



GENERAL HEALTH TESTING

Free Thyroxine (T₄) Information Sheet

What is Thyroxine (T₄)?

Thyroxine (T₄) is the major hormone produced by the thyroid gland. Free T₄ is the biologically active form of the hormone, but is still relatively inactive. It is converted to a much more active hormone called triiodothyronine (T₃) in the liver and other tissues (1).

What are normal T₄ levels?

Normal serum levels of free T₄ are typically between 0.70 and 1.48 ng/dL (2). A feedback system in the body usually maintains stable levels of thyroid hormones in the blood. When thyroid hormones are low, the pituitary gland produces and excretes more thyroid stimulating hormone (TSH), which signals the thyroid gland to produce more thyroid hormones. When the pituitary gland senses thyroid hormones are above a certain level, it ceases production of TSH. Thyroid hormone levels may fluctuate due to stress, diet, medications, childbirth, and menopause (3).

What is hyperthyroidism?

Hyperthyroidism is the excess production of thyroid hormones (1). The symptoms can include:

- Fast heart rate
- High blood pressure
- Excess sweating
- Shaky hands
- Anxiety
- Weight loss

Medication, radioactive iodine, or surgical removal of the thyroid gland are effective treatments for hyperthyroidism (4).

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What is hypothyroidism?

Hypothyroidism is the low production of thyroid hormones, slowing down body functions. It is most common in older women (1,5). The symptoms can include:

- Fatigue
- Puffy eyes and face
- Dry hair and skin
- Constipation
- Slower heart rate
- Constantly feeling cold
- Confusion
- Depression

Treatment options for hypothyroidism include daily medications, natural thyroxine hormone extracts, and reduced consumption of substances that affect levothyroxine absorption (e.g. fiber, soy, iron) (4).

References:

- (1) Hershnan JM. (2019, August). Overview of the Thyroid Gland. Merck Manual Consumer Version:
- (2) Alinity i Free T₄ Reagent Kit. [Package Insert]. s.l. : Abbott GmbH & Co, 2018.
- (3) Thyroid Function Tests. American Thyroid Association.
- (4) Ruggie JB, Bougatsos C, & Chou R. (2014) Screening for and Treatment of Thyroid Dysfunction: An Evidence Review for the U.S. Preventive Services Task Force [Internet]. In Evidence Syntheses, No.118. Rockville, MD: Agency for Healthcare Research and Quality (US).
- (5) Verma I, et al. (2012). Prevalence of hypothyroidism in infertile women and evaluation of response of treatment for hypothyroidism on infertility. Int J Basic Med Res, 2 (1), 17-19.

Where can I find more info?

Visit www.genetrackdiagnostics.com for full test information, including specimen collection requirements

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