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How often should you follow up on a patient with newly diagnosed hypothyroidism?

Evidence-based answer

Six to 8 weeks after the start of levothyroxine therapy you should reexamine patients and measure their serum thyroid-stimulating hormone (TSH) (strength of recommendation [SOR]: **C**, common practice and expert opinion). If thyroid function is normal at that time, examine the patient and measure serum TSH again

in 4 to 6 months because clearance of levothyroxine increases in the euthyroid (normal) state (SOR: **C**, expert opinion).

Once the proper maintenance dose of levothyroxine is achieved, evaluate the patient and obtain a serum TSH at least annually, or as clinically indicated (SOR: **C**, expert opinion).

FAST TRACK

Patients older than 65 years must be monitored annually to avoid overreplacement

Evidence summary

There is very little patient-oriented research to help answer this question. Virtually all of the literature is based on bench research and expert opinion.

Wait at least 6 weeks to follow up after starting therapy

Serial serum TSH measurements are adequate to follow adults with newly diagnosed, uncomplicated primary hypothyroidism. However, serum thyroid hormone levels normalize before serum TSH. Serum thyroid hormone concentrations increase first, then the TSH secretion falls because of the negative feedback action of levothyroxine on the pituitary and hypothalamus. Levothyroxine has a 1-week plasma half-life; a steady state is achieved about 6 weeks (6 half-lives) after the start of treatment or a change in dose. The TSH level should, therefore, be evaluated no earlier than 6 weeks after initiating therapy or adjusting levothyroxine dos-

age.^{1,2} The full effects of thyroid hormone replacement on the TSH level may not become apparent until 8 weeks of therapy.³

Check TSH 4 to 6 months after initial follow-up

If the initial dose doesn't require adjustment, reevaluate the patient and measure serum TSH again in 4 to 6 months because levothyroxine clearance can increase after the euthyroid state is established.⁴ If a dosage change is needed, make adjustments every 6 weeks, based on serum TSH values, until TSH values return to the reference range. Successful treatment reverses all the signs and symptoms of hypothyroidism, although some neuropsychologic and biochemical abnormalities, such as depressed mood and lipid abnormalities, may persist for several months.³

Monitor stable patients annually, especially the elderly

Examine the patient and measure serum

TSH annually after identifying the proper maintenance dose, more often if an abnormal result or a change in the patient's status occurs.² Certain situations such as pregnancy, initiation of new medications, or liver or kidney disease may require more frequent monitoring.

Generally, once a stable maintenance dosage of levothyroxine is achieved, the dosage will remain adequate until the patient has a significant weight change or reaches his or her seventh or eighth decade.¹ Although monitoring less often than once a year can be justified in younger adult patients whose weight is stable, patients older than 65 years must be monitored annually to avoid overreplacement. With age, thyroid binding may decrease, and the serum albumin level may decline. This can result in a 20% reduction in the dose of levothyroxine required.^{5,6}

Recommendations

The American Association of Clinical Endocrinologists (AACE) recommends reassessment and repeat lab work at least 6 weeks after any change in levothyroxine brand or dose. The AACE practice guidelines suggest follow-up with appropriate interim history, physical exam, and pertinent lab studies at 6 months, and then annually after the TSH level has normalized.⁷ ■

References

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