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1 October 2019

Belinda Hodson
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Email: belinda.hodson@gmail.com; fyi-request-11167-08b47526@requests.fyi.org.nz;

Dear Ms Hodson

RE Official Information Act request CDHB 10180

I refer to your email dated 8 September 2019 requesting the following information under the Official Information regarding Thyroid guidelines/policies, citation lists and monitoring from Canterbury DHB.

Canterbury DHB uses evidence informed practice (EIP) principles to develop and support treatments offered and used. EIP guides clinical decision making by integrating clinical expertise, patient preference and values and the best available scientific evidence. These are amalgamated in our HealthPathways.

EIP increases the chance of positive patient outcomes and satisfaction while reducing the risk of harm to the patient. It facilitates effective and honest communications with patients and enhances integration and communications across multi-disciplinary team and service providers.

Specifically:

1. Guidelines and/or policy on thyroid diagnosis, testing and treatment issued/used/supported by the District health Board;

The information we can provide you is published on the Canterbury HealthPathways website. This information is not available publicly.

HealthPathways is designed and written for use during a clinical consultation. Each pathway provides clear and concise guidance for assessing and managing a patient with a particular symptom or condition. Pathways also include information about making requests to services in the local health system.

Content is developed collaboratively by general practitioners, hospital clinicians, and a wide range of other health professionals. Each pathway is evidence-informed, but also reflects local reality, and aims to preserve clinical autonomy and patient choice. HealthPathways serves to reduce unwarranted variation and accelerate evidence into practice.

Please refer to **Appendix 1** (attached) for the information which is provided on HealthPathways for clinicians regarding Thyroid diagnosis, testing and treatment.

There is also information which is publicly available on the HealthInfo website.
www.healthinfo.org.nz;

- a) **The citation list (NZ and international clinical research studies, other clinical papers and publications including randomised control trials and guidelines) that support these guidelines/policy. Citations are to include those on safety, benefits, efficacy, risk, and risk management;**
- b) **The citation list of all patient survey data that supports these guidelines/policy.**

We do not hold 'citation lists'. We are declining under section 18(g) of the Official Information Act.

Best Practice Advocacy Centre New Zealand (Bpac) information for thyroid conditions can be found at:
<https://bpac.org.nz/BPJ/2010/December/thyroid.aspx> **please note: these are not DHB guidelines.**

As a general rule we broadly follow the American Thyroid Association (ATA) Guidelines within the constraints of the New Zealand health system. These guidelines can be found at:
<https://www.thyroid.org/>

- 2. From the period 1 January 1990 through to 31 March 2019, all studies carried out by the District Health Board (DHB), referred to or sourced by the DHB (NZ or international studies) that:**
- a) **Monitor the impact of guidelines/policies on thyroid diagnosis, testing and treatment on the health and wellbeing of NZ thyroid patients; and**
 - b) **All studies examining thyroid patients' experience of diagnosis and treatment.**

The Canterbury DHB does not hold information referred to over the 29 year period requested.

We can advise that we are unaware of any studies carried out by the DHB since 2011 when Endocrinology assumed the lead role in thyroid service provision.

We are unsure what you are asking for when you say sourced by the DHB. In its official capacity, again we are unaware that any study was officially sourced or commissioned by the DHB; however we cannot advise if any DHB staff sourced any study for personal consumption or use during that 29 year period.

You may, under section 28(3) of the Official Information Act, seek a review of our decision to withhold information by the Ombudsman. Information about how to make a complaint is available at www.ombudsman.parliament.nz; or Freephone 0800 802 602.

Please note that this response, or an edited version of this response, may be published on the Canterbury DHB website after your receipt of this response.

Yours sincerely



Carolyn Gullery
Executive Director
Planning, Funding & Decision Support

Thyroid Function Tests

Asymptomatic patients without risk factors do not need routine screening for thyroid dysfunction.

Available Tests

1. TSH in most situations is the more sensitive indicator of thyroid function.
 - Canterbury laboratories do reflex testing if there is an abnormal TSH:
 - FT4 is done if TSH is elevated.
 - FT3 and FT4 are done if TSH is low.
 - If further testing is required, (e.g., thyroid antibodies), contact the lab to organise. Laboratories retain blood samples for varying lengths of time, so additional tests are possible without the need for another blood sample.
2. Full thyroid function tests are necessary if:
 - ✓ central (secondary) hypothyroidism e.g., pituitary failure.

Central hypothyroidism

- Either due to impaired ability to secrete TSH from the pituitary or impaired ability to secrete thyrotropin releasing hormone (TRH) from the hypothalamus.
- Uncommon cause of hypothyroidism (< 1%).
- Assess pituitary status e.g., menstrual cycle, cortisol deficiency, hypogonadism, visual fields.
- Should be suspected if there is known hypothalamic or pituitary disease, or when symptoms and signs of hypothyroidism are associated with other pituitary symptoms.
- Discuss with a thyroid physician or endocrinologist.
- non-compliance with replacement therapy, may see discordant TSH and FT4 values.
- early stages of therapy - during the first 2 months of treatment for ✓ hypothyroidism or ✓ hyperthyroidism, the FT4 may be a more useful guide to thyroid hormone levels in the short term as the TSH can take up to 6 weeks to reach steady state.

Hyperthyroidism

Following initiation of anti-thyroid medication, the TSH may remain suppressed for 3 to 6 months.

Monitor thyroid function every 4 to 6 weeks using FT4, FT3, and TSH, aiming initially to bring the FT4 and FT3 in to the normal range, as TSH may be a less useful guide in the first weeks or months of treatment.

Then monitor TSH, FT4, and FT3 every 2 months until seen in the Thyroid Clinic (most patients will have been seen in the Thyroid Clinic by this time).

Hypothyroidism

TSH is the most appropriate test when monitoring patients receiving thyroxine.

Only measure 6 to 8 weeks after the start of treatment. If thyroid function needs to be assessed before this, use FT4.

- patient is pregnant or postpartum - see also: Thyroid Disease in Pregnancy pathway.
- patient is on certain medications e.g., ✓ amiodarone and lithium.

Amiodarone and lithium

Check TSH and FT4 six monthly as patients can become either hyperthyroid or hypothyroid.

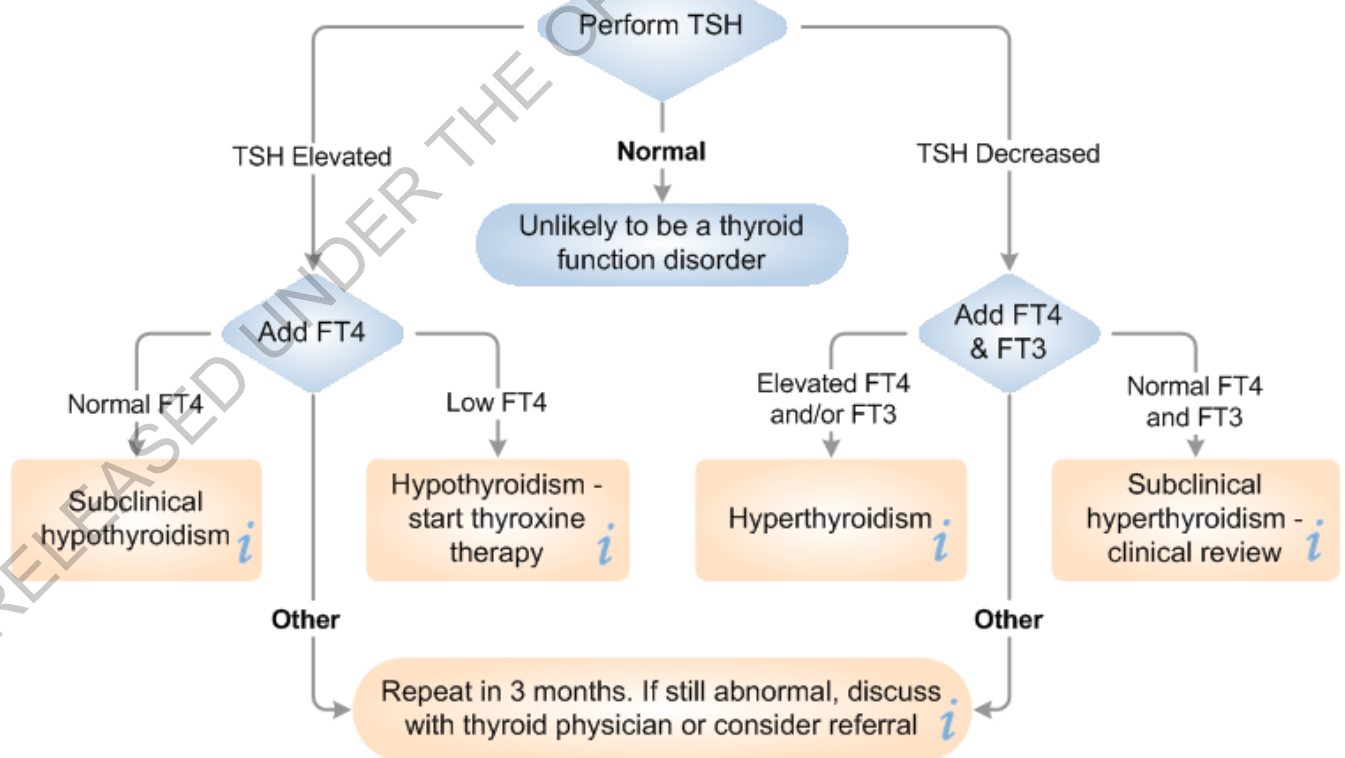
Amiodarone has a long half-life so monitoring is required up to 12 months after cessation of treatment.

- a rapidly changing thyroid hormone status e.g., after radioactive iodine treatment, thyroiditis

Order of Testing

It is recommended that TSH only be the initial screening test for thyroid dysfunction.

- Add FT4 and FT3 if the TSH is abnormal.
- Exceptions to this include those with known pituitary disorders and those with a rapidly changing thyroid hormone status e.g., after radioactive iodine treatment, thyroiditis, medication changes.



- **Normal:** if any ongoing concerns consider repeat TSH plus FT4, and/or discuss with thyroid physician.

- **Other:** many of these will have resolved by the time they are rechecked. If the pattern persists, consider ✓ other diagnostic possibilities. Thyroid specialised assessment may be required in these cases.

Other diagnostic possibilities

- ▶ Sick euthyroidism
- ▶ Laboratory artefact due to interfering antibodies
- ▶ Secondary hypothyroidism
- ▶ Thyroid hormone resistance

Possible explanations for various combinations

	High FT4	Normal FT4	Low FT4
High TSH	<ul style="list-style-type: none"> • Irregular use of thyroxine • Amiodarone • Pituitary hyperthyroidism – very rare • Thyroid hormone resistance – very rare 	<ul style="list-style-type: none"> • Subclinical hypothyroidism • T4 under replacement 	<ul style="list-style-type: none"> • Primary hypothyroidism
Normal TSH	<ul style="list-style-type: none"> • As above • Some drugs: steroids, beta-blockers, NSAIDS • Non-thyroidal illness • T4 replacement 	<ul style="list-style-type: none"> • Normal 	<ul style="list-style-type: none"> • Some drugs: anticonvulsants • Pituitary or hypothalamic hypothyroidism • Severe non-thyroidal illness
Low TSH	<ul style="list-style-type: none"> • Primary hyperthyroidism 	<ul style="list-style-type: none"> • Subclinical hyperthyroidism • Subtle T4 over replacement • Non-thyroidal illness 	<ul style="list-style-type: none"> • Pituitary or hypothalamic hypothyroidism • Severe non-thyroidal illness

Adapted from: Topliss, D.J. MJA 2004 in bpac^{nz}. *Investigating Thyroid Function*¹

Information

✓ For health professionals

- BMJ Learning – The Royal New Zealand College of General Practitioners Modules [requires registration] – Abnormal Thyroid Function Tests Despite a Well Patient: A Guide to Management
- bpacnz – Management of Thyroid Dysfunction in Adults
- Patient – Thyroid Function Tests

Thyroid Function Abnormalities

Assessment

Abnormalities in thyroid function tests, not requiring treatment are often observed in patients with systemic non-thyroidal illness. These abnormalities are often referred to as the 'sick euthyroid syndrome'.

- Therefore thyroid function **should not be assessed in seriously ill patients** unless there is a strong suspicion of thyroid dysfunction.
- In pregnant patients, measurement of total T4 is more accurate for assessing thyroid function. In acutely unwell hospital patients, total T4 is also recommended (use Endolab request form for total thyroid hormone levels).
- In acute non-thyroidal illness, conversion of T4 to T3 is reduced, and T3 measurements are usually unhelpful - particularly in ICU where the lowest T3 levels are seen.

Management

1. ✓ High TSH with Free T4 normal.

High TSH with Free T4 normal

- These findings are consistent with sub-clinical hypothyroidism and may be associated with a small goitre and positive thyroid antibodies.
- Patients with a sustained TSH greater than 10 milliunit/L usually have primary hypothyroidism requiring treatment with thyroxine.
- If the patient is elderly or has ischaemic heart disease, start thyroxine 25 to 50 microgram per day, increase by 25 microgram every 4 to 8 weeks.
- If young, start 100 microgram daily.
- Repeat TFTs in 6 weeks.
- In the recovery phase after acute non-thyroidal illness, TSH may transiently show a slight elevation, usually less than 6 milliunit/L. Repeat TSH and Free T4 after 6 to 8 weeks.

2. ✓ Low (or low/normal) Free T4 and normal TSH

Low (or low/normal) Free T4 and normal TSH

- These results are often seen in serious non-thyroidal illness but also raise the question of secondary hypothyroidism.
- Repeating the thyroid function tests after 6 to 8 weeks is recommended unless there is a high suspicion of pituitary or hypothalamic disease.
- In the latter case, screening for evidence of other pituitary dysfunction may be necessary i.e., plasma prolactin, plasma cortisol at 0800 hours, LH/FSH, and testosterone or oestradiol. Seek endocrinology advice.

3. ✓ High Free T4 and suppressed TSH

High Free T4 and suppressed TSH

- Thyrotoxicosis is likely, particularly if accompanied by a goitre and signs of hyperthyroidism. Request T3 levels, thyroid antibodies, baseline CBC, and LFTs.
- A radionuclide thyroid scan is helpful to distinguish thyroiditis from toxic nodular disease or Graves' disease. Seek endocrinology advice.
- Treat thyrotoxicosis with carbimazole 5 to 30 mg daily depending on severity.

- Repeat TFTs in 4 to 6 weeks.
 - Warn all patients about the rare but serious complication of agranulocytosis.
 - Consider beta-blocker for symptom control.
 - If radionuclide scan shows no uptake, stop carbimazole, treat as thyroiditis.
 - Patients with suppressed TSH (less than 0.2 milliunit/L) and normal Free T4/T3 have sub-clinical thyrotoxicosis. Recommend general practitioner repeats TFTs in 2 months.
4. ✓ Amiodarone

Amiodarone

- This is a frequent cause of thyroid function abnormalities.
- Conversion of T4 to T3 is reduced and with long-term administration Free T4 may be modestly elevated with TSH and T3 normal.
- The high iodine content of amiodarone may also precipitate either thyrotoxicosis (suppressed TSH) or hypothyroidism (elevated TSH).
- Hypothyroidism is treated with cautious thyroxine replacement therapy. As thyrotoxicosis can be difficult to treat, seek endocrinology advice.

For further guidance on treatment of thyroid disorders, see Community HealthPathways.

Discharge and Follow-up

- If thyrotoxicosis arrange:
 - ▶ Thyroid function tests (TFTs) for 4 to 6 weeks, and
 - ▶ Thyroid physician follow-up.
- If hypothyroidism, subclinical thyroid disease or mildly abnormal thyroid tests in the setting of acute illness, request general practitioner follow-up in discharge letter suggesting repeat TFTs in 6 to 8 weeks.

Request

Seek endocrinology advice or advice from a thyroid physician, if:

- screening for evidence of other pituitary dysfunction may be necessary.
- considering a radionuclide thyroid scan to help distinguish thyroiditis from toxic nodular disease or Graves' disease.
- thyrotoxicosis.

Information

- ✓ For health professionals

Community HealthPathways:

- Hyperthyroidism
- Hypothyroidism
- Subclinical Hyperthyroidism

Hyperthyroidism

See also:

- Subclinical Hyperthyroidism
- Thyroid Disease in Pregnancy

Red Flags

- Hyperthyroidism and:
 - ▶ significantly unwell, especially if fever or dehydration
 - ▶ rapid atrial fibrillation or heart failure
 - ▶ psychosis
 - ▶ significant and sight-threatening eye disease, e.g. drop in visual acuity, altered colour perception

Background

- ✓ About hyperthyroidism

About hyperthyroidism

Hyperthyroidism is defined biochemically by a low TSH and raised FT4 and/or FT3. If the only biochemical abnormality is a low TSH (normal FT4 and FT3), the disorder is called subclinical hyperthyroidism.

Assessment

1. Assess for:
 - clinical thyroid hormone status, e.g. tachycardia, heart failure, goitre, weight loss despite increased appetite, palpitations, sweating, and tremor.
 - pregnancy or breastfeeding.
 - medication:
 - Lithium, amiodarone, interferon, immune check point inhibitors (e.g. pembrolizumab) may affect thyroid function.
 - If on thyroid replacement therapy, consider accidental or intentional overuse, exogenous iodine intake, or medication error.
 - Biotin ingestion can cause assay interference, suggesting hyperthyroidism and tests should be repeated at least 2 days after stopping biotin supplements.
 - abnormal thyroid gland. Palpate for size, nodules, and tenderness. Listen for bruit.
2. Consider the commonest disorders causing hyperthyroidism:
 - ✓ Graves' disease

Graves' disease

- Causes about 70% of hyperthyroidism cases due to antibodies stimulating the TSH receptor (TRAb)
- Shows increased or normal homogeneous uptake on a nuclear medicine scan
- Autoimmune disease
- 10 times more common in women
- Diffuse symmetrical goitre, may have thyroid bruit
- May have associated ophthalmopathy (20 to 40%)
- Ninety-seven per cent have positive TSH receptor antibodies (TRAb)

- Ninety per cent have positive standard thyroid antibodies, i.e. microsomal (TPO) or thyroglobulin (Tg)
- ✓ Toxic multinodular goitre or toxic nodule

Toxic multinodular goitre or toxic nodule

Shows as focal or heterogenous uptake on a nuclear medicine scan.

- ✓ Thyroiditis

Thyroiditis

- Appears as absent or near absent uptake on a nuclear medicine scan. A similar scan appearance is seen with an extrathyroidal source of thyroid hormone, e.g. taking thyroxine, or excessive oral iodine intake.
- The most common cause of thyroiditis is subacute painful (de Quervain) thyroiditis.
- Thyroiditis may also be painless.
- This is a destructive process.
- Patients with subacute or painless thyroiditis do not respond to carbimazole.
- Other causes of thyroiditis include:
 - Postpartum thyroiditis (painless)
 - Medications, e.g. amiodarone, lithium, interferon
 - External radiation.

- ✓ Amiodarone

Amiodarone

- Can cause hyperthyroidism by mixed mechanisms.
- A nuclear medicine scan is unlikely to be helpful, as it usually shows low uptake.

3. Consider ✓ thyroid eye disease (also known as thyroid-associated ophthalmopathy and Graves' orbitopathy), which generally follows a separate course to the thyroid disease.

Thyroid eye disease

Thyroid-associated ophthalmopathy affects approximately 20 to 40% of those with Graves' disease.

- Main reversible risk factor is smoking.
- Usually occurs alongside the thyrotoxicosis, but may occur before or after diagnosis of thyrotoxicosis.
- Significant and sight-threatening thyroid eye disease is rare:
 - It may occur in the absence of proptosis.
 - It can threaten vision by optic neuropathy caused by compression of the optic nerve at the apex of the orbit or by ulceration of the cornea.



Inferior scleral show and upper lid retraction give the "surprised" look.

© EyeRounds.org

- Always check ✓ visual acuity and colour vision.

Visual acuity

1. Ask if the patient has distance glasses with them, and if either eye has had known poor vision, e.g. a lazy eye.
 2. Test their distance vision in each eye, while wearing glasses, using a chart at the correct distance.
 3. Check each eye separately, with distance glasses if worn.
 4. If acuity is still subnormal, check with a pinhole.
 5. If vision improves with a pinhole, and no cataract is present, recommend the patient arrange a review of their glasses.
 6. If unable to read any letters on chart, assess the following in order:
 - Finger counting
 - Hand movements
 - Light perception
 7. Test near vision while the patient is wearing reading glasses.
- Check for ✓ common symptoms.

Common symptoms

✓ Mild

Mild

- Gritty, irritable eyes
- Mild eyelid swelling
- No visual disturbance

✓ Moderate

Moderate

- Painful eyes at times
- Significant eyelid swelling
- Moderate proptosis and/or lid retraction
- Any new onset diplopia

✓ Severe

Severe

- Any reduction in best corrected vision
- Constant double vision
- Severe swelling of eyelids
- Severe proptosis and/or lid retraction

4. Arrange TSH.

- If TSH is low, arrange FT3, FT4, and if not previously done, TSH receptor antibody (TRAb). Where there is recent onset of clinically obvious thyroid eye disease, Graves' disease is likely, and measuring TRAb is unnecessary.

- If TRAb is negative **or** there is clinically a nodular goitre (and the patient is not pregnant or breastfeeding), request a ✓ nuclear medicine scan to help determine the cause of hyperthyroidism.

Nuclear medicine scan

- Increased or normal homogenous uptake is consistent with Graves' disease.
- Focal or heterogeneous uptake is consistent with a toxic multinodular goitre or toxic adenoma.
- Absent or near absent uptake is consistent with thyroiditis. Other possibilities include thyroxine ingestion or iodine excess.
- Thyroid ultrasound is not appropriate for investigating hyperthyroidism.
- If reduced TSH and normal FT4 and normal FT3, see subclinical hyperthyroidism pathway.

Management

1. If eyesight-related red flags, or ✓ severe eye disease, arrange acute ophthalmology assessment and a dual non-acute thyroid assessment.

Severe

- Any reduction in best corrected vision
 - Constant double vision
 - Severe swelling of eyelids
 - Severe proptosis and/or lid retraction
2. If any red flags not eyesight related, request an acute general medicine assessment or discuss with a thyroid physician.
 3. Request non-acute thyroid assessment in all patients with hyperthyroidism. Special considerations:
 - ✓ Pregnancy or ✓ breastfeeding

Breastfeeding

- During breastfeeding carbimazole is the drug of choice, with doses up to 30 mg a day shown to have no significant effect on the infant.
- In general, antithyroid drugs should be given in divided doses taken right after nursing.

Note: For advice on medication or switching drugs, discuss with a thyroid physician.

Pregnancy

- Stop any ✓ iodine supplementation.

Iodine supplements in pregnancy with abnormal thyroid function tests

- There is a lack of evidence about the best course of action. Iodine may worsen thyroid function, but an iodine deficiency may be harmful to the developing fetus.
- If hyperthyroidism exists, avoid iodine supplements because they could potentially make hyperthyroidism worse.
- If hypothyroidism exists, manage with thyroxine. Iodine may be prescribed in addition to thyroxine during pregnancy and while breastfeeding.

- If uncertain, discuss with thyroid physician or obstetric physician at the Antenatal Clinic.
- Pregnant women must not have a radionuclide scan.
- Women with known thyrotoxicosis will have been definitively managed and be euthyroid off treatment before pregnancy to avoid the potential teratogenicity of antithyroid drugs.
- Both carbimazole and propylthiouracil may be teratogenic. Propylthiouracil is the recommended option in the first trimester, as malformations are less severe. Recent data suggests the overall risk, which is low, is similar for both drugs.

Overall risk

Looking at all malformations (ranging from minimal to major), the background risk is 1 in 20. Exposure to these drugs in early pregnancy increases risk to about 1 in 12. If needed for treatment, use the smallest dose necessary (overt hypothyroidism is also a pregnancy risk).^{1,2}

- **After the first trimester**, if anti-thyroid medication is still required, carbimazole is preferred because propylthiouracil carries a very small risk of hepatotoxicity in patients (approximately 1 in 10,000).³
 - **During pregnancy**, the aim is to keep FT4 at or just above the upper limit of normal and the TSH in the low normal or suppressed range.
 - Monitor TFTs 4 to 6 weekly.
 - Certain assays are affected by physiological changes in pregnancy and can give misleading results e.g., a falsely low FT4. If there are any concerns, consider discussing with a thyroid physician.
 - The Free Thyroxine Index performed by Endolab is usually the most reliable assay of FT4 in pregnancy.
 - For advice on medication or switching drugs, discuss with a thyroid physician or obstetric physician.
- ✓ Recurrent episode

Recurrent episode

- Patients with recurrence are likely to require definitive treatment such as radioiodine or surgery.
- If a recurrent episode consider re-referral to a thyroid physician for definitive treatment.
- Discussion with a thyroid physician or requesting fax advice may be appropriate in some cases.

4. If hyperthyroidism due to Graves' disease or nodular goitre, start ✓ carbimazole with or without a beta blocker:

Carbimazole dose

Dose:

- Carbimazole
- Subclinical (normal FT4 and FT3): 2.5 to 5 mg daily.
- Mild (FT4 or FT3 less than twice the upper limit of normal): 5 to 10 mg daily
- Moderate (FT4 or FT3 more than twice the upper limit of normal): 10 mg twice daily.
- Severe (FT4 or FT3 more than 3 times the upper limit of normal) or with marked symptoms (tachycardia, rapid weight loss): 15 mg twice daily plus a beta blocker

Warning:

Warn all patients about the ✓ agranulocytosis risk, which is a sudden and serious complication.

Agranulocytosis risk

- Advise patients to stop taking carbimazole and seek medical attention straight away if they develop symptoms of infection, e.g. fever, flu-like symptoms, sore throat, mouth ulcers.
- Arrange urgent CBC so that results are available on the same day. If neutrophil count is low, request acute general medicine assessment.
- The incidence of agranulocytosis resulting from carbimazole therapy is reported to be between 0.2% to 0.5%. This equates to 1 in 200 to 1 in 500 patients.^{3,4}
- Hepatitis rarely occurs with carbimazole and routine monitoring of LFTs is not recommended.
- Other less serious adverse effects are rashes, arthralgia/arthritis, and gastritis.
- Routine complete blood counts (CBC) are not recommended.

Documentation of ✓ informed consent about the risks of agranulocytosis and hepatotoxicity is recommended.

Informed consent

Informed consent is required for all procedures and treatments.

This can be verbal and documented in patient records in most instances, but Cornerstone Accreditation suggests written consent for minor surgery, ear syringing, IUD and Mirena, and pipelle biopsies.

Informed Consent form

- Warn all patients about the sudden, serious complication of ✓ agranulocytosis.
 - ✓ Take baseline CBC and LFTs before starting carbimazole.

Take baseline CBC and LFTs

Baseline CBC and LFTs before starting carbimazole – Mild neutropenia and/or mild liver function derangement are often seen as a result of hyperthyroidism, and should normalise as thyroid hormone levels return to normal.

- Consider adding a ✓ beta blocker for initial control of marked symptoms (tachycardia, palpitations, tremor, etc).


Beta blocker

- Traditional advice is to use propranolol, 10 to 40 mg, 3 to 4 times daily.
- If frequent dosing is a problem, consider longer-acting beta blockers e.g. propranolol LA or metoprolol succinate.

5. If ✓ moderate thyroid eye disease, arrange non-acute thyroid assessment. Review with ophthalmology will be arranged internally when necessary.

Moderate

- Painful eyes at times
- Significant eyelid swelling
- Moderate proptosis and/or lid retraction

- Any new onset diplopia
- 6. If  mild thyroid eye disease, arrange thyroid specialised assessment as below and consider symptomatic measures.

Mild

- Gritty, irritable eyes
- Mild eyelid swelling
- No visual disturbance
- 7. If a radionuclide thyroid scan is performed and shows low uptake, stop carbimazole and treat as thyroiditis.

Treat as thyroiditis

- Patients with thyroiditis do not respond to carbimazole.
- Stop carbimazole and consider checking CRP which is often raised.
- Consider beta blocker while symptomatically hyperthyroid.
- NSAID may be helpful for thyroid pain. Sometimes prednisone is required, which should be under the direction of a thyroid specialist.
- 80% of patients resolve spontaneously.
- Some patients become transiently hypothyroid, before spontaneously recovering.
- Monitor TFTs every 4 to 6 weeks for 3 to 4 months or until 2 successive tests are normal.
- For those who become symptomatically hypothyroid or TSH greater than 20 mIU/L, consider temporary treatment with thyroxine and request non-acute thyroid assessment.
- 8. While waiting for specialist appointment, repeat thyroid function every 4 to 6 weeks, and adjust carbimazole dose accordingly.
 - The TSH may stay suppressed for some months, so it is more appropriate initially to titrate treatment against FT4 and FT3 levels. For example, if the FT4 and/or FT3 levels have reduced by half at the initial 4 to 6 week review, then reducing the carbimazole dose by half is appropriate.
 - For Graves' thyrotoxicosis the aim is to treat most patients for 12 to 18 months with carbimazole. 50% will relapse despite this treatment. If long term treatment is needed, consider radioiodine or surgery.
 - If toxic nodular thyroid disease, the hyperthyroidism does not resolve, so it's important to consider radioiodine or surgery.
 - If any problems with carbimazole, contact a thyroid physician to discuss other options such as propylthiouracil or radioiodine.

Request

- If any non-eyesight related red flags, request acute general medicine assessment.
- For all patients with hyperthyroidism, request non-acute thyroid assessment.
- Thyroid eye disease:
 - ▶ If red flags or severe thyroid eye disease, request acute ophthalmology assessment as well as non-acute thyroid assessment.
 - ▶ If mild or moderate thyroid eye disease, request non-acute thyroid assessment.
- If the patient is pregnant, request an obstetric physician assessment at the Antenatal Clinic. Consider discussing with either the thyroid physicians or obstetric physician.
- If the patient is breastfeeding, request a non-acute thyroid assessment at the thyroid clinic and/or discuss with a thyroid physician.

Information

 For health professionals

Education

BMJ Learning – [The Royal New Zealand College of General Practitioners Modules](#) [requires registration]
– New Diagnosis of Hyperthyroidism in Primary Care

Further information

- [bpacnz – Management of Thyroid Dysfunction In Adults](#)
- [Patient – Overactive Thyroid Gland: Hyperthyroidism](#)

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