more common in women than men and occurs in almost 10 per cent of women. There are several causes for an underactive thyroid which include autoimmune disease (e.g. Hashimoto's thyroiditis), surgical removal of the thyroid, radioactive iodine treatment for an overactive thyroid, some medications and iodine deficiency.

Signs and symptoms may include:

- low energy
- cold intolerance
- slow heart rate
- weight gain
- constipation
- dry skin
- coarse hair
- hair loss
- muscle aches
- heavy periods
- depression

Symptoms are highly variable between individuals and only some of these symptoms may be present in an individual with an underactive thyroid. These symptoms are not specific to thyroid conditions and can easily be missed.

### *How is it diagnosed and treated?*

A blood test checking thyroid hormone levels will tell your health practitioner if you have an underactive thyroid. An underactive thyroid generally cannot be cured, but can be managed with medical treatment. Thyroxine, a low-cost, safe and effective hormone replacement therapy, is available to treat the condition. Thyroxine is a compound manufactured to be identical to the thyroid hormone made by the body, so it has almost no side-effects. Doses are prescribed and monitored by your health practitioner with regular blood tests. In most cases, you will need to take thyroxine for the rest of your life.

### Overactive thyroid

An overactive thyroid gland affects almost four per cent of women and 0.2 per cent of men. The most common cause of an overactive thyroid is an autoimmune condition called Graves' disease, in which the body produces antibodies or immune proteins that activate the thyroid to produce excess thyroid hormones. Other causes include one or more overactive nodules or lumps in the thyroid, thyroiditis (inflammation of the thyroid) and excess iodine intake.

Signs and symptoms include:

- heat intolerance
- rapid heart rate
- breathlessness
- irritability/anxiety
- sweating
- difficulty sleeping
- palpitations (strong sensation of heartbeat)
- weight loss
- thinning of hair
- muscle weakness
- hand tremors
- soft, frequent bowel movements
- irregular periods
- dry, gritty eyes
- bulging of the eye

Those affected may have some or all of these symptoms.

### *How is it diagnosed and treated?*

A blood test checking thyroid hormone levels will tell your health practitioner if you have an overactive thyroid. Treatment depends on the cause, and usually includes one or more of the following:

- anti-thyroid drugs (reduces thyroid hormone production)
- radioactive iodine treatment (destroys the thyroid cells that make thyroid hormones)
- surgery (to remove the thyroid gland)

All treatments are effective, however each has advantages and disadvantages. A thyroid specialist/endocrinologist should recommend the most appropriate treatment for your thyroid condition, taking your medical history into consideration.

### **Thyroid nodules**

Thyroid nodules are lumps in the thyroid and are quite common. Most nodules are benign (non-cancerous) and cause very few problems. The incidence of thyroid nodules increases with age and detection has increased with more frequent use of imaging.

Nodules may be hyper-functioning or 'hot'. This can be determined by a blood test and a nuclear medicine thyroid scan, and treatment may be necessary.

About five per cent of nodules can be cancerous. Thyroid cancer is relatively uncommon and is curable, especially if detected early. There are a number of different forms of thyroid cancer:

- papillary (70-80%)
- medullary (5-10%)
- thyroid lymphoma (very uncommon)
- follicular (10-15%)
- anaplastic (less than 5%)

The standard treatment involves the surgical removal of the thyroid gland, followed by radioactive iodine treatment and thyroid hormone replacement therapy. A specialist will be involved in the ongoing monitoring and management of thyroid cancer.

### **Iodine deficiency disorder**

Iodine is an element that is needed by the thyroid gland to make thyroid hormones. Iodine is obtained from dietary sources including iodised salt, seaweed, salt water fish, bread and dairy. The availability of iodine in foods is variable across different parts of the world. Iodine deficiency can lead to the development of a goitre or an underactive thyroid and may lead to cognitive abnormalities in children whose mothers had severe iodine deficiency during pregnancy. Iodine is essential for the normal development of the brain and nervous system, therefore it is very important for babies and young children and women who are pregnant for normal development of the fetus.

Iodine intake in Australia has been decreasing and the reason for this is possibly due to several factors. The intake of iodised salt is decreasing as a result of a combination of purchasing non-iodised salt, reduction in salt intake and an increased consumption of processed foods, which generally don't contain iodised salt. Changes in soil and farming practices have resulted in a reduction of iodine intake from foods.

#### *How can I treat this disorder?*

Treatment involves increasing iodine in the diet through iodine fortified products such as salt or foods rich in iodine. Kelp and seaweed supplements are best avoided due to highly variable iodine content and the risk of ingestion of iodine above recommended levels. Iodine supplements can be purchased in pharmacies and health food shops, but be aware, too much iodine can also be a problem! Many multivitamins, including pregnancy multivitamins contain iodine in varying amounts. Women with pre-existing thyroid conditions should seek advice from their medical practitioner prior to taking an iodine containing supplement.

### **Goitre**

A goitre is simply an enlarged thyroid gland. Goitres are often described as simple/smooth or multinodular (multiple thyroid lumps). Simple/smooth goitres occur most commonly in Graves' disease or thyroiditis. Goitres may be visible in the neck or if very large, can cause some pressure in this area. Your health practitioner will help you decide on the best management options for your goitre, which will depend on your symptoms and the cause of your goitre.

### **Where can I get more information?**

[www.jeanhailes.org.au](http://www.jeanhailes.org.au)

[www.thyroid.org](http://www.thyroid.org) – American Thyroid Association

[www.thyroidfoundation.com.au](http://www.thyroidfoundation.com.au) – The Australian Thyroid Foundation

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This fact sheet is designed to be informative and educational. It is not intended to provide specific medical advice or replace advice from your health practitioner.

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