

Understanding Endocrinopathies in Your Patients

Some oncology medications may cause endocrine disorders, also known as endocrinopathies, such as hypothyroidism, hyperthyroidism, adrenal insufficiency, and hypophysitis.¹

The following guide covers signs, symptoms, and evaluation of endocrinopathies.

Hypothyroidism

Signs and symptoms of hypothyroidism²:

Common signs and symptoms of hypothyroidism may include:

Bradycardia	Hair loss/diffuse alopecia	Weight gain
Tiredness/weakness	Difficulty concentrating and poor memory	Dyspnea
Cold intolerance	Constipation	Hoarse voice

Guidelines recommend consultation with a specialist for^{3,4}:

- An atypical pattern of thyroid function test results (TSH and free T₄)
- Symptoms that have become severe
- Patients who have multiple chronic conditions

Serum TSH is recommended to screen for thyroid dysfunction³:

- For improved diagnostic accuracy, assess both serum TSH and free T₄
 - Overt hypothyroidism: TSH above the upper limit of the reference range with a subnormal free T₄
 - Subclinical hypothyroidism: Serum TSH above the upper reference limit in combination with normal free T₄
- Diurnal variation in serum TSH values is common
 - TSH tends to be lowest in the late afternoon and highest at bedtime
- Not all patients who have mild TSH elevations have hypothyroidism

T₄ = thyroxine; TSH = thyroid-stimulating hormone.

If hypothyroidism or hyperthyroidism is determined, consult the prescribing information for any oncology products prescribed as part of your patient workup.

Hyperthyroidism

Signs and symptoms of hyperthyroidism⁵:

Common signs and symptoms of hyperthyroidism may include:

Tachycardia	Goiter	Weight loss
Hyperactivity/irritability/dysphoria	Fatigue and weakness	Polyuria
Heat intolerance	Diarrhea	Oligomenorrhea

Guideline recommendations for suspected hyperthyroidism⁶:

- Perform a comprehensive health history and physical examination, including heart rate, blood pressure, respiratory rate, and body weight
- Evaluate thyroid size
- Check for thyroid tenderness, symmetry, and nodularity
- Evaluate pulmonary, cardiac, and neuromuscular function
- Assess for peripheral edema, eye signs, or pretibial myxedema

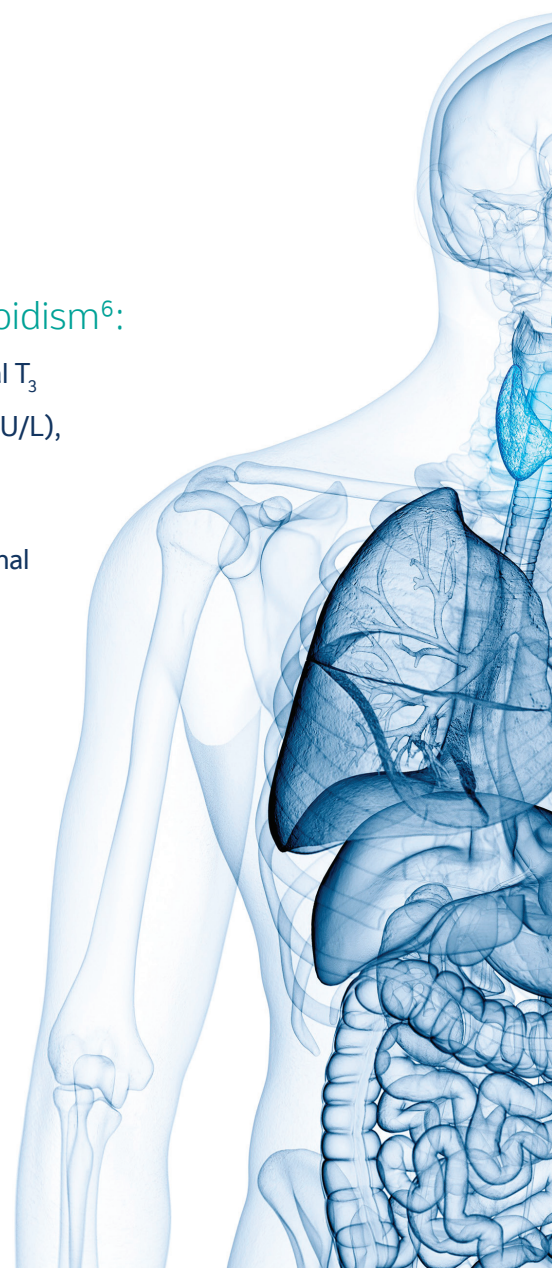
Serum TSH is recommended to screen for hyperthyroidism⁶:

- For improved diagnostic accuracy, assess serum TSH, free T_4 , and total T_3
 - Overt hyperthyroidism: Typically serum TSH is subnormal (<0.01 mU/L), while serum free T_4 , T_3 , or both are elevated
 - Subclinical hyperthyroidism: Typically serum TSH concentration is subnormal, while serum free T_4 and total T_3 or free T_3 levels are normal

Consultation with a specialist is recommended when⁶:

- Patients require a level of care typically provided in centers with specific expertise
- Cardiac evaluation may be needed (eg, for older patients)
- Assessment and development of a treatment plan for thyrotoxic manifestations, including potential cardiovascular and neuromuscular complications, is needed

T_3 = triiodothyronine; T_4 = thyroxine; TSH = thyroid-stimulating hormone.



Adrenal Insufficiency

Signs and symptoms of adrenal insufficiency⁷:

Adrenal insufficiency affects all systems in the human body, leading to a wide range of symptoms, which may include:

Orthostatic hypotension	Weight loss	Nausea or vomiting
Fatigue	Light headedness with standing	Diarrhea
Anorexia	Hyperpigmentation of skin and gums	Dehydration and hypotension
Weakness		

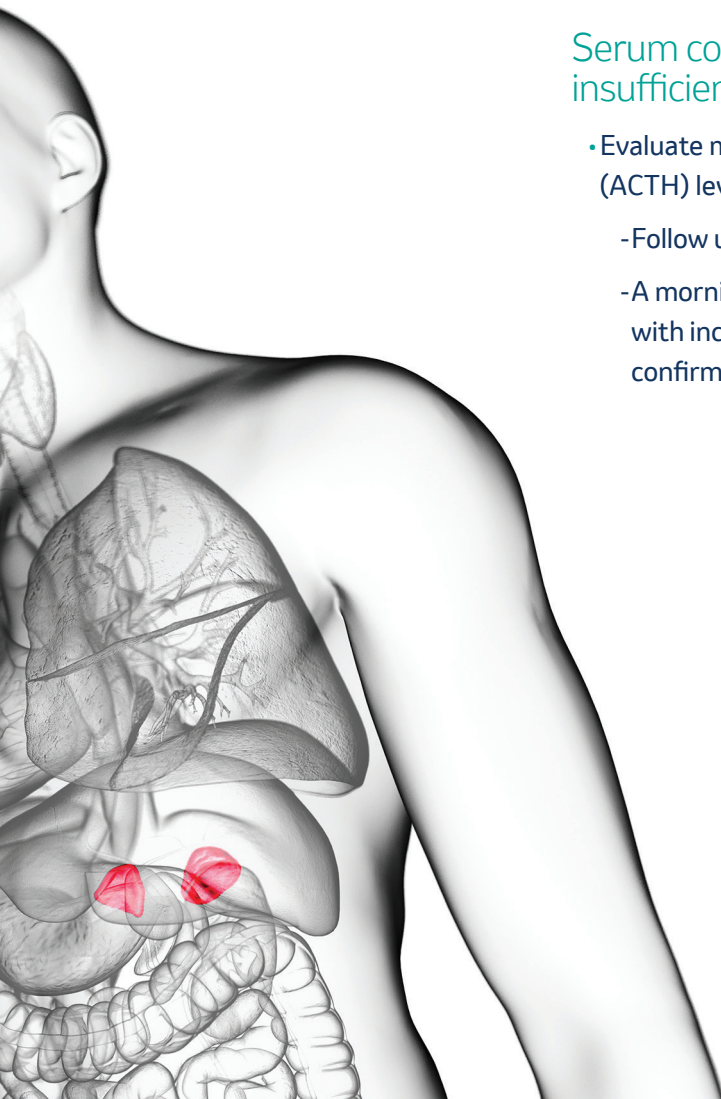
If adrenal insufficiency is left untreated, it may eventually lead to an adrenal crisis.

This is where symptoms appear quickly and severely, and without medical attention, it can be fatal.⁸

Serum cortisol is recommended to screen for adrenal insufficiency^{8,9}:

- Evaluate morning fasting cortisol and adrenocorticotropic hormone (ACTH) levels
 - Follow up with an ACTH stimulation test if results are inadequate
 - A morning serum cortisol of <140 nmol/L (5 µg/dL) in combination with increased ACTH levels (twice the upper normal limit) is confirmative of primary adrenal insufficiency⁸

If adrenal insufficiency or hypophysitis is determined, consult the prescribing information for any oncology products prescribed as part of your patient workup.



Hypophysitis

Signs and symptoms of hypophysitis¹⁰:

Because symptoms may vary patient to patient, diagnosis can be extremely difficult.

Common signs and symptoms of hypophysitis may include:

Adrenal insufficiency	Hypothyroidism	Visual disturbance
Headache	Hypogonadism	Polydipsia/polyuria

Guideline recommendations for suspected hypophysitis⁹:

- Evaluate morning fasting cortisol and ACTH levels in addition to the following:
 - TSH and free T₄
 - For premenopausal women: Evaluate FSH, LH, and estradiol
 - For men: Evaluate FSH, LH, and testosterone
 - Glucose and basic electrolytes panel (Na, K)
- Perform a brain MRI
- In patients with cardiovascular instability, adrenal crisis should be ruled out, as well as sepsis (cultures, imaging as indicated)

FSH = follicle-stimulating hormone; LH = luteinizing hormone; MRI = magnetic resonance imaging;
T₄ = thyroxine; TSH = thyroid-stimulating hormone.

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