



Canine Hypothyroidism

Hypothyroidism is one of the most common endocrine (hormone-related) disorders in dogs, resulting from an underproduction of thyroid hormones. The thyroid gland is a small, butterfly-shaped gland in the neck that produces hormones critical for regulating metabolism.

What is Canine Hypothyroidism?

Hypothyroidism is a condition where the **thyroid gland** fails to produce adequate amounts of the hormones **thyroxine (T₄)** and **triiodothyronine (T₃)**.

These hormones control the metabolic rate of nearly every cell in the body. When production is low, the body's processes slow down, leading to a variety of clinical signs.



Causes

In over 95% of cases, canine hypothyroidism is caused by one of two conditions that destroy the thyroid gland tissue:

1. **Lymphocytic Thyroiditis:** This is an immune-mediated disease where the dog's own immune system attacks and destroys the thyroid tissue. This is the most common cause.
 2. **Idiopathic Atrophy:** The thyroid gland tissue is replaced by fat and connective tissue for unknown reasons.
-

Less common causes include cancer of the thyroid gland or congenital defects.



Common Signs and Symptoms

Because thyroid hormones affect so many body systems, the signs can be varied and often develop slowly.

1. Dermatologic (Skin and Coat) Changes

These are often the first and most noticeable signs:

- **Bilateral, Symmetrical Non-itchy Hair Loss (Alopecia):** Often seen over the flanks, chest, and tail ("rat tail").
- **Dull, Dry, or Brittle Coat:** The fur may feel coarse and is easily shed.
- **Excessive Dandruff or Scaling.**

- **"Tragic Expression" or "Puffy Face":** Caused by a thickening of the facial skin (myxedema).
- **Recurrent Skin and Ear Infections** (due to a compromised immune system).

2. Metabolic/Systemic Signs

- **Lethargy and Exercise Intolerance:** The dog is tired, sleeps more, and is reluctant to play or go for walks.
- **Weight Gain:** Often occurs without an increase in food consumption.
- **Heat Seeking:** The dog may seek out warm spots or be intolerant of cold temperatures.

3. Neuromuscular/Reproductive Signs (Less Common)

- Weakness, stiffness, or knuckling over in the paws.
- Reproductive failure (e.g., infertility).

Diagnosis

Diagnosis is typically made through a combination of:

1. **Clinical Signs:** The presence of the classic symptoms (lethargy, weight gain, hair loss).
2. **Blood Tests:**
 - **Complete Blood Count (CBC) and Chemistry Panel:** May reveal mild anemia or elevated cholesterol levels, which can support a diagnosis.
 - **Thyroid Hormone Testing (The definitive test):**
 - **Total T₄ (TT4):** Measures the total amount of thyroxine in the blood. A low TT4 is suggestive.
 - **Free T₄ (fT4):** Measures the unbound (active) portion of the hormone and is often considered a more accurate diagnostic tool.
 - **TSH (Thyroid-Stimulating Hormone):** TSH is released by the pituitary gland to tell the thyroid to produce hormones. In primary hypothyroidism, the TSH is often **high** because the body is trying to stimulate a non-responsive gland.

Treatment and Management

The good news is that canine hypothyroidism is **highly treatable and manageable!**

The standard treatment is lifelong oral hormone replacement therapy.

- **Medication: Levothyroxine** (synthetic T₄).
- **Dosing:** This medication is given once or twice daily, typically on an empty stomach to ensure proper absorption.
- **Prognosis:** Once treatment begins, clinical signs often start to resolve within weeks:

- **Energy Levels:** Improve dramatically within the first 1-2 weeks.
- **Weight:** Gradual weight loss typically begins within a few weeks.
- **Coat:** Significant hair regrowth and skin health improvement may take **4 to 8 months**.

Monitoring and Follow-up

Regular monitoring is critical to ensure the dose is appropriate:

- **Initial Check:** Blood work (Thyroid Panel) is usually checked 4-8 weeks after starting the medication to measure the drug's effectiveness.
 - **Follow-up:** Once the correct dosage is established, the blood levels will need to be rechecked every 6-12 months for the remainder of the dog's life.
-

Key Takeaway for Owners

Hypothyroidism is not a death sentence; it is a **manageable chronic condition**. With consistent medication and regular monitoring, your dog can return to a normal, happy, and energetic life!

Please contact us immediately if you notice a change in your dog's energy level, appetite, or coat, or if you have any questions about their medication schedule.

