BRITISH THYROID FOUNDATION

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The Diagnosis and Management of Primary Hypothyroidism: Questions and Answers

Q: What does the Royal College of Physicians (RCP) say about the diagnosis and treatment of hypothyroidism?

A: The RCP issued an important statement in 2009 to advise doctors on how to diagnose and treat primary hypothyroidism in the UK.

The statement says that **thyroxine (i.e., levothyroxine) is the only treatment that should be given for primary hypothyroidism,** which is caused by under-activity of the thyroid gland. Symptoms of untreated hypothyroidism include tiredness, muscle cramps and sensitivity to cold.

The statement also says that **the only validated method of testing thyroid function is on blood, which must include serum TSH (thyroid stimulating hormone or thyrotrophin) and a measure of free thyroxine (T4).**

The statement is supported by the Association for Clinical Biochemistry, the Society for Endocrinology, the British Thyroid Association, the British Thyroid Foundation Patient Support Group, and the British Society of Paediatric Endocrinology and Diabetes and is endorsed by The Royal College of General Practitioners.

See:

http://www.rcplondon.ac.uk/specialties/Endocrinology-Diabetes/Documents/Hypothyroidism.pdf

Q: Why is this statement necessary?

A: Hypothyroidism is common and its symptoms often mimic the symptoms of other conditions. On the one hand it can be missed (if the correct blood test is not done) and other conditions such as depression diagnosed instead. On the other hand, patients are sometimes diagnosed with hypothyroidism on the basis of their symptoms and with no abnormal thyroid tests.

Patients, doctors and other health professionals are worried that people are being wrongly diagnosed and treated, due to the amount of unvalidated diagnostic tests and ‘natural' treatments that are being offered by a variety of private individuals and companies.

Wrong diagnoses and treatments can be dangerous, either because the wrong treatment can cause serious side effects, or the true cause of symptoms can be left undiagnosed and untreated.

Q: How should hypothyroidism be diagnosed?

A: By a physical examination and blood tests. If the thyroid-stimulating hormone (TSH) is high (above the normal reference range) with a thyroxine (FT4) level that is low (below the reference range) this indicates an under-active thyroid.

Q: What does the RCP statement say the diagnosis must be based on?

A: There is a misconception that the RCP statement says that the diagnosis must be based on the TSH and FT4 test **only**. What it actually states is that it **must include** these tests, it does not rule out the relevance of symptoms or other blood tests such as thyroid antibodies to help doctors reach their diagnosis.

Q: What about testing in urine, saliva etc?

A: The RCP statement says that 'there is no evidence to support the use of thyroid hormone testing in urine, saliva, etc or the measurement of basal body temperature in the diagnosis of thyroid dysfunction' (see also the article in ***BTF News*** issue 67, 2008).

Q: How should hypothyroidism be treated?

A: Your doctor will prescribe levothyroxine, a synthetic version of the thyroxine (T4) produced by the thyroid gland. Whilst the T4 that is prescribed is synthetic (and therefore subject to stringent quality controls) it is important to realise that synthetic T4 is IDENTICAL to the T4 made by the thyroid so in that sense it is 'natural' in the same way as, for example, vitamin C obtained in a bottle is the same as that available in a foodstuff.

Q: I take a combination of levothyroxine and T3. Can my doctor continue to prescribe T3?

A: The RCP statement says that 'The College does not support the use of thyroid extracts or thyroxine and T3 combinations **without further validated research published in peer-reviewed journals**.' At the moment there is no peer-reviewed research in support of the use of T3. Until there is, the College does not therefore support using T3 either in desiccated thyroid products such as Armour or in combination with T4.

T3 may cause serious adverse effects, and interactions with other medicines, and has a much shorter half-life than levothyroxine (T4) so it should never be taken without medical advice. However, the RCP statement leaves the door open to doctors to continue to prescribe T3 in individual cases on the advice of an endocrinologist. It states that 'Therefore, **the inclusion of T3 in the treatment of hypothyroidism should be reserved for use by accredited endocrinologists in individual patients**.'

Peer-reviewed research *= research that has been checked by other scientific experts (sometimes called 'referees') and published in scientific journals. Peer review is a kind of quality mark for science. It tells you that the research has been conducted and presented to a standard that other scientists accept.*

Accredited endocrinologist *= someone who has completed an accredited training programme in endocrinology and who is recognised by the relevant Royal College (Physicians or Paediatrics and Child Health) as an endocrinologist. Such practitioners are on the speciality register of the GMC as an endocrinologist.*

Q: I do not feel 'well' on T4 only. What can I do?

A: There are several things you might do including:

If your TSH is at the high end of the reference range, discuss with your doctor if they can make a small change in your levothyroxine dose, enough to bring you to the middle or low end of the range, and test this again after 2-3 months. The correct dose is one that restores good health. In

many patients this is associated with a TSH reading in the low part of the reference range and a level of FT4 in the upper part or even slightly above the reference range. The RCP states that 'fine-tuning of TSH levels inside the reference range may be needed for individual patients'.

If you still do not feel well, ask your doctor to refer you to an endocrinologist for advice.

Ask your doctor what non-thyroid condition might be causing your symptoms. It is important to exclude other conditions.

Q: What is subclinical hypothyroidism?

A: The definition of subclinical hypothyroidism is an increase in TSH above the reference range combined with normal Free T4 concentrations. Subclinical hypothyroidism may slowly progress to overt primary hypothyroidism (which is defined as raised TSH with reduced free T4 concentrations), at which stage symptoms may be present. It is important to exclude other conditions. If you have symptoms while your TSH concentration is above the reference range but your FT4 concentration is normal, ask your doctor what non-thyroid condition might be causing your symptoms. If no obvious cause is found, ask to be referred to an accredited endocrinologist or consultant general physician.

Q: Is it true that I can only be prescribed thyroid medication if my TSH is greater than 10mU/l?

A: In the case of patients with subclinical hypothyroidism, the RCP statement recommends that 'some patients, **particularly** those whose TSH level is greater than 10mU/l, may benefit from treatment with thyroxine, as indicated in national guidelines'. (See *UK Guidelines for the Use of Thyroid Function Tests*, by the Association for Clinical Biochemistry, the British Thyroid Association, and the British Thyroid Foundation, July 2006: http://www.acb.org.uk/docs/TFTguidelinefinal.pdf).

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