NHS
Devon
Clinical Commissioning Group

Protocol to review existing patients on Liothyronine

NHS Devon Clinical Commissioning Group

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Approved by: Jo Turl Director of Transformation and Chair Business Commissioning Meeting	Date of formal approval 13/05/2019	Review Date: 13/05/2021
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0.1	06/12/17	First draft
0.2	22/03/18	Amendments following 1st consultation with endocrinologists
0.3	23/05/18	Appendix – referral details added plus further minor amendments
0.4	13/06/18	Comments following endocrinologists meeting
0.5	05/07/18	Comments from LMC clinical secretary

0.6	14/11/18	Final comments from LMC negotiating committee
0.7	03/04/19	Changes following MHRA correspondence
0.8	02/05/19	Changes following e-FIG consultation
0.9	07/05/19	Re-formatted
1.0	15/05/19	Re-formatted following approval by Business Commissioning Meeting

Equality, diversity and inclusion statement

NHS Devon CCG is committed to the promotion of equal opportunities, addressing health inequalities and fostering of good relations between people protected under the terms of the Equality Act 2010, the Health and Social Care Act 2012 and Human Rights legislation. We are equally committed to the elimination of unlawful discrimination, harassment and victimisation. To demonstrate this commitment, we develop, promote and maintain policies, strategies and operating procedures. Every effort is made to ensure that patients, employees, contractors or visitors do not experience discrimination; either directly or indirectly, because of their vulnerability; disadvantage; age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion and belief; sex (gender) or sexual orientation.

All staff must comply with this policy. Compliance must reflect our organisational commitment to and policy on, equality, diversity and inclusion. In addition, each manager and member of staff involved in implementing this policy must give due regard to the needs of those protected under law.

If you, or any other groups, believe you are discriminated against under the terms of the Equality Act, the Health and Social Care Act 2012 or Human Rights legislation by anything contained in this document; or you need this document in an alternative format, for example, large print, Braille, Easy read or other languages; please contact our Patient Advice and Complaints Team (PACT):

Tel: 0300 123 1672
Email: pals.devon@nhs.net,
Post: Patient Advice and Complaints Team,
FREEPOST EX184,
County Hall,
Topsham Road
Exeter
EX2 4QL

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1. Overview

Liothyronine (T3) is a very expensive treatment used in a small number of hypothyroid patients due to sub-optimal response to the usual treatment, levothyroxine (T4). The evidence to support use of liothyronine is very limited and is insufficient to justify the high financial cost currently incurred.

NHS England has advised CCGs (30th November 2017) that:

- There should be no new initiations of liothyronine in primary care
- Individuals currently prescribed liothyronine should be reviewed by a consultant NHS endocrinologist with consideration given to switching to levothyroxine where clinically appropriate, **but that**:
- The British Thyroid Association (BTA) advice is that a small proportion of patients treated with levothyroxine continue to suffer with symptoms despite adequate biochemical correction. In these circumstances, where levothyroxine has failed and in line with BTA guidance, endocrinologists providing NHS services may recommend liothyronine for individual patients after a carefully audited trial of at least 3 months duration of liothyronine.

https://www.england.nhs.uk/publication/items-which-should-not-be-routinely-prescribed-in-primary-care-guidance-for-ccgs/

Further guidance is available from the Regional Medicines Optimisation Committee (RMOC) https://www.sps.nhs.uk/articles/rmoc-guidance-prescribing-of-liothyronine/ The aim of this guidance is to inform CCGs and Area Prescribing Committees in local decision making, and support a consistent approach for the exceptional circumstances in which patients have an on-going need for liothyronine.

Consultation has taken place between the Devon CCGs, specialist endocrinologists and primary care to agree the basis on which the existing patients will be reviewed in accordance with the NHSE / RMOC guidance. This protocol describes that process and the responsibilities of the clinicians involved in caring for these patients. There is a separate but closely aligned protocol for initiating new patients on liothyronine. The Devon Formulary section on thyroid hormones are available at:

South and West:
https://southwest.devonformularyguidance.nhs.uk/formulary/chapters/6.-endocrine/6.2-thyroid-and-antithyroid-drugs/6-2-1-thyroid-hormones-1
North and East:
https://northeast.devonformularyguidance.nhs.uk/formulary/chapters/6.-endocrine/6.2-thyroid/6-2-1-thyroid-hormones

2. Primary Care Responsibilities

GPs to be supported in this process by embedded practice or CCG pharmacists*

*Devon CCG Western locality and South Devon and Torbay locality only (N&E to adapt)

2.1. GP practices to run a search on their clinical system for all patients prescribed any of the following drugs (alone or in combination with levothyroxine) in the last 6 months:
- Liothyronine
- Tri-iodothyronine
- Thyroid extracts
- Armour or Efra thyroid

2.2. When existing patients are receiving liothyronine for mental health indications, this is to be reviewed, (and if appropriate), confirmed and overseen, by a consultant NHS psychiatrist

2.3. Existing patients treated for hypothyroidism **with a specialist review in the last three years and not taking more than 10 micrograms daily liothyronine** should be continued in line with the specialist recommendation. The GP will be required to review the patient and to consider a trial off liothyronine every third year to ensure it is still helping.

2.4. Patients currently on these drugs for hypothyroidism **without a specialist review in the last three years** to be invited for review (see example letter, **appendix 3a**) **or with a specialist review but taking more than 10micrograms daily liothyronine** to be invited for review (see example letter appendix 3b) with their GP / practice pharmacist*.

2.5. The local endocrinologists have agreed that all patients referred to in point 4 above may have a trial titration to levothyroxine. Those on supra-physiological doses (>10micrograms liothyronine) should be prioritised; this may need to be done over a titration period (see schedule for titration, appendix 5)

2.6. Standard procedure for patients on liothyronine converting to levothyroxine (may be modified by endocrinologist)

- Wherever possible patients to be switched liothyronine to levothyroxine on the basis of 20 micrograms liothyronine = 100 micrograms levothyroxine (see schedule for titration, appendix 6).

- Arrange a further appointment after 6-8 weeks to check TFTs and patient's symptoms. Adjust dose to optimise the patient's clinical response.

- If patient is still symptomatic, consider:
  - Due to its long half-life levothyroxine 25 microgram tablets may be given on alternate days for fine adjustment of dosage

- Levothyroxine doses can be fine-tuned with alternate day doses of 25 or 12.5 micrograms (these are more expensive than the other strengths of levothyroxine but much cheaper than liothyronine)

- Branded levothyroxine (Eltroxin) may be considered as only marginally more expensive than generic. Although the BTA state “For the vast majority of patients on levothyroxine, brand or named supplier prescribing is not considered necessary (2/+00)”, the MHRA has stated “Rarely, patients may require a specific brand of levothyroxine to be prescribed due to intolerance of generic preparations.”

2.7. If all the above fails and the patient is not symptomatically controlled by levothyroxine monotherapy, patients may be maintained on a maximum of 10micrograms liothyronine in combination with levothyroxine at a preferred levothyroxine/liothyronine ratio of 10:1

2.8. Strict control of the issue of liothyronine tablets will be necessary. There should be no early or extra prescriptions provided (apart from appropriate quantities for holidays)

2.9. In exceptional cases only if the patient is unwell on the above regimen, a referral may be made to endocrinology as follows:

- Ensure provision of all referral information (appendix 2) before making the referral.
- Following review by Endocrinology / other specialist all recommendations for change in treatment to be implemented within two weeks of receipt of specialist letter.
- Patients should be clearly told that Endocrinology will not advise prescribing more than liothyronine 10micrograms daily
- GPs should not refer patients to endocrinology unless they are prepared to continue prescribing of liothyronine should it be continued by secondary care.

2.10. A prominent note to be placed on the patient record stating *either:*

- Liothyronine has been converted to levothyroxine and should not be re-started, *or*

- Liothyronine is to be continued in line with the specialist recommendation. The GP will be required to review the patient annually and to consider a trial off liothyronine every third year to ensure it is still helping. Access advice from endocrinology by telephone consultation or by email if necessary.

2.11. Ensure a rolling programme of review of patients on liothyronine every 3 years.

*Devon CCG Western locality and South Devon and Torbay locality only (N&E to adapt)

3. Secondary Care Responsibilities

3.1. Face to face assessment by endocrinology will only be necessary in exceptional cases if the patient has not had a specialist review within the last three years and fails to tolerate conversion to levothyroxine or dose reduction of liothyronine (if on more than 10micrograms daily) by the GP.

3.2. **If a patient is referred for a face to face review the standard procedure should be (this may be modified by endocrinologist):**

- The specialist should ensure a thorough evaluation of other potentially modifiable conditions has been completed (see **appendix 1**). Any relevant conditions should be corrected where possible and thyroid treatment adjusted as below:

- Wherever possible switch liothyronine to levothyroxine on the basis of 20 micrograms liothyronine = 100 micrograms levothyroxine. This may need to be done gradually (appendix 5)

- Inform GP practice that switch has taken place

- Arrange a further appointment after 6-8 weeks to check TFTs and patient's symptoms. Adjust dose as necessary and discharge patient back to GP if tolerating levothyroxine.

- If patient is resistant to change or does not respond to levothyroxine, consider optimising levothyroxine as for section 2.6 above.

- Additionally, endocrinologists may wish to up titrate levothyroxine even at expense of TSH being below reference range (but not < 0.1mU/L, as this carries a risk of serious cardiac effects, strokes and osteoporosis).

3.3. If symptoms persist despite all the above, clearly document the main symptoms that the patient finds troublesome. There should be an open and balanced discussion of the uncertain benefits, likely risks of over-replacement and lack of long-term safety data for liothyronine. Provide written information and if the patient still refuses to switch from liothyronine, consider dual therapy that meets the following criteria:

- The licensed product of Liothyronine 20microgram tablets must be used. Lower strength tablets / capsules and all liquids are unlicensed specials. These can be even more expensive than the licensed tablets, are of unknown quality / stability and prescribers are not supported by a product licence.
- Liothyronine 20 microgram tablets are scored but the SPC does not allow the breaking of tablets for lower doses The SPC recommends the following method to take / administer doses below 20 micrograms:

    - The tablet should be allowed to dissolve/disperse in 20 mL of water for 10 minutes, in a small measuring cup.

- The patient should gently swirl the solution occasionally to aid the dissolution/dispersion. The patient should then swirl the solution for a few seconds prior to using a suitable oral syringe to withdraw the amount of liquid corresponding to the dose prescribed (5mL for a 5micrograms dose; 10 mL for a 10micrograms dose).

- The patient can then squirt the liquid directly into their mouth from the suitable oral syringe by gently pressing the plunger.

- Any remaining liquid should be discarded.

- The usual aim should be to re-establish the patient on combined treatment with a levothyroxine: liothyronine dose ratio of 10:1 or higher, with a maximum dose of 10micrograms daily liothyronine taken either once daily or in two divided doses.

- Initial monitoring of TFTs should occur after 6-8 weeks and after each medication change to ensure TSH does not become suppressed. There should be a formal assessment as close to 3 months as possible to ensure there has been an improvement in the agreed symptoms which were important to the patient (and thought to be relevant to the thyroid).

- If there is no evidence of ongoing clinical benefit, then combination Levothyroxine and Liothyronine is to be discontinued and converted back to levothyroxine monotherapy.

- Secondary care to ensure full liaison with primary care regarding the outcome of the trial of levothyroxine / liothyronine and whether prescribing is to continue.

3.4. Ask GP to review the benefits of liothyronine on an annual basis and to consider a trial off liothyronine every 3rd year if possible to ensure it is still helping.

Appendix 1

Some possible causes of persistent symptoms in euthyroid patients on levothyroxine to be considered by primary care prior to referral to secondary care

Ref: Management of primary hypothyroidism: statement by the British Thyroid Association Executive Committee, Clinical Endocrinology 2015.

Endocrine/ auto-immune

Diabetes mellitus	Adrenal insufficiency	Hypopituitarism	Coeliac disease
Pernicious anaemia			

Haematological

Anaemia	Multiple myeloma

End-organ damage

Chronic kidney disease	Chronic liver disease	Congestive cardiac failure

Nutritional

Vitamin B12 deficiency	Folate deficiency	Vitamin D deficiency
Iron deficiency		

Metabolic

Obesity	Hypercalcaemia	Electrolyte imbalance

Drugs

Beta-blockers	Statins	Opiates

Lifestyle

Stressful life events	Poor sleep pattern	Work-related exhaustion
Alcohol excess		

Others

Obstructive sleep apnoea	Viral and post viral syndromes	Chronic fatigue syndrome
Carbon monoxide poisoning	Depression and anxiety	Polymyalgia rheumatica
Fibromyalgia		

Appendix 2

Letter / email to endocrinologist from GP:

Referral Details

- Initial diagnostic TFTs (**was TSH ever raised?** - **this is crucially important so please prioritise over other information**)
- Current dose levothyroxine / liothyronine
- Start dates
- Started by whom
- Reasons for starting liothyronine
- Relevant endocrinological history pre-dating start of liothyronine
- Relevant endocrinological history following start of liothyronine including relevant monitoring and TSH results
- Current ongoing problem
- Relevant past medical history
- Current medication (any relevant past medication history)

Appendix 3a – Letter to patient re: specialist review for patients without a review in the last 3 years

Dear xxxxxxxxxx

I am writing to invite you for a review of your thyroid treatment. You are currently prescribed a medicine called liothyronine which due to its high cost is normally started by specialists in endocrinology (who treat people with hormonal imbalances) then continued by GPs.

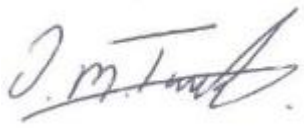
Following advice by NHS England (NHSE), the organisation that leads the National Health Service (NHS) in England (see below for details) all patients on liothyronine but who have not had a review by a specialist in the last 3 years are being invited for a medication review in the practice to make sure that they are on treatment that is most likely to benefit them.

Our records show that you have been taking liothyronine for longer than 3 years without a specialist review. With support from secondary care, we have reviewed your medical notes and have confirmed that you may be suitable for a trial change from Liothyronine to Levothyroxine in the GP practice.

Please make an appointment to see me or our practice clinical pharmacist*, who will discuss the potential change with you and plan the monitoring you will need

*Devon CCG Western locality and South Devon and Torbay locality only (N&E to adapt)

Yours sincerely



GP CCG Senior Officer

NHSE advice on Liothyronine

In summary NHSE advise that all patients taking liothyronine are reviewed and should be considered for a change to levothyroxine (thyroxine tablets) by substituting the drugs over a period of time. The reasons for this are:

- That there is very little clinical evidence that liothyronine is better than levothyroxine for the vast majority of patients
- Liothyronine is considerably more expensive than levothyroxine and the price has risen significantly over the past 5 – 10 years (to approximately 200 times the cost of levothyroxine)

Background	Liothyronine (sometimes known as T3) is used to treat hypothyroidism. It has a similar action to levothyroxine but is more rapidly metabolised and has a more rapid effect;
Annual Spend	£34,802,312 (NHS Digital) In addition, £1,000,049 is spent on liothyronine + levothyroxine combination products e.g. armour thyroid
Rationale for Recommendation	The price (NHS Drug Tariff) of liothyronine has risen significantly and there is limited evidence for efficacy above Levothyroxine. The British Thyroid Association, in their 2015 position statement, state “There is no convincing evidence to support routine use of thyroid extracts, liothyronine monotherapy, compounded thyroid hormones, iodine containing preparations, dietary supplementation and over the counter preparations in the management of hypothyroidism”. Liothyronine is used for patients with thyroid cancer, in preparation for radioiodine ablation, iodine scanning, or stimulated thyroglobulin test. In these situations it is appropriate for patients to obtain their prescriptions from the centre undertaking the treatment. Due to the significant costs associated with liothyronine and the limited evidence to support its routine prescribing in preference to levothyroxine, the group considered liothyronine suitable for inclusion in this guidance.
Category	Items which are clinically effective but where more cost-effective products are available, including products that have been subject to excessive price inflation
Recommendation	• Advise CCGs that prescribers in primary care should not initiate Liothyronine for any new patient • Advise CCGs to support prescribers in de-prescribing Liothyronine in all patients and, where appropriate, ensure the availability of relevant services to facilitate this change. • Advise CCGs that if, in exceptional circumstances, there is a clinical need for liothyronine to be prescribed in primary care, this should be undertaken in a cooperation arrangement with a multi-disciplinary team and/or other healthcare professional

Appendix 3b – Letter to patient with a review in the last 3 years but on more than 10micrograms liothyronine daily

Dear xxxxxxxxxx

I am writing to invite you for a review of your thyroid treatment. You are currently prescribed a medicine called liothyronine which due to its high cost is normally started by specialists in endocrinology (who treat people with hormonal imbalances) then continued by GPs.

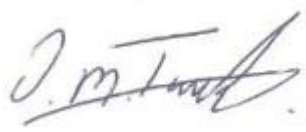
Following advice by NHS England (NHSE), the organisation that leads the National Health Service (NHS) in England (see below for details) all patients on liothyronine doses greater than 10 micrograms per day are being invited for a review of their dose (in view of its high costs).

Our records show that you have been prescribed liothyronine at a dose higher than the recommended maximum dose of 10 micrograms daily. With support from secondary care, we have reviewed your medical notes and have confirmed that you may be suitable for a dose reduction to 10 micrograms daily of liothyronine (with an increase of your levothyroxine dose to compensate)

Please make an appointment to see me or our practice clinical pharmacist*, who will discuss the change with you and oversee the potential change in your treatment and any necessary monitoring.

*Devon CCG Western locality and South Devon and Torbay locality only (N&E to adapt)

Yours sincerely



GP CCG Senior Officer

NHSE advice on Liothyronine

In summary NHSE advise that all patients taking liothyronine are reviewed and should be considered for a change to levothyroxine (thyroxine tablets) by substituting the drugs over a period of time. The reasons for this are:

- That there is very little clinical evidence that liothyronine is better than levothyroxine for the vast majority of patients
- Liothyronine is considerably more expensive than levothyroxine and the price has risen significantly over the past 5 – 10 years (to approximately 200 times the cost of levothyroxine)

Background	Liothyronine (sometimes known as T3) is used to treat hypothyroidism. It has a similar action to levothyroxine but is more rapidly metabolised and has a more rapid effect;
Annual Spend	£34,802,312 (NHS Digital) In addition, £1,000,049 is spent on liothyronine + levothyroxine combination products e.g. armour thyroid
Rationale for Recommendation	The price (NHS Drug Tariff) of liothyronine has risen significantly and there is limited evidence for efficacy above levothyroxine. The British Thyroid Association, in their 2015 position statement, state “There is no convincing evidence to support routine use of thyroid extracts, liothyronine monotherapy, compounded thyroid hormones, iodine containing preparations, dietary supplementation and over the counter preparations in the management of hypothyroidism”. Liothyronine is used for patients with thyroid cancer, in preparation for radioiodine ablation, iodine scanning, or stimulated thyroglobulin test. In these situations it is appropriate for patients to obtain their prescriptions from the centre undertaking the treatment. Due to the significant costs associated with liothyronine and the limited evidence to support its routine prescribing in preference to levothyroxine, the group considered liothyronine suitable for inclusion in this guidance.
Category	Items which are clinically effective but where more cost-effective products are available, including products that have been subject to excessive price inflation
Recommendation	• Advise CCGs that prescribers in primary care should not initiate Liothyronine for any new patient • Advise CCGs to support prescribers in de-prescribing Liothyronine in all patients and, where appropriate, ensure the availability of relevant services to facilitate this change. • Advise CCGs that if, in exceptional circumstances, there is a clinical need for liothyronine to be prescribed in primary care, this should be undertaken in a cooperation arrangement with a multi-disciplinary team and/or other healthcare professional

Appendix 4 GP Memo

Dear Colleagues

You may well have seen reports of the results of the recent consultation by NHS England and NHS Clinical Commissioners on 'Low Value Medicines'. We have already been working hard to tackle some of the drugs included in this list and have been making excellent progress. There are a few remaining areas where we wanted to await the conclusion of the consultation before deciding on a strategy. The first drug that we now wish to address is liothyronine (T_3)

The recommendation by NHS England for liothyronine is:

Background	Liothyronine (sometimes known as T_3) is used to treat hypothyroidism. It has a similar action to levothyroxine but is more rapidly metabolised and has a more rapid effect;
Annual Spend	£34,802,312 (NHS Digital) In addition, £1,000,049 is spent on liothyronine + levothyroxine combination products e.g. armour thyroid
Rationale for Recommendation	The price (NHS Drug Tariff) of liothyronine has risen significantly and there is limited evidence for efficacy above Levothyroxine. The British Thyroid Association, in their 2015 position statement, state "There is no convincing evidence to support routine use of thyroid extracts, liothyronine monotherapy, compounded thyroid hormones, iodine containing preparations, dietary supplementation and over the counter preparations in the management of hypothyroidism". Liothyronine is used for patients with thyroid cancer, in preparation for radioiodine ablation, iodine scanning, or stimulated thyroglobulin test. In these situations it is appropriate for patients to obtain their prescriptions from the centre undertaking the treatment. Due to the significant costs associated with liothyronine and the limited evidence to support its routine prescribing in preference to levothyroxine, the group considered liothyronine suitable for inclusion in this guidance.
Category	Items which are clinically effective but where more cost-effective products are available, including products that have been subject to excessive price inflation
Recommendation	• Advise CCGs that prescribers in primary care should not initiate liothyronine for any new patient • Advise CCGs to support prescribers in de-prescribing liothyronine in all patients and, where appropriate, ensure the availability of relevant services to facilitate this change. • Advise CCGs that if, in exceptional circumstances, there is a clinical need for liothyronine to be prescribed in primary care, this should be undertaken in a cooperation arrangement with a multi-disciplinary team and/or other healthcare professional

Liothyronine is categorised as an amber drug in the joint formulary and as such should not be initiated in primary care.

We would wish to facilitate the de-prescribing of liothyronine in all appropriate patients in accordance with the guidance. As such:

- We have the backing of the consultants in endocrinology to support this work;
- Existing patients treated for hypothyroidism **with a specialist review in the last three years and not taking more than 10 micrograms daily liothyronine** should be continued in line with the specialist recommendation. The GP will be required to review the patient and to consider a trial off liothyronine every third year to ensure it is still helping.
- They have agreed that patients currently on these drugs for hypothyroidism **without a specialist review in the last three years or with a specialist review but taking more than 10micrograms daily liothyronine** may have a trial titration to levothyroxine (see schedule for titration, appendix 5)
- If the patient does not tolerate levothyroxine monotherapy, patients may be maintained on a maximum of 10micrograms liothyronine in combination with levothyroxine at a preferred levothyroxine/liothyronine ratio of 10:1
- Strict control of the issue of liothyronine tablets will be necessary. There should be no early or extra prescriptions provided (apart from appropriate quantities for holidays)
- In exceptional cases only if the patient is unwell on the above regimen, a referral may be made to endocrinology as follows:
  - Ensure provision of all required referral information (appendix 2) before making the referral.
  - Acknowledgement that the endocrinology team will not be able to recommend more than 10micrograms liothyronine (in combination with levothyroxine)
- If existing patients are receiving liothyronine for mental health indications, this is to be reviewed, (and if appropriate), confirmed and overseen, by a consultant NHS psychiatrist
- We will ask our practice embedded / CCG pharmacists* (including those practices who do not have a dedicated pharmacist) to facilitate this process;
  - They will identify and review the patients and coordinate with yourselves
  - They will supervise the titration from liothyronine to levothyroxine

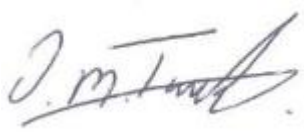
*Devon CCG Western locality and South Devon and Torbay locality only (N&E to adapt)

- We ask you to support this process;
  - Please support our embedded pharmacists in identifying appropriate patients and in providing the necessary clinical information to the endocrinologists (where appropriate)
  - We ask that you write to all appropriate patients informing them that you have worked with the local endocrinologists in line with the guidance from NHS England (template letter attached) and inviting them for a practice review (see appendix 3a / b)
  - We recognise that some of these patients may be hard to engage with and present objections to the titration to levothyroxine.
  - Devon CCG and Devon LMC has agreed the following joint statement regarding this initiative:
    - *'Following a detailed piece of work over the past 18 months or so regarding the prescribing of liothyronine, we are pleased to have arrived at the point of being able to progress implementation of our planned approach. In arriving at this position, we have involved the LMC throughout the work up and approach design process, as well as formally consulting and negotiating with them by mean of established formal negotiating processes.*

- *We have agreed with the LMC and other stakeholders that no new initiations of liothyronine should occur within primary care. The initiation protocol will be used by endocrinology and will also be available as a link from the Devon formularies page for hypothyroidism.*
- *Regarding patients already receiving liothyronine we propose a review process that asks General Practice to review patients in accordance with the existing patients' protocol, switching to alternative therapy or adjusting the dose of liothyronine wherever viable. We have found a significant amount of historical prescribing of liothyronine that is not in line with current practice guidelines and needs to be reviewed. Note that to support GPs and their teams this review process includes the ability to refer to endocrinology where exceptionality is indicated as defined within protocol.*
- *As previously described the LMC have been involved in the design of this protocol, but at formal negotiation phase they have determined that they are not able to support our approach to patients currently being prescribed liothyronine. Specifically, they are of the opinion that patient review should be undertaken by endocrinologist, rather than within General Practice. The LMC position is that there is no obligation for any Practice to take part in this protocol but if they choose to do so NHSE guidelines should be taken into consideration."*

Devon CCG Western Locality alone is currently spending approximately £310,000 p.a. on liothyronine (over £900k in Devon CCG as a whole) which in the majority of patients is not clinically indicated. We would ask that you and your practice can fully support the effort in transferring as many patients as possible to a more cost-effective option although we do recognise that this will be challenging to both you and the patients who are affected.

Yours faithfully



CCG Senior Officer

Appendix 5: Suggested protocol for weaning dose of liothyronine to maximum 10micrograms daily:

1. If liothyronine monotherapy: add levothyroxine at a ratio of 20 micrograms liothyronine to 100 micrograms levothyroxine. Suggest reducing dose every 6 weeks by 10-20 micrograms liothyronine until dose of 10micrograms liothyronine is achieved. Then discuss trial of stopping liothyronine.

2. If liothyronine: levothyroxine combination:

    a. If TSH in normal range: for every 10micrograms reduction in liothyronine, add 50micrograms levothyroxine. It is likely this is a supra-physiological dose conversion (and should be 25micrograms if a history of IHD or frail elderly). Repeat TFTs at 6 weeks, before next reduction in liothyronine. If TSH remains in normal range, repeat the process until on 10micrograms liothyronine, then discuss trial of stopping.

    b. If TSH below reference range, for next dose reduction in 10micrograms liothyronine, add only 25micrograms levothyroxine and repeat process until on 10micrograms liothyronine.

3. If natural desiccated thyroid: A conversion should be made to a weight-based regimen to 1.6micrograms/kg of levothyroxine.