

# **Thyroid**

The thyroid is one of the larger endocrine glands, weighing 2-3 gms in neonates and 18-60 gms in adults which increases in pregnancy. It is a butterfly-shaped organ and is composed of two cone-like lobes or wings, *lobus dexter* (right lobe) and *lobus sinister* (left lobe), connected by a narrow band of the tissue called the isthmus.

The lobes of the gland, as well as the isthmus, contain many small globular sacs called follicles. The follicles are lined with follicular cells and are filled with a fluid known as colloid that contains the prohormone thyroglobulin. The follicular cells contain the enzymes needed to synthesise thyroglobulin, as well as the enzymes needed to release thyroid hormone from thyroglobulin. When thyroid hormones are needed, thyroglobulin is reabsorbed from the colloid in the follicular lumen into the cells, where it is split into its component parts, including the two thyroid hormones thyroxine ( $T_4$ ) and triiodothyronine ( $T_3$ ).

## **Functions**

The thyroid gland releases hormones that are important for the body's metabolism and overall cellular maintenance. It produces several forms of thyroid hormones ( $T_1$ ,  $T_2$ ,  $T_3$  and  $T_4$ ).  $T_3$  hormone acts as a signal to our cells to start working and do their job. If  $T_3$  is not available to nerves then depression and anxiety with the destruction of mood and energy are invariably a consequence. If this hormone is not produced then these signals are not transmitted and therefore many cells don't function as they should. It is estimated that  $T_4$  provides 20% activity while  $T_3$  provides an 80% activity in cell function activation.

It functions in the 'junctions' of nerves, particularly in the brain. It fires the furnaces (mitochondria) in cells, again particularly in the brain. In doing so it controls serotonin hormone, a feel good hormone, which we rely on for our emotional wellbeing.

## **Problems**

Thyroid disorders can range from a small, harmless goitre (enlarged gland) that needs no treatment to life-threatening cancer. However, the most common thyroid problems involve abnormal production of thyroid hormones. Too much thyroid hormone results in a condition known as hyperthyroidism. Insufficient hormone production leads to hypothyroidism.

## **Symptoms of hypothyroidism**

1. Cold hands and feet
2. Chronic fatigue
3. Lethargy
4. Emotional instability
5. Depression
6. Cold skin
7. Decreased sweating
8. Heat or cold intolerance
9. Weight gain (more than 2 kg)
10. Coarse and/or dry skin
11. Constipation
12. Acne or psoriasis
13. Yellowish coloured palms
14. Slight swelling around ankles
16. Muscle weakness, cramps   Left handedness - particularly males
17. Small or large birth weight babies
18. Delayed Achilles tendon reflex return
19. Dry hair or hair loss
20. Heavy and/or painful menstruation
21. Slowed mental activity
22. Impaired memory
23. Thick tongue
24. Carpel Tunnel Syndrome
25. Diabetes
26. High cholesterol / or triglycerides
27. Heart enlargement / or palpitations
28. Brittle nails
29. Puffiness under eyes
30. Joint aches, pain or stiffness

## **Symptoms of hyperthyroidism**

1. Sweating 2. Shortness of breath 3. Weight loss 4. Anxiety and Excitability 5. Thirst	6. Muscle weakness 7. Insomnia 8. High blood pressure 9. Racing heart 10. Hunger
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## Causes

All types of hyperthyroidism are due to an overproduction of thyroid hormones, but the condition can occur in several ways:

- **Graves' disease:** The production of too much thyroid hormone.
- **Toxic adenomas:** Nodules develop in the thyroid gland and begin to secrete thyroid hormones, upsetting the body's chemical balance; some goiters may contain several of these nodules.
- **Subacute thyroiditis:** Inflammation of the thyroid that causes the gland to "leak" excess hormones, resulting in temporary hyperthyroidism that generally lasts a few weeks, but may persist for months.
- **Pituitary gland:** Malfunctions or cancerous growths in the thyroid gland: Although rare, hyperthyroidism can also develop from these causes.

Hypothyroidism , by contrast, stems from an underproduction of thyroid hormones. Since your body's energy production requires certain amounts of thyroid hormones, a drop in hormone production leads to lower energy levels. Causes of hypothyroidism include:

- **Hashimoto's thyroiditis :** In this autoimmune disorder, the body attacks thyroid tissue. The tissue eventually dies and stops producing hormones.
- **Removal of the thyroid gland:** The thyroid may have been surgically removed or chemically destroyed.
- **Exposure to excessive amounts of iodide:** Cold and sinus medicines, the heart medicine amiodarone or certain contrast dyes given before some X-rays may expose you to too much iodine. You may be at greater risk for developing hypothyroidism if you have had thyroid problems in the past.
- **Lithium :** This drug has also been implicated as a cause of hypothyroidism.



# **Thyroid Cleanse**

## **Cleanses to Restore the Function of the Thyroid Gland**

1. Cleanse the whole digestive system by means of Colon Cleanse. This is a foundational procedure to open the main channel to eliminate toxins and stop their spreading. This cleanse will improve digestion, nutrient absorption and toxic elimination.
2. Follow a healthy diet regime and do an Acidity Cleanse by drinking green fresh juices which dilute toxins in the thyroid gland.
3. Do the Liver Cleanse

Following are some remedial measures to improve the functioning of Thyroid.

### **Ashwagandha**

The herb Ashwagandha, also known as *Withania Somnifera*, Indian ginseng has properties beneficial for Thyroid health. Studies have reported Ashwagandha to increase thyroid hormone levels by reducing the production of lipid peroxide in the liver and increased liver antioxidants, while energising thyroid hormone production.

### **Iodine**

Iodine is the most vital ingredient in thyroid gland hormone production. However, since the body does not self-manufacture iodine, it must either be ingested through the diet or through iodine supplements, hence more iodine should be added to salt.

### **Magnesium**

Many people are also deficient in magnesium, which not only plays an important role in thyroid health, especially with regards to iodine metabolism, but has many other roles as well. Taking magnesium supplements can help with a severe deficiency and once you have the proper levels you can obtain the magnesium you need through food, especially raw nuts, seeds and green leafy vegetables.

### **Vitamin D**

A big reason for vitamin D deficiency is less or no exposure to the sun, which is the primary source of vitamin D. For those who are deficient, it usually will be necessary to supplement with Vitamin D<sub>3</sub>, while at the same time getting them in the habit of receiving some sun exposure for at least 15 to 20 minutes each day.

### **Do's and Don'ts**

#### **Pursue a thyroid friendly diet**

For underactive thyroids, selenium rich foods such as shellfish and fish, goat kidneys and liver, mushrooms, onions, sesame and sunflower seeds, kelp and wheat germ should be added to the diet.

Foods that are beneficial for those with overactive thyroids are the raw vegetables cauliflower, mustard greens, cabbage, broccoli, beans, Brussels sprouts, water cress and turnips. Soy and soy products also lower thyroid production.

### **Seek out healthy fats**

The fats are the building blocks of hormonal pathways. Given that thyroid conditions, at a basic level, are issues that arise within the endocrine (hormonal) system, supplementing the diet with good sources of healthy fats (any of the following) can provide the raw materials needed to encourage the body to repair itself.

- Coconut oil and other coconut products
- Ghee
- Avocados
- Nuts and nut butters
- Lean meats and fish
- Flax seeds

### **Avoid Goitrogens**

Goitrogens are naturally-occurring thyroid-inhibiting compounds that are found in several species of plants and vegetables. Anyone experiencing decreased thyroid function should avoid the following foods:

- Kale
- Broccoli
- Cauliflower
- Radishes
- Turnips
- Cabbage
- Brussels sprouts

### **Benefits**

- Soft, Smooth Skin
- Calmness

- Stabilised Weight
- Efficient Breathing
- Improved Speech Patterns
- Ease in Menstruation
- Regular heart rhythm
- More Energy
- Sense of Well Being and Hope
- Sense of Strength
- No more depressions and mood swings

## **FAQs**

**Q: Are Women more likely than men to have a thyroid imbalance?**

**A:** Yes, Thyroid disorders are more common in women. Female hormones, such as oestrogen, may be a factor in triggering autoimmune conditions, including problems with the thyroid.

**Q: What is a goitre?**

**A:** It is simply a thyroid gland that is bigger than usual. A goitre can be associated with levels of thyroid hormone that are normal (euthyroid), too high (hyperthyroid) or too low (hypothyroid).

**Q: Which is more common, hyperthyroidism or hypothyroidism?**

**A:** Hyperthyroidism is far more common.

**Q: Thyroid disorders are sometimes mistaken for which disease or condition?**

**A:** Thyroid disorders often cause changes in menstrual cycle and mood, the symptoms are sometimes mistaken for menopause. If a thyroid problem is suspected, a simple blood test can determine whether, it is menopause or a thyroid disorder or a combination of both.

**Q: How does radioactive iodine treatment for hyperthyroidism leave the body?**

**A:** For most people, one dose of radioactive iodine treatment will cure hyperthyroidism. Radioactive iodine leaves the body through urine. Drinking plenty of fluids during this time will rid the body of radioactivity.

**Q: Is it true that hypothyroidism poses a special danger to new-borns and infants?**

**A:** Lack of thyroid hormones in the system at an early age can lead to the development of cretinism (mental retardation) and dwarfism (stunted growth). Most infants now have their thyroid levels checked routinely soon after birth. If they have hypothyroid, treatment begins immediately.

A hypothyroid infant is unusually inactive and quiet, has a poor appetite and sleeps for long periods of time.

**Further references:**

- <https://www.youtube.com/watch?v=SVSBo065hmw>
- <https://www.youtube.com/watch?v=Ftc1-IHwzfY>
- <https://www.youtube.com/watch?v=bO1Lxf80atA>
- <https://www.youtube.com/watch?v=T4XsInon8OU>