



The Dove Clinic for Integrated Medicine

THYROID DISEASE

The thyroid hormones are involved in the control of the body's metabolism. They are synthesized by several enzymatic conversions involving iodine, under the control of a feedback mechanism involving the hypothalamus and Pituitary gland. The hormone T4 circulates in the bloodstream and regulates this feedback mechanism, but isn't itself active until converted into T3. This conversion occurs in the tissues – particularly the liver and kidneys under the influence of several sub-types of the 5-deiodase enzyme, the most active of which (type 1 enzyme) contains a selenocysteine molecule i.e requires selenium to function.

The thyroid can be involved in a number of disease processes, which may abnormally increase (hyperthyroidism) or decrease (hypothyroidism) production of these hormones. In the former case patients are typically hyperactive, hot and sweaty, irritable and underweight, while hypothyroid patients are typically slow and sluggish, constipated, overweight, cold, mentally dull and depressed, with dry skin and thinning hair.

An underactive thyroid (hypothyroidism) can have a number of causes including:

- iodine deficiency
- autoimmune
- congenital
- drug-induced

A number of other factors can interfere with hormone levels and/or activity and can therefore affect thyroid function including:

- environmental toxins such as pesticides, fluoride, heavy metals
- radiation
- infections
- selenium deficiency
- high oestrogen states (including pregnancy)
- chronic stress – both physical and mental

It has been suggested that the current diagnosis and treatment of hypothyroidism is inadequate due to the fact that measuring TSH (thyroid stimulating hormone) alone – an indirect measure of thyroid function – doesn't accurately reflect the clinical picture in a lot of cases eg

- patients with chronic fatigue – shown as a group to tend to have lower thyroid function than the normal population by Skinner and Colleagues from Birmingham.
- patients who cannot adequately convert T4 into T3 the active hormone
- Patients who convert T3 into the inactive 'reverse T3' and thus have a relative deficiency of the active hormone (Wilson's Syndrome).



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Skinner & colleagues in Birmingham have conducted trials showing that such patients who are 'biochemically normal' but 'clinically hypothyroid' have a favourable clinical response to thyroid replacement. The implication therefore is that a group of individuals may be being inadequately diagnosed and treated.

At the Dove Clinic we offer the following tests for thyroid function:

- TSH
- Free T4
- Free T3

Treatment is based on these results, but also takes account of the patient's symptoms. It is important to 'treat the patient as well as the laboratory'. We use a porcine thyroid extract containing both T4 and T3, and will prescribe additional T3 if indicated. Further tests and treatment may be recommended if appropriate.