Dr. F.C.J. Bester
MBChB, MMed (Int Med)
FCP (SA)
fcjbester@drbester.co.za
MP0296783

Drs. Bester & Bosch
Interniste • Specialist Physicians

Dr. F.J. Bosch
MBChB, MMed (Int Med)
HIV Man DIP (SA)
drbosch@drbester.co.za
MP0610674

#HYPOTHYROIDISM

Our Approach to Diagnosis and Management

As part of supporting our referring doctors, we've put together a practical summary of how we approach hypothyroidism in clinical practice. This guide is designed to simplify decision-making and support primary care colleagues when evaluating and managing patients with thyroid dysfunction.

Please feel free to reach out if you'd ever like to discuss a case or co-manage a patient.

🔎 How We Diagnose Hypothyroidism

- Routine **screening** is done using a **TSH** test.
- **If TSH is >10**, and **free T4 is normal or low**, this indicates **hypothyroidism**, and treatment should be initiated.
- (If TSH is elevated but the free T4 and T3 pattern does not fit, consider the possibility of transient disturbances such as **euthyroid sick syndrome**, and repeat thyroid function tests after recovery or in six weeks.)
- When **TSH is mildly elevated (4.5 to 10)** with normal free T4, we refer to this as **subclinical hypothyroidism**. We initiate treatment in selected patients, particularly if any of the following are present: pregnancy or planning pregnancy (Note: TSH target in pregnancy is typically lower—1st trimester: 0.1–2.5), heart failure, severe depression, significant hypothyroid symptoms, markedly elevated thyroid antibodies, or structural thyroid disease (e.g., nodules or goitre).
- **Asymptomatic patients** may be monitored with repeat thyroid function tests in **3–6 months** to assess progression.
- In patients **over 70**, treatment is typically reserved for **TSH >10** or if symptoms or cardiovascular risk factors are present.
- 🧠 Routine measurement of T3 is not recommended when diagnosing primary hypothyroidism.
- Consider checking **anti-TPO antibodies** if autoimmune thyroiditis (Hashimoto's) is suspected, especially in patients with goitre, strong family history, or subclinical hypothyroidism.

Fichmed Suite G5 • Gustav Singel 53 Gustav Crescent
Fichardtpark • Bloemfontein • 9322
Posbus PO Box 31058 • 9317 • Fichardtpark • R.S.A.

Tel: +27 (0)51 522 1907/9
Faks • Fax: +27 (0)51 522 6951
www.drbester.co.za

Direkteure • Directors:
Dr. F.C.J. Bester MBChB, MMed (Int Med), FCP (SA)
Dr. F.J. Bosch MBChB, MMed (Int Med), HIV Man DIP (SA)

Reg. 95/01687/21 • PR. 1808141

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💊 Initial Therapy

- Start with **Euthyrox** or **Eltroxin (levothyroxine)** at **1.6 micrograms per kg per day**.
- Reassess thyroid function after **6 to 12 weeks** and adjust the dose as needed.

🎯 TSH Targets

- **General population**: Aim for a TSH between **1 and 2**.
- **Elderly patients** (adjusted targets): Age 70: TSH ≈ **7**; Age 80: TSH ≈ **8**; Age 90: TSH ≈ **9**; Age 100: TSH ≈ **10**.

⚠️ These targets do not apply to patients with thyroid cancer, where TSH suppression is the therapeutic goal.

⚠️ Maintaining too low a TSH in elderly patients may increase cardiovascular mortality, so age-adjusted targets are essential.

😷 Special Considerations for Older or Cardiac Patients

We typically start with a lower dose and up-titrate gradually, especially in older patients or those with cardiac risk.

📋 Administration Instructions for Patients

- L-thyroxine must be taken on an empty stomach, at least one hour before breakfast, with plain water only.
- Ensure a 4-hour gap between L-thyroxine and medications such as iron supplements, calcium supplements, multivitamins.

🧪 Clinical Case: The Importance of Timing and Interactions

A patient who had been stable on thyroid hormone replacement with a target TSH of 1–2 was seen annually for follow-up. However, during one visit, their TSH had risen sharply to 30. It was later discovered that the patient had been admitted to a psychiatric unit and started on iron supplements, which they were taking at the same time as L-thyroxine. The interaction led to poor absorption of the thyroid hormone. This case highlights the importance of medication timing and the need to separate thyroid hormone from interfering agents.

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📌 When to Refer

Refer to a specialist if:

- Diagnosis is unclear or conflicting (e.g., low free T4 but normal TSH);
- Persistent symptoms despite normal TSH;
- Pregnancy with thyroid dysfunction;
- Significant cardiac disease or arrhythmias;
- Suspected thyroiditis or nodules requiring further investigation;
- Thyroid cancer or patients needing TSH suppression therapy.

✅ Quick Summary for GPs

- Start **L-thyroxine if TSH >10**
- Treat **subclinical hypothyroidism** if: pregnancy (TSH target: 0.1–2.5 in 1st trimester), heart failure, severe depression/symptoms, high thyroid antibodies, or structural thyroid disease
- **TSH targets lower in general, higher with age**
- **L-thyroxine must be taken on an empty stomach**
- **Separate from iron, calcium, and vitamins by 4+ hours**

🧠 Patient Education Tip

Many patients accidentally reduce absorption of L-thyroxine. Remind them to take it alone, on an empty stomach, with water only — and not to combine it with calcium or iron supplements. 💊 If a patient's TSH remains elevated despite dose adjustment, check **adherence** and ensure **correct timing** before escalating the dose. 🔁 Combination T3/T4 therapy or desiccated thyroid extract is not **routinely recommended** due to unpredictable dosing and lack of clear benefit. 👶

Most infants are screened for **congenital hypothyroidism** at birth — but GPs should monitor children with developmental delay or poor growth in case it was not detected early.

For any questions or referrals, feel free to contact us. We're always happy to assist or provide input on patient care.

> For full national guidance, refer to the South African Endocrine Society Guidelines on Hypothyroidism

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