



Total Thyroid Screen

The Total Thyroid Screen provides a thorough analysis of thyroid hormone metabolism. It includes central thyroid gland regulation and activity, thyroid production and secretion, peripheral thyroid conversion, and thyroid autoimmunity. This test allows the practitioner to pinpoint common imbalances that underlie a broad spectrum of chronic illness.

• **Analytes:**

Hypersensitive thyroid-stimulating hormone (TSH)
 free serum thyroxine (fT4)
 free triiodothyronine (fT3)
 Total thyroxine (TT4)
 anti-thyroglobulin antibodies (anti-TG)
 anti-thyroid peroxidase antibodies (anti-TPO)
 fT4/fT3
 Reverse T3 (rT3) - Optional add-on

• **Specimen Requirement:**

5ml serum in SST

• **Before Taking this Test:**

- Inform practitioner of all medications and supplements
 - Arrange serum collection for Monday-Thursday
 - See instructions inside test kit for blood draw

Thyroid hormones are essential and primary regulators of the body's metabolism. Imbalances can affect virtually every metabolic process in the body, exerting significant effects on mood and energy level.

Thyroid function has a profound impact on overall health via:

- Modulation of carbohydrate, protein and fat metabolism
- Vitamin utilisation
- Mitochondrial function
- Digestive process
- Muscle and nerve activity
- Blood flow
- Oxygen utilisation
- Hormone secretion
- Sexual and reproductive health
- Many other physiological parameters

Thyroid imbalances may elicit fatigue, depression, coldness, constipation, poor skin, headaches, PMS, dysmenorrhea, fluid retention, weight gain, anxiety/panic attacks, decreased memory and concentration, muscle and joint pain, and low sex drive.

Thyroid Testing

The Total Thyroid Screen reveals imbalances that often go undetected with more limited assessments. Testing measures:

- **Unbound levels of T4 and T3** which reflect the bioactive portion of thyroid hormone. This assessment can identify not only overt hyper- and hypothyroidism, but subtle sub-clinical manifestations of thyroid dysfunction.
- **Reverse T3 (optional add-on)**, levels of which can increase when peripheral conversion of T4 to active T3 is impaired. Peripheral thyroid imbalances may arise from nutrient shortages, heavy metal exposure, adrenal stress, enzyme deficiencies, and other chronic illness.
- **Thyroid antibody levels**, which help gauge autoimmune response and may reflect metabolic irregularities and hypothyroidism even when TSH and T4 levels appear normal. Thyroid antibody levels may rise in response to trauma, dysbiosis, inflammation (including thyroiditis) or progressive thyroid degeneration.

Ensuring healthy thyroid function is clinically essential. Optimal thyroid function may help safeguard against the pathogenesis of diabetes, obesity, heart disease, and depression. Thyroid hormones also play central metabolic roles in healthy sexual and reproductive function in both women and men. Because they are essential for IGF-1 production, thyroid hormones significantly affect lipid metabolism.

Total Thyroid Screen

Analyte	Result	Optimal Range	Reference Range
TOTAL THYROXINE (34)	139	77 - 150	58 - 154 nmol/L
THYROID STIMULATING HORMONE	0.56	1.0 - 2.0	0.4 - 4.0 mIU/L
FREE THYROXINE (T4)	22.3 H	12 - 20	10 - 22 pmol/L

Analyte	Result	Optimal Range	Reference Range
FREE T3	5.6	3.4 - 6.0	2.8 - 6.5 pmol/L
FREE T4 : FREE T3 RATIO	3.98	3.0 - 5.0	3.0 - 5.0

Analyte	Result	Optimal Range	Reference Range
THYROGLOBULIN:	996 H	<40	0 - 40 IU/ml
PEROXIDASE (MICROSOMAL)	< 10.0	<35	0 - 35 IU/ml

Reference range: The conventional or standard laboratory normal range designed to identify and diagnose disease states and pathology

Optimal range: The functional approach, orientated around changes in physiology and not pathology. This results in a tighter range, increasing the ability to detect patients with changes in physiological function

This test reveals important clinical information about:

- **Central thyroid dysregulation** indicating primary or secondary thyroid dysfunction that may be associated with fatigue, depression, coldness or cold extremities, hair loss, headaches, PMS, menstrual irregularities, fluid retention, unexplained weight gain or weight loss, anxiety or panic attacks, decreased memory or concentration, muscle and joint pain, low libido, and infertility
- **Peripheral thyroid imbalances** arising from nutrient shortages, heavy metal exposure, adrenal stress, enzyme deficiencies, and other chronic illness, which may result in functional hypothyroidism, known variously as euthyroid sick syndrome (ESS), low T3 syndrome, or Wilson's syndrome
- **Thyroid antibody levels**, to gauge autoimmune response that can interfere with thyroid receptor function and promote inflammatory thyroid diseases like Hashimoto's thyroiditis, Graves' disease or postpartum thyroiditis