

## Hypothyroidism Assessment

Hypothyroidism occurs as a result of a decreased level of thyroid hormone, which can occur following thyroidectomy, radioactive iodine (RAI) ablation, and ingestion of plants in some geographic areas of the world where the soil is lacking in iodine leading to iodine deficiency and goiter. Overall, clinical symptoms of hypothyroidism relate to decreased metabolism.



PLAY PICMONIC

### Assessment

#### Weight Gain - Edema

[Up-arrow Scale Edamame](#)

The slower metabolic process does not allow the body to burn fat adequately, and soft tissues can also become infiltrated with glycosaminoglycans which draw fluid into tissues. This results in the patient experiencing weight gain and edema, even with dieting.

#### Lethargy

[Leather-jacket](#)

Lethargy or feeling extremely fatigued is a common symptom of hypothyroidism. Patients still feel lethargic even after a full night's rest. Individuals may describe sleep as unrefreshing, because they wake up tired.

#### Cold Intolerance

[Ice-cube Shivering](#)

Patients with hypothyroidism become hypersensitive to cold environments or temperature. This is caused by the slower metabolism and the body's inability to produce enough heat to tolerate the cold environment.

#### Bradycardia

[Snail-heart](#)

Patients with hypothyroidism often have a slower heart rate. The body is not working as hard because of the slower metabolic processes.

#### Hypertension

[Hiker-BP](#)

In hypothyroidism, heart rate and cardiac contractility decrease which contributes to a decreased cardiac output. As a response, the body increases peripheral vascular resistance leading to diastolic hypertension. However, it is important to note that in myxedema coma (severe hypothyroidism), the cardiac output drops so low that even compensatory mechanisms are not enough to maintain homeostasis. In this case, *hypo*tension may be evident.

#### Brittle Nails and Dry Skin

[Broken Nails and Dry Skin-suit-man](#)

The skin becomes dry and thick from the decrease in sweat and oil secretion. Hair becomes coarse and hair loss can occur. Fingernails also become dry and brittle.

#### Constipation

[Corked Con-toilet](#)

Intestinal motility may slow resulting in constipation.

#### Goiter

[Goiter-goat](#)

Goiter is defined as having an enlarged thyroid gland. On examination patients will have an enlarged neck, which can cause breathing issues if the swelling pushes against the trachea. The presence of a goiter indicates a problem with thyroid function but does not indicate whether it is hypersecretion or

hyposecretion of thyroid hormone, as goiter can be seen with both hypothyroidism and hyperthyroidism.

### **Prolonged Menses**

[Prolonged Man-Z's](#)

Women that develop hypothyroidism can experience menstrual cycle abnormalities including prolonged, irregular, and heavy periods.

### **Slowed Thinking**

[Gummed-mental-gears](#)

Patients with hypothyroidism often become forgetful and can have memory loss.

## **Diagnostic Tests**

### **Decreased Free T4**

[Down-arrow Tea \(4\) Fork](#)

Blood tests are performed to confirm the diagnosis of hypothyroidism. A decreased level of free T4 suggests hypothyroidism.

### **Increased TSH**

[Up-arrow Tissue-box](#)

In primary hypothyroidism, the thyroid gland does not function properly so inadequate amounts of thyroid hormones (e.g. T4, T3) are produced. The pituitary gland responds to these low levels of thyroid hormones by producing excess thyroid-stimulating hormone (TSH). This is known as the hypothalamic-pituitary-thyroid (HPT) axis.