Nottinghamshire Area Prescribing Committee

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Re Liothyronine (T3) in hypothyroidism

Dear Colleague

Following a review of the cost effectiveness and evidence for liothyronine (T3) used to treat hypothyroidism, the Nottinghamshire Area Prescribing Committee (APC) has re-classified this medication on the Joint Formulary to **GREY/Non-Formulary:** (Medicines, which the Nottinghamshire APC has actively reviewed and does not recommend for use at present due to limited clinical and/or cost effective data) for all patients.

Levothyroxine (T4) alone is therefore the treatment of choice for hypothyroidism.

Liothyronine currently costs approximately £3098 per patient per year based on a 10 micrograms twice daily dose. The equivalent daily dose of levothyroxine is 100 micrograms daily and costs the NHS approximately £20 per patient per year. Prescribing of lyothyronine should only be continued in exceptional circumstances where an **NHS endocrinologist** has deemed treatment to be appropriate.

The APC have updated the position statement which advises against prescribing for this indication and the endocrinologists within both local acute trusts are supportive of switching existing patients to levothyroxine.

Some patients may have had treatment initiated by a private consultant. In such cases, following a review by the GP, if the patient cannot be switched in primary care they should be referred to an NHS endocrinologist or referred back to the private sector to obtain the prescription privately.

In patients over the age of 60 years, or of any age with known heart disease, additional care is required to avoid over-replacement. Such patients should be referred to endocrinology for review along with other patients where the GP feels more specialist input is required. However for stable patients who are agreeable to switching, this should be able to be managed in primary care.

- In patients where it is agreed to switch from combined T3 and T4 treatment or from T3 monotherapy to T4 monotherapy, the transition should be made cautiously and gradually aiming to avoid under or over-replacement with thyroid hormones. Any information about previous T4 dosage that achieved a serum TSH within the reference range will be a useful guide that predicts the individual requirement.
- Because of the long half-life of T4, and the short half-life of T3, a "one-step, straight switch" from T3 to T4 may result in a phase of under-replacement, especially in patients who were previously treated with T3 monotherapy. Gradual reduction of T3 starting at the same time as introducing T4 may be a preferable alternative. This will be individual to each patient depending on starting dose regimens. A suggested time period for tapering is 2-6 weeks. The endocrinologists can offer advice is necessary.
- The BNF states that 20–25 micrograms of liothyronine is equivalent to 100 micrograms of levothyroxine.
- Patients should have repeat TFTs one to two months after switching to determine the appropriateness of their new dose.
- Patients should be advised to monitor their own symptoms and report back to the GP if any troublesome adverse effects arise.

Further information can be found on the PrescQIPP bulletin and there are links within the APC position statement to resources from the British Thyroid Association.

Please discuss with your prescribing or medicines management team if you have any further queries or concerns.

Thank you for supporting this change.

Yours sincerely

Prescribing Interface Advisor

On behalf of the Nottinghamshire Area Prescribing Committee.