

Prescribing of liothyronine or unlicensed dried thyroid hormone extracts (Armour® Thyroid) is not supported for long term treatment of hypothyroidism

Thurrock CCG and Basildon and Brentwood CCG does not support the prescribing of liothyronine monotherapy or combination therapy or Armour® Thyroid in the long term treatment of hypothyroidism.

Levothyroxine alone is the treatment of choice for hypothyroidism

- Prescribers should not accept new requests to prescribe liothyronine or Armour® Thyroid for hypothyroidism.
- Patients already stabilised on longstanding liothyronine (T3) or Armour® Thyroid should be switched to an equivalent dose of levothyroxine (T4). As per NHSE guidance on '*Items which should not routinely be prescribed in primary care*' responsibility for this lies with a consultant Endocrinologist. If GPs wish to switch any patients see table below for switching advice from BTUH.
- The Royal College of Physicians considers liothyronine to be a specialist medication which should be prescribed by specialist endocrinologists. In existing patients where switching to an equivalent dose of levothyroxine is not possible or has failed then patients should be referred back to the specialist for continuation of prescribing. The Medicines Management Team recognise that in exceptional cases that prescribing may need to remain in primary care must be considered as an IFR.
- Patients taking liothyronine due to intolerance to levothyroxine tablets (e.g. lactose intolerance) should be reviewed and switched to the levothyroxine manufactured by TEVA which is suitable in lactose and galactose intolerance.
- Patients who decline to the switch or are intolerant are to be referred to the Endocrinologist.

Liothyronine (T3) is the active thyroid hormone and the majority is produced by peripheral conversion of levothyroxine (T4). Interest in the use of liothyronine in combination with levothyroxine has been in existence for many years. There is currently insufficient evidence of clinical and cost effectiveness to support the use of liothyronine (either alone or in combination) for the treatment of hypothyroidism with respect to cognitive function, social functioning and wellbeing in the treatment of hypothyroidism. **Levothyroxine alone is therefore the treatment of choice for hypothyroidism.**

Use of unlicensed dried thyroid hormone extracts, such as Armour® Thyroid, is not recommended. It is harder to select, monitor and adjust the dose of T3 containing preparations than T4, and it is likely therefore that using T3 and T4 will increase risk of stroke and osteoporosis from slight over treatment over many years. The variation in hormonal content and large amounts of liothyronine may lead to increased serum concentrations of T3 and subsequent thyrotoxic symptoms, such as palpitations and tremor. Whilst it is possible that some patients might benefit from the use of combination treatment or Armour® Thyroid, the parameters identifying such a patient group have yet to be clearly identified.

Liothyronine is only approved in Thurrock CCG and Basildon and Brentwood CCG for post thyroidectomy thyroid cancer patients. Patients that need to receive radioactive iodine treatment (Radioiodine Remnant Ablation RRA) after their surgery will initially be started on liothyronine due to its shorter half-life and therefore faster onset of action than levothyroxine. These patients will remain on liothyronine until the oncologist is confident that they will not need any more radioactive iodine at which point they are switched over to levothyroxine. There should therefore be no need to accept prescribing for these patients in primary care.

Providers commissioned to provide services on behalf of both CCGs are reminded that they are required to follow the local formulary and prescribing guidance as detailed in their contract (Medicines Management Service Specification).

Approximate equivalent daily dose of liothyronine to levothyroxine	
Liothyronine (micrograms)	Equivalent dose of Levothyroxine (micrograms)
5	25
10	50
15	75
20	100
30	150
40	200
60	300
80	400
100	500

Approximate equivalent daily dose of Armour® Thyroid to levothyroxine	
Armour® Thyroid/ Thyroid Sicca	Equivalent Dose of Levothyroxine
¼ grain(15mg)	25 micrograms
½ grain(30mg)	50 micrograms
1 grain (60mg)	75-100 micrograms
1 + ½ grains (90mg)	125 micrograms
2 grains (120mg)	150 micrograms
3 grains (180mg)	250 micrograms
4 grains (240mg)	350 micrograms
5 grains (300mg)	400 micrograms

Doses should be rounded to nearest 25micrograms. **Thyroid function tests (TSH and T4) should be repeated in 8 weeks after switching to determine the appropriateness of the new dose.**

Position Statement No.	18
Title	Prescribing of liothyronine or unlicensed dried thyroid hormone extracts (Armour® Thyroid) is not supported for long term treatment of hypothyroidism
References	<p>The Diagnosis and Management of Primary Hypothyroidism, Royal College of Physicians 2011 http://www.thyroiduk.org.uk/tuk/guidelines/RCP_statement_20111.pdf</p> <p>Management of primary hypothyroidism: statement by the British Thyroid Association Executive Committee. Clinical Endocrinology (2016) 84, 799–808 http://onlinelibrary.wiley.com/doi/10.1111/cen.12824/pdf</p> <p>FAQ to accompany the BTA document http://www.btf-thyroid.org/images/documents/FAQ_for_BTA_Hypothyroidism_Statement.pdf</p> <p>What is the rationale for using a combination of levothyroxine and liothyronine (such as Armour® Thyroid) to treat hypothyroidism? (LINK) UKMI Medicines Q&A 56.5 November 2011</p> <p>PrescQIPP bulletin 121 December 2015 Switching liothyronine (L-T3) to levothyroxine (L-T4) in the management of primary hypothyroidism (LINK)</p>
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Version	1
Author	Medicines Management Team
Approved by	<p>Basildon and Brentwood CCG: Prescribing Subgroup, Patient Quality and Safety Committee, Board</p> <p>Thurrock CCG: Medicines Management and Safety Group, Patient Quality and Safety Committee, Transformation and Sustainability Committee, Board</p>
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