



Guidelines for diagnosing and managing **thyroid disorders**

Get the insight you need with endocrinology testing from Quest Diagnostics



Know the testing guidelines for **hypo- and hyperthyroidism**

Diagnose and manage complex thyroid disorders with comprehensive testing from Quest

Thyroid disorders have many etiologies, manifestations, and potential therapies. As a result, diagnosing both hypo- and hyperthyroidism can be challenging.

As you know, accurately diagnosing—and ascertaining the cause—of the disease is vital to determining appropriate treatment, ensuring effective disease management, and avoiding complications. Quest Diagnostics can help, with a broad range of endocrinology tests aligned to the most recent clinical practice guidelines for better disease management.

Endocrinology testing from Quest is aligned to clinical recommendations

The American Thyroid Association (ATA) and American Association of Clinical Endocrinologists (AACE) clinical practice guidelines for hypo- and hyperthyroidism outline evidence-based recommendations for optimal diagnosis and care of patients with thyroid disorders.



Consulting with an endocrinologist

Patients can present with complex situations in which consulting with an endocrinologist is necessary to ensure the best care possible for a patient, sooner rather than later.

For **hypothyroidism**, guidelines recommend consultation for the following situations:¹

- Children and infants
- Difficult to maintain a euthyroid state
- Pregnancy or planning conception
- Cardiac disease
- Presence of goiter or nodule
- Presence of other endocrine disease (e.g., adrenal and pituitary disorders)
- Unusual constellation of thyroid function test results

The guidelines for **hyperthyroidism** are not as prescriptive, stating that all physicians must use their best clinical judgment:

“In some circumstances, it may be apparent that the level of care required may be best provided in centers where there is specific expertise.”²

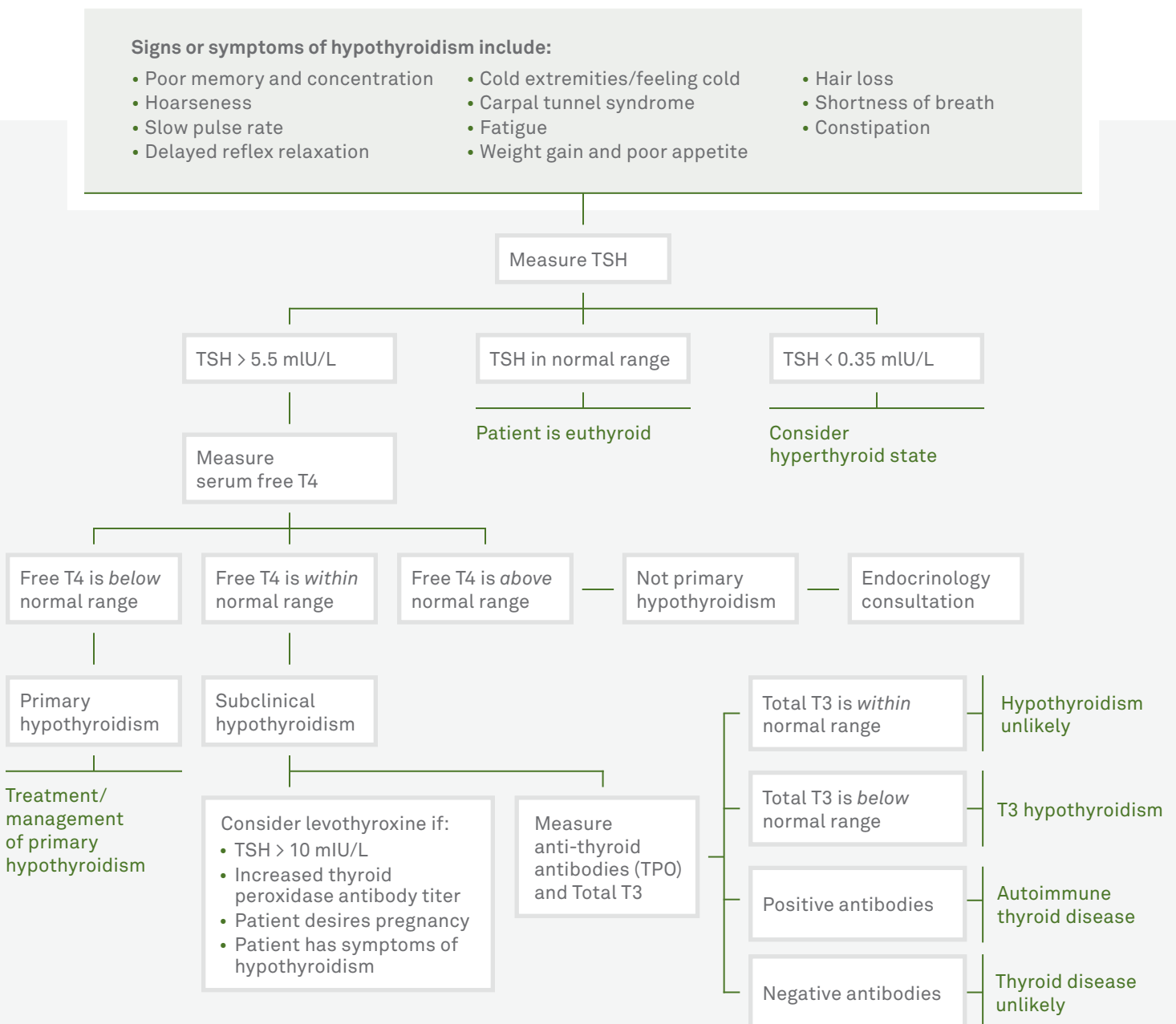
Screening, diagnosing, and managing **hypothyroidism**—guidelines overview¹

ATA/AACE guidelines recommend screening for all patients with symptoms of hypothyroidism. For patients who are asymptomatic, recommendations vary widely. However, a thyroid-stimulating hormone (TSH) test is generally recommended for patients ≥ 50 –60 years old, especially women.

Guidelines also state that there is compelling evidence to support screening in patients with:

- Autoimmune disease (e.g., type 1 diabetes)
- Pernicious anemia
- Family history
- History of neck radiation
- History of thyroid surgery
- Abnormal thyroid examination
- Psychiatric disorders, including patients taking amiodarone or lithium
- Hypertension, cardiac dysrhythmia, or congestive heart failure

Hypothyroidism: algorithm for screening and diagnosis



Algorithm adapted from the AAFP (American Academy of Family Physicians), ATA, and AACE.
T4 = thyroxine; TSH = thyroid-stimulating hormone; T3 = triiodothyronine.



Monitoring hypothyroidism—and avoiding complications

Testing guidelines for the management of hypothyroidism¹

Patients with overt hypothyroidism on levothyroxine therapy

TSH measurements:

- 4–8 weeks following initiation of therapy or after a change in dose
- 6 months after initial treatment
- Every 12 months thereafter, or more frequently if the clinical situation dictates otherwise
- In patients who are started on agents such as tyrosine kinase inhibitors and medications such as phenobarbital, phenytoin, carbamazepine, rifampin, and sertraline

Serum free T4 should also be considered

Patients with secondary hypothyroidism

Routine T4 measurements

Patients with type 1 diabetes

Routine TSH measurements

Pregnant patients with overt hypothyroidism on levothyroxine therapy

TSH measurements:

- Promptly after conception
- Every 4 weeks during the first half of pregnancy
- At least once between 26 and 32 weeks of gestation

Total T4 or a free T4 index:

- At least once between 26 and 32 weeks of gestation

Hypothyroid pregnant patients with a history of Graves' disease who were treated with radioactive iodine or thyroidectomy

Consider TSHRAb (TSH receptor antibodies):

- During the first trimester
- And/or at 20–26 weeks of gestation

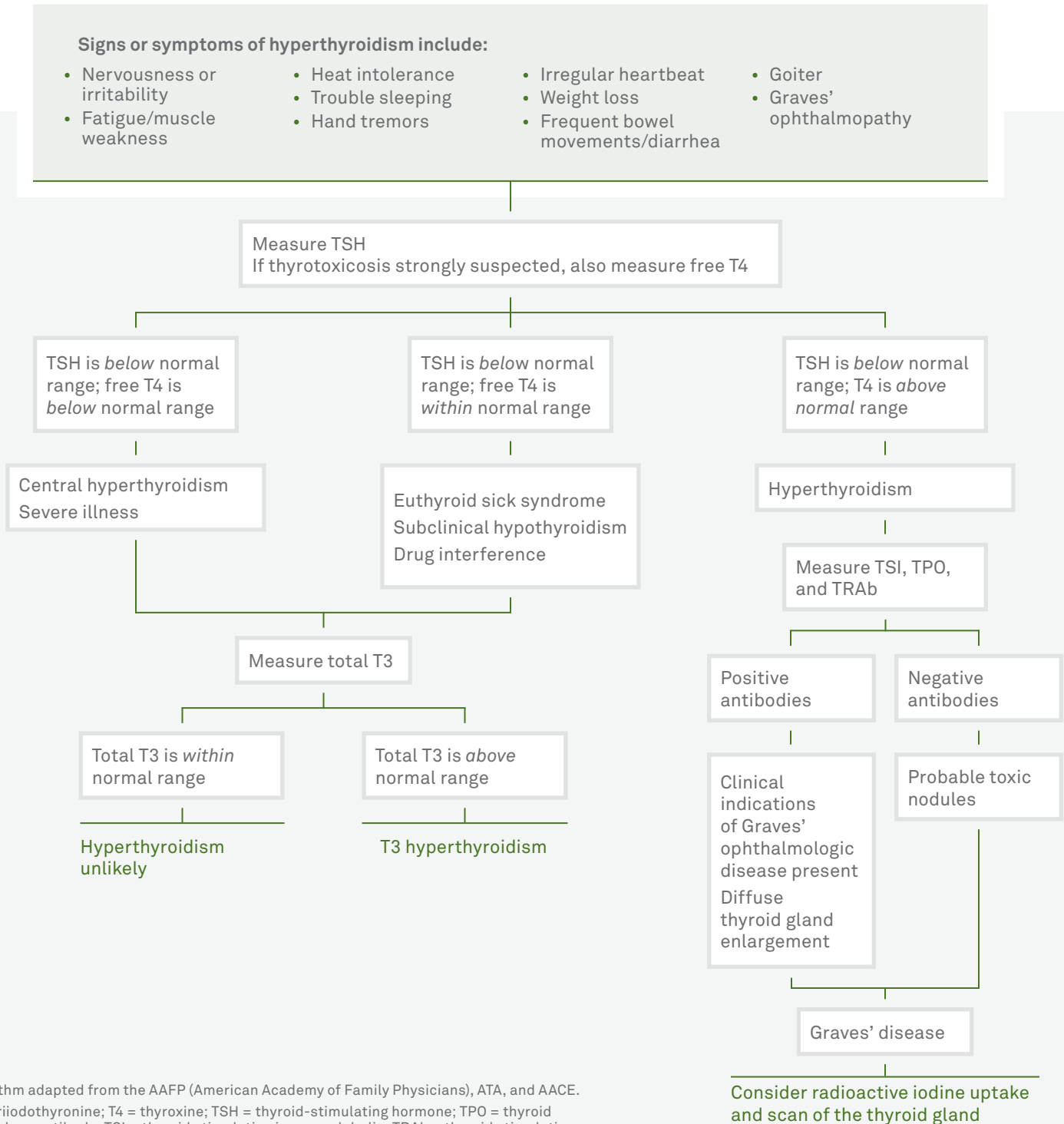
Screening, diagnosing, and managing **hyperthyroidism**—guidelines overview²

In 2016, the ATA updated the ATA/AACE guidelines for hyperthyroidism, a form of thyrotoxicosis. Updates include new approaches and changing paradigms for:³

- Evaluating and managing Graves' disease with antithyroid drugs (ATDs)
- Managing hyperthyroid patients planning pregnancy
- Managing calcium metabolism prior to thyroid surgery
- Re-evaluating the long-term toxicity of antithyroid drugs

The guidelines recommend screening for all patients with symptoms of hyperthyroidism. Once a diagnosis is made, the etiology should be determined.

Hyperthyroidism: algorithm for screening and diagnosis



Algorithm adapted from the AAFP (American Academy of Family Physicians), ATA, and AACE. T3 = triiodothyronine; T4 = thyroxine; TSH = thyroid-stimulating hormone; TPO = thyroid peroxidase antibody; TSI = thyroid stimulating immunoglobulin; TRAb = thyroid stimulating hormone receptor antibody.



Monitoring hyperthyroidism—and avoiding complications

Testing guidelines for the management of hyperthyroidism²

Patients on antithyroid medication (ATD), most commonly methimazole (MMI)

Serum free T4 and total T3:

- After first 2–6 weeks
- Every 2–3 months thereafter, or every 6 months for those on long-term medication

TSH and TRAb prior to stopping therapy

Patients on radioactive iodine

Free T4, total T3, and TSH:

- After first 1–2 months

Biochemical monitoring:

- At 4-to-6-week intervals for 6 months, or until patient becomes hypothyroid

Patients with drug-associated thyrotoxicosis

Biochemical monitoring:

- 6-month intervals

Patients with amiodarone-induced thyrotoxicosis

Monitoring thyroid function tests:

- Before and within the first 3 months following initiation of therapy
- 3-to-6-month intervals thereafter

For pregnancy:

Base evaluation for ATD withdrawal on:

- Recent thyroid function and TRAb testing

If ATD is withdrawn:

- Weekly thyroid function testing during the first trimester

T4, T3, and TSH at least monthly

TRAb when the etiology is uncertain

Patients who were treated with RAI or thyroidectomy prior to pregnancy:

- TRAb during the first trimester
- If elevated, again at 18–22 weeks of gestation

Patients on ATD therapy for Graves' disease:

- TRAb at initial pregnancy visit
- If elevated, again at 18–22 weeks of gestation

Patients with elevated TRAb levels at 18–22 weeks of gestation:

- TRAb at 30–34 weeks of gestation

Patients who undergo surgery

Thyroidectomy

- Serum calcium ± intact parathyroid hormone (PTH) levels
- TSH in patients on levothyroxine 6–8 weeks postoperatively

Lobectomy

- TSH and free T4 4–6 weeks after surgery

Get guideline-based thyroid testing from the lab that knows endocrinology

Count on actionable results to do your best for your patients

- Comprehensive endocrinology tests across disease areas
- Reliable and accurate result reporting aligned to endocrine guidelines
- Endocrinology interpretation guides and algorithms
- Medical and scientific expertise from Quest Diagnostics Nichols Institute and Athena Diagnostics

The guidelines are a simplification that are provided as a convenience, and should not be used as a substitute for the healthcare provider's professional judgment. The source materials and other information should be consulted when appropriate.



Please contact your Quest Diagnostics sales representative for more information about our thyroid testing.

To speak to an endocrinology specialist, call 1.866.MYQUEST (1.866.697.8378)

References

1. American Thyroid Association and American Association of Clinical Endocrinologists. Clinical practice guidelines for hypothyroidism in adults: cosponsored by the American Association of Clinical Endocrinologists and the American Thyroid Association. *Endocr Pract.* 2012;18(6):988-1028.
2. American Thyroid Association. 2016 American Thyroid Association guidelines for diagnosis and management of hyperthyroidism and other causes of thyrotoxicosis. *Thyroid.* 2016;26(10):1343-1423.
3. American Thyroid Association. New guidelines for managing hyperthyroidism and other causes of thyrotoxicosis. 17 Aug 2016. Available at thyroid.org/guidelines-hyperthyroidism-thyrotoxicosis. Accessed April 25, 2017.

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