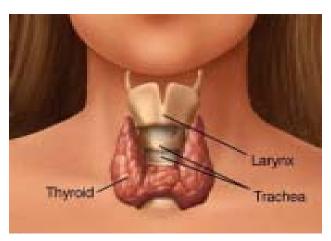


Thyroid

ave you ever wondered why you are gaining weight even though you are eating less food? Are you worried that your child is scoring poor marks in the exams despite putting in a lot of effort? Do you know why one of your close friends finds it difficult to conceive or is experiencing many miscarriages? The culprit is a malfunctioning thyroid gland.



Thyroid disorders affect more than 12 million

people, but most of them don't even know it! The thyroid gland influences major functions of the body such as regulating body metabolism, energy production in the cells, physical and mental development, nerve and muscle function, and blood circulation. Located in the front of your neck, the gland has two lobes that lie on either side of your wind pipe. In thin people with a slender neck the thyroid gland may be just visible.

The thyroid gland is controlled by the pituitary gland that lies underneath the brain in your skull. The pituitary gland senses the level of thyroid hormones in your blood stream and secretes a thyroid stimulating hormone (TSH). This hormone activates the thyroid gland to produce Thyroxin (T4) and Triiodothyronine (T3) hormones. The thyroid gland needs iodine to produce T3 and T4 hormones - both too much and too little iodine can cause the thyroid to malfunction.

How to measure thyroid activity

Thyroid problems usually involve either over activity or under activity of the gland. Normal levels and thyroid risks are as follows:

	Normal	Hypothyroid	Hyperthyroid
TSH	0.5-5.5 uU/ml	> 5.5	< 0.5
Free T4	11.5 – 22.7 pmol/L	<11.5	>22.7
Free T3	3.5 – 6.5 pmol/L	< 3.5	> 6.5

What is hypothyroidism?

Hypothyroidism or Wilson's Syndrome occurs when the thyroid gland is not producing enough T3 or T4. In very rare instances the pituitary gland itself fails to produce TSH, and thus the thyroid is not stimulated to produce T4 and T3 hormones. Inflammation in the thyroid, known as thyroiditis, also causes hypothyroidism.

Infertility and pregnancy

Both hyperthyroidism and hypothyroidism cause infertility in males and females. In males it leads to low sex drive and sperm reduction. In females it affects production of ovaries and causes premature menopause. However normal fertility can be restored in both males and females once the thyroid disorder has been cured. During pregnancy it is important to take care of a hypothyroidism condition

Signs and symptoms of hypothyroidism

- Abnormal weight gain
- Frequent and heavy menstrual flow
- Difficulty in conceiving
- Depression
- Thinning hair, dry hair and hair loss
- Slow heart rate
- Dry and coarse skin
- Difficulty in concentrating
- Feeling slow or tired or confused
- Mood fluctuations and poor memory
- Milky discharge from the breasts
- Muscle cramps and weakness
- Feeling cold and husky voice
- Goitre when the diet lacks essential nutrients like iodine and selenium, the thyroid gland swells and grows in an apparent effort to filter more blood to get the scarce nutrients out of the blood supply. The problem occurs in at least 5 % of

which may cause a miscarriage or birth defects in the child.	thyroid patients.

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Dietary Treatment

Consumption of sufficient iodine and vitamin A helps in reversing hypothyroidism. The recommended dietary allowance (RDA) for iodine is 150 mcg (micrograms) per day for adults. Pregnant women need 220 mcg per day, and a nursing mother needs 290 mcg. Iodised salt provides 2 to 6 gm of salt each day.

- Consume more seafood, especially ocean fish which is a good source of iodine. Even people on low salt diets can get plenty of iodine from green leafy vegetables, milk and milk products.
- Eat eggs as well as deep yellow or orange fruits and dark green vegetables which help meet additional vitamin A requirements.
- Avoid salads made of raw vegetables, especially those from the cabbage family such as cabbage, cauliflower, broccoli and other cruciferous vegetables. These contain a substance known as goitrogens, which affects thyroid hormones and may lead to goiter. Cook the vegetables to destroy the goitrogens.



• Virgin coconut oil offers great hope for those suffering from hypothyroidism. It contains medium chain fatty acids which increase the metabolic rate and promote weight loss.

- Avoid artificial sweeteners made of aspartame.
- Avoid peanuts, millet, and rapeseed (canola oil).
- Consuming thyroid hormones as a diet aid can lead to dangerous results, including drug-induced hyperthyroidism, metabolic abnormalities, and irregular heartbeats.
- Avoid smoking and high doses of nutrition

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What is hyperthyroidism?

Hyperthyroidism or Graves' disease occurs when the thyroid produces high levels of T4 and T3. This condition speeds up the metabolism rate and results in unusual hunger, weight loss, muscle weakness, rapid heart beat, excessive sweat, etc.

Signs and symptoms of hyperthyroidism

- Infertility
- Hair loss
- Soft nails
- Warm, moist palms
- Frequent bowel movement
- Scant menstrual periods
- Heat intolerance
- Difficulty sleeping
- Irritability
- Nervousness

Woman and pregnancy

Women experience irregular or lighter menstrual cycles. It may be harder for hyperthyroid women to become pregnant. If women face fertility or repeated miscarriage it is important to check the thyroid levels through a blood test.

Dietary Treatment

- Eat broccoli, Brussels sprouts, cabbage, cauliflower, peaches, pears, soybeans, spinach and turnips because they suppress the thyroid hormone function.
- Consume whey protein daily to maintain ideal weight. It refills important amino acids and protein depleted by hyperthyroidism.
- Avoid iodised salt which speeds up the metabolism.
- Conduct a food allergy test to identify foods that cause an allergic reaction from the thyroid. Avoid dairy products which are the most common food allergens for hyperthyroid patients.
 Avoid caffeine and tobacco.
- Caffeine and nicotine may worsen the jittery feelings and nervousness.
- Limit alcohol intake. Alcohol may aggravate the sleepiness and fatigue.
- Although antithyroid medications cut down overproduction by the thyroid gland, this alone may not be the best approach because hyperthyroidism may reoccur once medication is stopped.
- You can take some extra supplements like evening



- supplements.
- Some weight loss programs recommend soybean based protein diets without knowing the adverse effects in hypothyroid patients; this may lead to goiter.

primrose oil, flaxseed oil or fish oil to help with skin dryness and hair loss.

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Case Studies

Anuradha: Suffering from hyporthyroidism, she was over weight and suffered from infertility. Despite the fact that she was consuming medicines for 16 years her TSH levels were high at 96.4. This prevented her from becoming pregnant. After nutrition therapy for thyroid and obesity her TSH level was brought down to 1.17 and she reduced 12 kg of weight. After 19 years of marriage she conceived naturally and delivered a healthy male baby.

Priyanka G: Suffering from thyroid induced obesity, she weighed 79 kg. She also suffered from an irregular menstrual cycle, sleeping disorder, acidity, digestion problems, and dry skin. After undergoing nutrition therapy for thyroid she lost 12.5 kg within 2.5 months. Her menstrual cycle became normal after a gap of two years and she enjoyed a smooth sleeping pattern and healthy skin.

These receipes helps stimulate the thyroid gland to regularise the secretion of T3 and T4 in hypothyroid patients.

FRESH COCONUT RICE

Quantity - One full Plate

For the fresh coconut dry masala

1 tsp coconut oil (virgin)
1 tsp mustard seeds (rai/sarson)
7-8 curry leaves
4 whole dry Kashmiri red chillies, broken into pieces
1 tbsp channa dal
1 tbsp urad dal
1¼ tsp fenugreek (methi) seeds
1½ tsp asafoetida (hing)
1 cup grated fresh coconut

Other ingredients

Salt to taste 1 cup cooked (unpolished: red rice = 1:1) rice (soak rice 2 hrs before cooking)

For the coconut dry masala

- 1. Heat the oil in a broad non-stick pan. Add mustard seeds, curry leaves, Kashmiri red chillies, *chana dal, urad dal,* fenugreek seeds, asafoetida and salt, and cook it on medium flame for 4-5 minutes.
- 2. When the seeds crackle, add grated coconut & simmer for 3-4 minutes, stir continuously to form a mixture.
- 3. Keep aside to cool.

How to proceed

1. In a pan add cooked unpolished rice and the coconut dry masala, mix gently and stir continuously on a slow flame for another 2-3 minutes Serve hot garnished with coriander leaves.

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SINGHADA RAITA

Quantity - One medium katori

- 3 to 4 singhada, chopped 4-5 mint leaves, chopped 2 tbsp curd (*dahi*), whisked 1 tsp roasted cumin seed (*jeera*) powder Salt to taste
- 1. Combine all the ingredients in a bowl and mix well. Serve immediately.



Dr. Nupur Krishnan - Ph.D. Food and Nutrition Director (Bio-Logics Nutrition Clinics) - is a Clinical Nutritionist with a decade of proven experience in preventive and clinical nutrition therapies for heart attack, obesity, diabetes, high cholesterol, stroke, blood pressure, thyroid, kidney disorders, liver disease, constipation, anaemia, etc.

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