

## **Liothyronine- Information for patients**

### **What is liothyronine?**

Liothyronine (sometimes called T3) is a medicine used to treat an underactive thyroid gland. "Underactive" means that the thyroid gland does not work as well as it should. The usual treatment for an underactive thyroid gland is a medicine called levothyroxine (sometimes called T4).

### **What happens when the thyroid is working normally?**

The thyroid normally produces T4 and T3. About 85% of the hormone that goes from the thyroid into the blood stream is T4 (thyroxine) and only 15% is T3. T3 is the hormone that the body needs but every organ in the body that needs thyroid hormones can change T4 into T3.

### **How does levothyroxine (T4) treatment work?**

Levothyroxine is the artificial form of the natural T4 hormone (thyroxine). It works in the same way and can be measured in the same blood tests. The organs in the body that need thyroid hormones can change levothyroxine into T3.

### **What if I do not feel well with levothyroxine (T4) treatment?**

It can take a few months until you feel better, even when the dose of levothyroxine is correct. When you have been on the same dose of levothyroxine for 6 to 8 weeks you will have a blood test to check the levels of your thyroid hormones. They will use the results of this blood test to check you are on the right dose of levothyroxine. The average dose of levothyroxine is 100 to 150 micrograms a day, but some people need less and some people need more.

It is best to take levothyroxine once a day in the morning, ideally at least 30 minutes before having breakfast or a drink containing caffeine, like tea or coffee. Food and caffeinated drinks can both stop your body taking in levothyroxine properly so it does not work as well.

Sometimes your GP may decide that you should have other blood tests too, to check for other medical conditions that are more common in patients with hypothyroidism, for example, coeliac disease (a bad reaction to gluten) or a type of anaemia that is caused by not enough vitamin B12.

### **What are the risks from liothyronine (T3) treatment?**

The effects of liothyronine do not last as long as levothyroxine, so the levels may go up and down during the day. It is difficult to copy the natural balance of T4/T3 in the blood with levothyroxine and liothyronine so there is a risk of side-effects developing after a long time. These side-effects include an irregular heartbeat, which increases the risk of a stroke, and weaker bones, which increases the risk of osteoporosis and broken bones.

Patients who are trying to become pregnant should not take liothyronine, as it cannot get across the placenta to help the baby grow healthily during pregnancy.

### **Should I take Armour Thyroid?**

Armour Thyroid is made from a pig's thyroid gland. It is not a medically approved product in the UK. It contains too much T3 compared with T4, so patients are advised not to use it.

**Why does the NHS want to prescribe less liothyronine ?**

There is not enough good quality research proving that liothyronine is a better treatment than levothyroxine. Research is going on to find out if some people benefit from liothyronine and levothyroxine used together and if so why. For now though, the doctors who plan local health services feel that there is not enough proof that this works better than levothyroxine on its own so they advise to just use levothyroxine.

**Is this a financial decision?**

Liothyronine (T3) treatment is much more expensive than levothyroxine (T4) treatment. The decision not to recommend using liothyronine is because there is not enough proof that it works better than levothyroxine or that it is good value for money. Levothyroxine is a safe treatment that works well.

**What other kinds of treatment are there instead of liothyronine?**

Levothyroxine is the usual treatment for hypothyroidism. In special cases, if levothyroxine has not worked well a Consultant NHS specialist may advise trying liothyronine, but only if another NHS specialist agrees that liothyronine should be tried.

**Where can I find more information and support?**

- You can speak to your local pharmacist, GP or the specialist who prescribed the medication for you.
- British Thyroid Foundation: [www.btf-thyroid.org](http://www.btf-thyroid.org).
- British Thyroid Association: [www.british-thyroid-association.org](http://www.british-thyroid-association.org).
- 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 cut down on by NHS England: [NHS England » Items which should not be routinely prescribed in primary care: Guidance for CCGs](#).
- NHS Medicines A-Z: [Levothyroxine: a medicine for an underactive thyroid \(hypothyroidism\) - NHS \(www.nhs.uk\)](#)