NHS
West Essex
Clinical Commissioning Group

Information about changes to medicines or treatments on the NHS:

GPs in West Essex are no longer prescribing some medicines from December 2017 following guidance from NHS England. This guidance was produced by a clinical working group consisting of GPs, Pharmacists, Clinical Commissioning Groups, the Royal College of General Practitioners, the National Institute for Health and Care Excellence, the Department of Health, and the Royal Pharmaceutical Society. They focused on products that are:

- Not as safe as other medicines OR
- Not as good (effective) as other medicines OR
- More expensive than other medicines that do the same thing.

One of these medicines is: **liothyronine**

(including Armour® Thyroid and liothyronine combination products)

What is liothyronine?

Liothyronine (sometimes known as T3) is used to treat an underactive thyroid gland. "Underactive" means that the thyroid gland does not work as well as it should. However, the recommended treatment for an underactive thyroid gland is a medicine called levothyroxine.

What happens when the thyroid is working normally?

Normally the thyroid produces T4 and T3, but about 85% of the hormone released from the thyroid into the blood stream is T4 (thyroxine) and 15% is T3. T3 is the active hormone. Every target organ in the body that requires thyroid hormones can convert T4 to make T3.

How does levothyroxine (T4) treatment work?

Levothyroxine is the synthetic form of the natural 'T4' hormone (thyroxine). It works in the same way and can be measured in the same blood tests. Levothyroxine provides stable natural thyroid hormone replacement therapy. Target organs can convert levothyroxine to T3.

What if I do not feel well on levothyroxine (T4) treatment?

The average dose of thyroxine is 100 – 150 mcg per day. Your GP will check your thyroid function tests (blood tests) once you have been on a stable dose of **levothyroxine** for 6-8 weeks. They will use the results to adjust the dose of levothyroxine if necessary. It is helpful to take your **levothyroxine** separate to any other tablets or medicines (including vitamin or mineral supplements). Sometimes **levothyroxine** is better absorbed if it is taken last thing at night. It can take a few months to feel fully better even when the dose of **levothyroxine** is correct.

Depending on your symptoms, your GP may feel it would be helpful to check other blood tests, to screen for conditions that are more common in patients with hypothyroidism: for example, coeliac disease (gluten sensitivity) or anaemia (caused by vitamin B12 deficiency).

What are the risks of T3 treatment?

T3 is much shorter-acting than T4, so levels vary widely during the day, even in patients on multiple daily doses. It is difficult to replicate the natural balance of T4/T3 in the circulation using T4/T3 combination therapy, risking side-effects from slight over-treatment in the long term. These side-effects include **atrial fibrillation (an erratic heart beat which increases the risk of stroke) and loss of bone strength (increasing the risk of osteoporosis and fractures)**.

Patients who are trying for a baby should not take T3, as it does not cross the placenta, so it will not support the development of the baby during pregnancy.

Should I take Armour Thyroid?

Armour Thyroid is made from dried pig thyroid. It is an unlicensed product in the UK. It contains excessive amounts of T3 in relation to T4, and is not recommended.

Why does the NHS want to reduce prescribing of liothyronine?

There is not enough evidence to routinely use liothyronine in the treatment of an underactive thyroid gland, whereas there is a lot of evidence for the use of **levothyroxine**. In clinical practice, a small number of patients do seem to benefit from T4/T3 combination therapy, and research studies are ongoing to look into possible biological explanations for this observation. However at present the doctors who plan local health services feel that there is insufficient evidence of clinical benefit to support its use

Is this a financial decision?

T3 therapy is much more expensive than **levothyroxine** (T4) therapy (one T3 tablet is approximately 100 times more expensive than one levothyroxine tablet). The NHS spends approximately £20.8 million on T3 per year. The decision is based on insufficient evidence of clinical and cost-effectiveness of T3 treatment (either alone or in combination with T4 [levothyroxine]). There is also a safe alternative (levothyroxine [T4] treatment).

What options are available instead of liothyronine?

People who are currently prescribed liothyronine will be reviewed by a consultant NHS endocrinologist to consider a switch to levothyroxine. In exceptional cases, where levothyroxine has not worked and in line with the BTA guidance, a consultant endocrinologist may recommend liothyronine for individual patients after a three month trial of treatment.

Where can I find more information and support?

- You can speak to your local pharmacist, GP or the specialist who prescribed the medication to you
- British Thyroid Association (BTA) Management of hypothyroidism FAQ: www.btfthyroid.org/images/documents/FAQ_for_BTA_Hypothyroidism_Statemen t.pdf
- The Patients Association can also offer support and advice: https://www.patients-association.org.uk/ or call 020 8423 8999
- Find out more about the medicines that are being stopped or reduced: https://www.england.nhs.uk/medicines/items-which-should-not-be-routinelyprescribed/

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