

Thyroid Hormone Tests

Thyroid abnormalities are one of the most common endocrine disorders affecting millions worldwide. Thyroid hormones are well known for their role in basal metabolic rate, development and growth. Hypothyroidism affects approximately 4-5% of the population whilst estimates for hyperthyroidism are 0.4-2%. Thyroid function testing should be considered in all high risk populations including the ageing population, postpartum women, those with autoimmune disorders, those with a family history of autoimmune thyroid disorders, patients with previous head, neck or thyroid surgery, and those with Down's or Turner's syndrome.

Thyroid

Thyroid abnormalities are one of the most common endocrine disorders, affecting many millions around the world. Thyroid hormones are well known for their role in basal metabolic rate; however, they affect development and growth. The thyroid hormones interact with receptors found in the nucleus of every cell of the body and this interaction leads to the turning on and off of many genes and ultimately to the modification of many bodily functions. Therefore, it is understandable that abnormalities in the level of thyroid hormones can lead to a diverse array of symptoms involving the heart, brain, skin and reproductive systems.

Hypothyroidism

Hypothyroidism is the most common disorder with the prevalence in normal populations with optimal iodine levels being approximately 4-5%. It is most common in women, less prevalent in Hispanic and African-American populations and increases with age. In populations greater than 75 years of age, estimates are as high as 18.5%. There are also special populations with a higher risk of developing hypothyroidism including postpartum women, individuals with a family history of autoimmune thyroid disorders, patients with previous head and neck or thyroid surgery, other autoimmune disorders (type I diabetes, adrenal insufficiency, celiac disease, vitiligo, pernicious anaemia), as well as Down's and Turner's syndromes. The symptoms for hypothyroidism include the well-known characteristics such as fatigue, cold extremities, weight gain and poor memory. In addition, hypothyroidism is also associated with many conditions such as hypertension, cardiovascular disease, menstrual disorders, infertility, rhinitis and urticaria.

Hyperthyroidism and Autoimmune Disease of the Thyroid Gland

Hyperthyroidism is a much less common disorder with estimates being 0.4-2%. Symptoms for hyperthyroidism include tachycardia, anxiety, weight loss and heat sensitivity. The most common causes include Graves' disease, toxic adenoma, toxic multinodular goitre, and painless postpartum lymphocytic thyroiditis (PPLT). Both Graves' disease and PPLT are caused by autoimmune thyroiditis. Autoimmune disease of the thyroid can cause both hypo and hyperthyroidism, as the antibodies can either block or stimulate the thyroid receptors⁶. Estimates for the presence of thyroid antibodies in the general population are 12.4% but are less prevalent in Hispanic and African-American populations.

The Different Thyroid Function Tests Available through NutriPATH

Comprehensive Thyroid Profile (Serum)

- **Analytes:** TSH, FT3, FT4, rT3, Ratios, TPO Ab, ATG Ab
- **Test Preparation:** Take morning medications after the blood draw if possible
- **Specimen Collection Requirements:** Either serum or blood collected in a SST (orange) vacutainer tube.

Reverse T3 (Serum)

- **Analytes:** Reverse T3
- **Test Preparation:** Take morning medications after the blood draw if possible
- **Specimen Collection Requirements:** Either serum or blood collected in a SST (orange) vacutainer tube.

Thyroid Hormone Profile (Urinary)

- **Analytes:** T4, T3, T4/T3
- **Test Preparation:** Take your medication following your normal daily regime
- **Specimen Collection Requirements:** Collect either a 24 hour or spot urine specimen. Then transfer a 10ml sample of this specimen into the monovette supplied for preservation and transportation to NutriPATH. When given the choice between a spot urine or a 24 hour urine specimen, the 24-hour collection is the preferable method. However, a spot urine specimen can be used in most cases if patient compliance is an issue.

Result Turnaround Time

Serum: Up to 10 working days after receipt of sample and test fee payment at NutriPATH.

Urine: Up to 2 weeks after receipt of sample and test fee payment at NutriPATH.



Phone **1300 688 522** for further details

www.nutripath.com.au