

Guidance / information reference sheet - Endocrinology

Disclaimer: The following is based on common advice and guidance requests. It is information that may help provide answers to general queries and save the time required in primary care to send an advice and guidance request and in secondary care to answer it. This is not a replacement for the advice you might need for individual cases and is not criteria for sending a request. The intention is to provide helpful generic advice and guidance to support decision making.

Testosterone

To diagnosis low testosterone – x2 9am fasting bloods.

Deficiency is based on the trio of:

- Low level at 9 am (this is very important) and fasting.
- Symptoms (reduced libido, loss of early morning erection, hair loss and lethargy)
- Clear response to testosterone after 3-6 months

Commonest cause is obesity - reversible with weight loss

x2 9am testosterone level of:

- <8 – refer to Endocrinology for further assessment
- 8-10 with symptoms – consider referral or A+G

Testosterone replacement is not suitable if wishing fertility as it suppresses spermatogenesis; consider freezing semen.

Minor elevations in estradiol in men is not clinically significant.

Calcium

Hypocalcaemia – 2.5% of the population have an adjusted calcium of < 2.20. The current assay reads low – many borderline results (2.05-2.20) are a result of the assay.

If symptomatic - peri-oral or peripheral paraesthesia check - PTH, Vit D, eGFR, Magnesium.

Mild secondary hyperparathyroidism (low or low normal Ca and PTH <15) – likely due to Vit D deficiency. Treat with Vit D and repeat bloods in 6 months.

There are three types of hyperparathyroidism – primary, secondary and tertiary.

Primary = High adjusted calcium and high PTH

Secondary = Low/Low normal adjusted calcium and high PTH (PTH response is normal)

- Consider Vitamin D deficiency, PPI-induced hypomagnesaemia, Coeliac disease

Tertiary = High adjusted calcium and high PTH, with high phosphate (cf Primary usually has low or normal phosphate) – the most common cause is CKD (consult with Nephrologist)

There is no need to check PTH level if the adjusted calcium is normal, or if requested by a Nephrologist

Guidance / information reference sheet – Endocrinology

Date: 5.1.23

Version: Draft version 3

New Thyrotoxicosis

Confirmed biochemical diagnosis of Thyrotoxicosis – Raised Free T3 and/or Free T4 with suppressed TSH (NB isolated T3 toxicosis should be treated if persists)

Consider repeating TFTs for confirmation especially if borderline levels

Commence anti-thyroid treatment:

1st line Carbimazole (CBZ)

If Free T4 > 30.0, commence CBZ 40mg OD

If Free T4 < 30.0, but raised, CBZ Carbimazole 20mg OD

If only Free T3 raised, commence CBZ 10mg OD

Patients must be informed of the rare side effect of Agranulocytosis and written information



Carbimazole or
Propylthiouracil.pdf)

provided (copy of red cards to GP here -

Additional rare side effect of Pancreatitis with CBZ

Send e-referral for routine New Endocrinology appointment

In all cases, repeat TFTs 6 weeks after commencing Carbimazole

If levels improving well, consider halving the dose

2nd line Propylthiouracil (PTU)

PTU dose equivalent is 10 x CBZ (eg CBZ 40mg = PTU 400mg; CBZ 5mg = PTU 50mg)

Doses above 50mg daily should be given in split doses BD or TDS

Patients must be informed of the rare side effect of Agranulocytosis as above

Additional rare side effect of hepatotoxicity

Women of childbearing age must be advised to avoid pregnancy and await Specialist review. If already pregnant, send urgent referral to HRI or CRH joint Antenatal clinic. Contact Maternity directly and do not use e-referral or advice and guidance system.

Most common causes of Thyrotoxicosis include Autoimmune (Grave's disease), Toxic MNG and Toxic nodule

Be mindful of other relatively common conditions which could spontaneously improve including post-partum thyroiditis (if there has been a pregnancy completed within past 12 months), viral thyroiditis (usually thyrotoxicosis presents after acute sore throat).

In these cases, the thyroid function may improve itself and do not always require anti-thyroid medication (risk of becoming hypothyroid). Please use advice and guidance in these circumstances if unsure / other unusual case / frail patients whom may be better supported remotely.

Do not request Thyroid US unless patient complains of compressive symptoms or there is a discrete nodule palpable clinically

Guidance / information reference sheet – Endocrinology

Date: 5.1.23

Version: Draft version 3

Thyroid

Presentation Subclinical hyperthyroid (below normal TSH, normal T4 and T3)
First line investigations Repeat TSH, free T4 & T3 in 3 months
Second line investigations (could be in secondary care) If remains abnormal – TPO Abs and TSH Receptor Abs
Actions If asymptomatic and no aetiology identified and no cardiovascular risk factors and under the age of 65 – specialist review may not be required particularly if TSH 0.1 mU/L or higher arrange TFT checks every 6 months Otherwise seek advice and guidance/refer
Referral to endocrinology if Symptomatic, aetiology identified, cardiovascular risk factors, 65 years or older
Key information to include Blood work up, second line investigations
Consider referral to other service if Ongoing primary care concern about presentation
Red flags to prompt urgent referral Evidence of thyroid eye disease

Hypothyroidism

Treat with Levothyroxine if

- Symptoms possibly attributed
- Elevated Thyroid Peroxidase (TPO) antibodies
- TSH 10 mIU/L or above

These cases do not usually need referral to secondary care

If planning pregnancy aim for TSH 0.2-2.0 mIU/L prior to conception and refer to Joint Antenatal clinic if pregnant

Variable TFTs whilst on LT4

Check compliance

Ensure taking correctly – ideally at least 30 minutes before having breakfast or a drink containing caffeine, like tea or coffee

Avoid taking calcium or iron supplements at the same time

Variable TFTs persist – this is almost always due to compliance.

Pre-referral investigations

The following investigations could be performed in primary care prior to a referral, however, this may not always be feasible due to workload, lack of certainty over appropriate testing or lack of access to certain tests. This list is not mandatory, it is a suggestion of what could be done:

Sweating

Guidance / information reference sheet – Endocrinology

Date: 5.1.23

Version: Draft version 3

Presentation Sweating/flushing
Note Sweating is a common concern - the cause is rarely endocrine. Options for management can be sought from dermatology
First line investigations Thyroid function, LH, FSH and oestradiol/testosterone as appropriate and HbA1c
Second line investigations (could be in secondary care) Urinary catecholamines/plasma metanephrines, IGF-1 (rare cause of sweating)
Actions Address any abnormality identified as appropriate
Referral to endocrinology if Any endocrine test abnormal unless abnormality can be addressed in primary care
Key information to include Blood work up and any second line investigations
Consider referral to other service if Endocrine work up normal, refer to dermatology if no concerns about malignancy
Red flags to prompt urgent referral – not to endocrinology Concerns about malignancy e.g. weight loss

Hyperprolactinaemia

Presentation Hyperprolactinaemia
Note If on antipsychotic or antidepressant or antiemetic medication known to cause hyperprolactinaemia (usually <3000 mU/L). Ideally a baseline prolactin should have been taken before commencing the antipsychotic/antidepressant to exclude an abnormality. If a baseline prolactin was not measured, you could consider pausing the medication for three days (if safe to do so – may need to check with mental health team) and rechecking the prolactin. If the level is normal, hyperprolactinaemia is medication-induced. Also refer patients, in whom you are unable to change their antipsychotic medication to a medication with less of an effect on prolactin, with symptoms or hypogonadism (reduced libido, erectile dysfunction, low testosterone, oligo/amenorrhoea or galactorrhoea).
First line investigations Repeat prolactin (ensure macroprolactin has been measured if raised), thyroid function, LH, FSH and oestradiol/testosterone and renal function
Second line investigations (could be in secondary care) If remains elevated – visual fields and MRI pituitary with contrast
Actions Address any abnormality identified as appropriate
Referral to endocrinology if Prolactin remains elevated and not related to macroprolactin or medication (see above)
Key information to include Prolactin levels and blood work up and any second line investigations
Consider referral to other service if Ongoing primary care concern about presentation despite normal prolactin – headache, subfertility (fertility services), management of PCOS (endocrinology)

Red flags to prompt urgent referral

Blood results demonstrating hypopituitarism, headaches, visual field defect

Miscellaneous

There is little role for metformin in PCOS. Focus on diet and exercise but can try (off license) if insulin resistance.