

**JOINT MANAGEMENT OF THYROTOXICOSIS AND HYPOTHYROIDISM
IN PRIMARY AND SECONDARY CARE**

Document purpose: To facilitate the management of thyrotoxicosis in primary care and ensure timely referral to secondary care where appropriate.
This guideline provides information about the diagnosis and management of **uncomplicated thyrotoxicosis** in primary care. Patients with **differential diagnoses**, eg, Graves' disease, should be referred to the Endocrinology Department for initial assessment and, where appropriate, these patients may be followed-up and treated in primary care.

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Hypothyroidism

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1. Management of Thyrotoxicosis (Amiodarone induced excluded)

DIAGNOSIS

Thyrotoxicosis is diagnosed clinically and biochemically. In otherwise uncomplicated patients it is reasonable to start treatment in primary care.

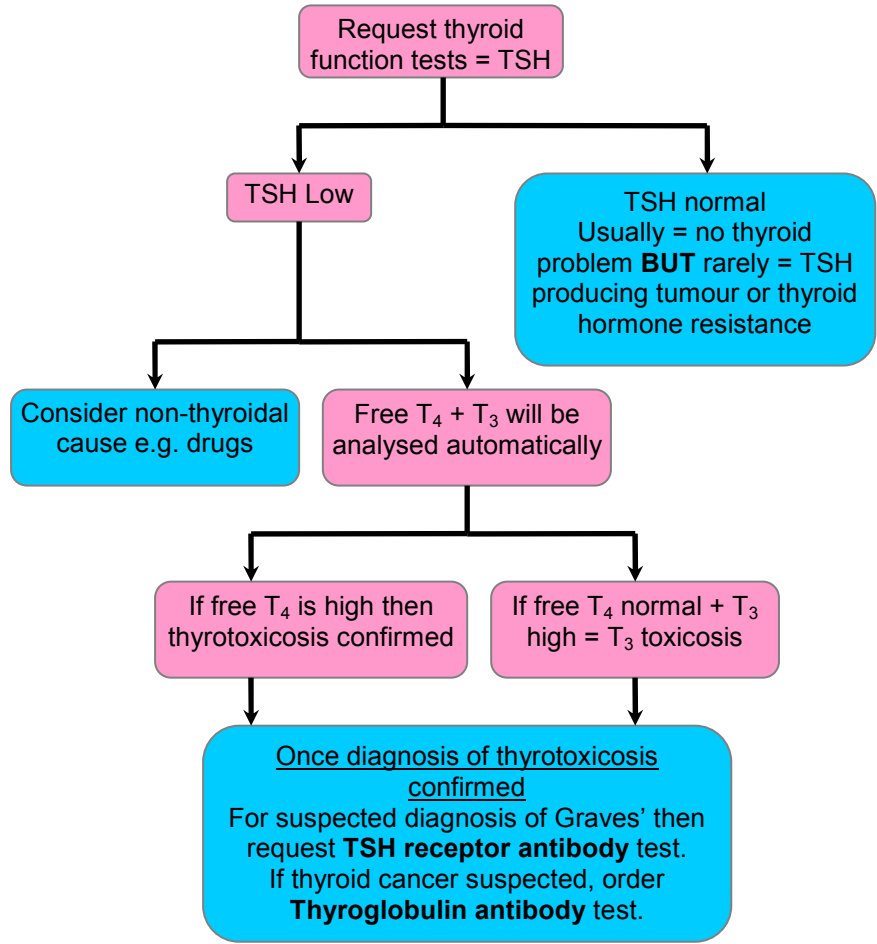
Differential diagnosis:

- Graves' disease which is associated with a symmetrical goitre (+/- eye disease)
- multinodular goitre
- single toxic adenoma

When signs of thyroid eye disease or bruit in the area of the thyroid are present, the diagnosis is certainly Graves'. In other cases further investigation may be necessary.

Patients with a differential diagnosis and those with suspected Amiodarone-induced thyrotoxicosis should be referred to the endocrinology

INVESTIGATIONS IN PRIMARY CARE



- TSH-Receptor antibodies** - with the new generation assays they are found positive in >90% of patients with Graves'. The assay for the TSH-Receptor antibodies is performed at the Immunology Laboratory (Churchill Hospital) and requires a serum sample (1-2 mls).
- If TSH-Receptor antibodies are below the reference range, a thyroid scintigraphy scan may be necessary for the differential diagnosis; this is important because long-term management is different.

Currently, Grave's disease is best managed by a course of 18 months of Carbimazole, whereas multinodular goitre and single adenoma need definitive treatment either with radioactive iodine or surgery.

The patient may be referred to the Department of Endocrinology depending on the GP's level of experience. Simple Grave's disease (small symmetrical goitre and no eye signs) may not need referral.

Management Guidelines - Thyroid Disease: NHS Oxfordshire

<p>TREATMENT</p>	<ul style="list-style-type: none"> ▪ Carbimazole is started with due warnings about the risks of agranulocytosis (0.1%) and skin rash (4%). 30mg is commenced for mild thyrotoxicosis (fT4 <40). 40mg is recommended for those patients with a fT4 >40. ▪ Propranolol, if not contraindicated, is also commenced in a dose of between 20 and 80mg three times daily to control symptomatic thyrotoxicosis. If Carbimazole cannot be tolerated then Propylthiouracil (50mg PTU is equivalent to 5mg CBZ) usually taken once a day. ▪ Thyroid function tests are monitored four-six weekly (TSH, fT4, fT3 according to the ORH Clinical Biochemistry algorithm). ▪ The current dose of Carbimazole is continued until the thyroid hormone levels (fT4 ±fT3) are in the normal range. ▪ When the thyroid hormone levels are in the normal range Propranolol can be stopped (gradually) and Carbimazole can be gradually decreased (eg by 10mg every 4-6 weeks). Sometimes more rapid changes are necessary based upon the levels of the thyroid hormones. It should be remembered that the TSH remains suppressed 4-6 weeks after normalisation of thyroid hormone levels. ▪ After euthyroidism has been achieved and the TSH has become detectable a lower maintenance dose of Carbimazole can be used usually between 5 and 30 mg a day. A persistently low TSH in the presence of normal thyroid hormone levels means inadequate treatment of the thyrotoxicosis in which case Carbimazole should be increased. ▪ Grave's disease is treated for 18 months. Around 60% of patients recur at various time points after the cessation of treatment. Predictors of recurrence are a) smoking, b) Graves' ophthalmopathy, c) a large goiter, d) male sex. TFTs should be tested 6 weeks after stopping treatment for 6 months and then every 3 months for the first year after stopping Carbimazole. Blood tests thereafter are recommended every 6-12 months (or as clinically indicated). ▪ Multinodular goitre and single adenoma are treated with radioactive iodine or surgery or very occasionally long-term Carbimazole therapy.
<p>JOINT MANAGEMENT</p>	<p>It is suggested that the above strategies are used for managing thyrotoxicosis in primary care.</p> <p>The Department of Endocrinology would see the patient in the early stage of treatment, if required, and again, if there were persistent abnormalities of thyroid function after four months, after one year and just before stopping Carbimazole.</p> <p>The current email service will continue in order to facilitate the new arrangements – oxon.endocrinologyadvice@nhs.net</p>

<h3>2. Management of Hypothyroidism</h3>	
<p>DIAGNOSIS</p>	<p>Hypothyroidism is most commonly autoimmune. The incidence rises with age. 15% of women over the age of 65 have a raised TSH.</p> <p>Sub-clinical Hypothyroidism refers to the elevation of TSH in the presence of normal levels of thyroid hormones.</p>
<p>TESTS IN PRIMARY CARE</p>	<p>Request thyroid function tests. If the TSH is found to be high, then free T₄ and T₃ will also be analysed. If these tests are normal, then the blood test should be repeated in 3-6 months time. If, however, the patient is symptomatic or if the free T₄ and T₃ are low, then test for thyroid peroxidase antibodies. If these are positive, then a diagnosis of autoimmune hypothyroidism is confirmed.</p>

Management Guidelines - Thyroid Disease: NHS Oxfordshire

TREATMENT	<p>Treatment of primary hypothyroidism:</p> <ul style="list-style-type: none">▪ In the young, start with 100mcg daily Thyroxine.▪ In the elderly or those with ischaemic heart disease, start with 25 or 50mcg. Increase by 25mcg every four to six weeks.▪ When assessing response to treatment remember that TSH lags six weeks behind dose changes, so allow adequate intervals between dosage change and TSH measurement.▪ The Thyroxine dose is increased or decreased by 25mcg until the TSH is in the lower part of the normal range (between 0.5 and 2.5).▪ For secondary hypothyroidism the fT4 is measured and this should be in the upper half of the normal range.▪ TSH should be measured annually.▪ In the presence of a raised TSH and normal thyroid hormones (subclinical hypothyroidism) we would normally recommend that Thyroxine is started in patients who have had radioactive iodine or who have positive thyroid peroxidase antibodies (because the chances of progression to overt hypothyroidism in these patients are over 50%).
JOINT MANAGEMENT	<p>It is suggested that the above strategies are used for managing primary hypothyroidism in primary care.</p> <p>The Department of Endocrinology would see the patient if the achievement of biochemical euthyroidism is not possible (eg. in cases of malabsorption).</p> <p>The current email service will continue in order to facilitate the new arrangements – oxon.endocrinologyadvice@nhs.net</p>