



THYROID FUNCTION

TESTS

TSH

0.4-5.0 mIU/L (depends on method).

TSH estimation by a high sensitivity assay is now accepted as the first line test for assessment of thyroid function.

Monitoring of patients on thyroid replacement or suppressive therapy.

TSH has been adopted as the initial test of thyroid function as it is more sensitive than free T4 to alterations of thyroid status in patients with primary thyroid disease.

High levels are found in primary hypothyroidism.

Successful thyroid replacement therapy should be associated with a return of TSH to within the reference interval, however this may take several weeks to achieve.

Suppressed levels are found in hyperthyroidism; very rarely, hyperthyroidism may be due to pituitary overproduction of TSH.

In the treatment of thyroid cancer, TSH should be suppressed, but not to undetectable levels.

In hypopituitarism, levels are usually low but may be within the reference interval.



T4

10-25 pmol/L. Values up to 35 pmol/L may be acceptable for patients on full replacement therapy with thyroxine.

Investigation of thyroid function, as an adjunct to TSH, which is the preferred test for assessment of thyroid status.

Monitoring patients on thyroid replacement therapy.

Free thyroxine has largely replaced the free thyroxine index.

The results should always be interpreted in association with TSH.

Free T4 is elevated in hyperthyroidism. Levels are usually depressed in hypothyroidism, but TSH elevation is a more sensitive indicator.

A patient may be hypothyroid, with TSH levels greater than twice the reference interval but free T4 within the reference interval.

Total T4 is occasionally measured (as part of the free thyroxine index) when free T4 results are suspected, on clinical grounds, of being anomalous.

Primary hypothyroidism cannot be excluded by free thyroxine alone.

Free T4 may be reduced or increased in non-thyroidal illness (sick euthyroid syndrome), but TSH levels are not abnormal.

THYROID ANTIBODIES

Diagnosis of Hashimoto thyroiditis;

follow up of post-partum or subacute thyroiditis;

investigation of unexplained ophthalmopathy or myopathy.

Positive thyroid microsomal antibodies or thyroglobulin antibodies occur in virtually all patients with Hashimoto disease.

Thyroid microsomal antibodies have greater sensitivity than thyroglobulin antibodies for Hashimoto thyroiditis. However, positive results can occur in patients with other forms of autoimmune thyroid disease and other tissue specific autoimmune disease.

These antibodies also occur in low titre in up to 20% of the normal elderly population.

REFERENCE: <http://www.rcpamannual.edu.au/default.asp>