

# Canine Hypothyroidism: Frequently Asked Questions

## Diagnosing and Treating Underactive Thyroid Problems in Dogs

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### What is hypothyroidism?

Hypothyroidism is a disorder of the thyroid gland -- two small butterfly-shaped lobes located in the neck. This gland has a number of functions, but is most well known for regulating your dog's metabolic rate. In hypothyroidism, the thyroid gland is underactive, and unable to secrete enough thyroid hormone. This, in turn, decreases your dog's metabolism.

### How does a dog get hypothyroidism?

Most cases of hypothyroidism stem from the dog's own immune system attacking the tissues of the thyroid gland. This condition is called autoimmune thyroiditis. The dog's own system attempts to compensate for this at first by secreting more and more of the thyroid hormone, but eventually the gland is unable to keep up with the attacks on its tissue, and the dog becomes hypothyroid and symptomatic. While there is a genetic predisposition for thyroid disorders, environmental factors such as pollutants and allergies probably play a role as well.

### What are the symptoms of hypothyroidism?

- Lethargic behavior such as a lack of interest in play, frequent napping, tiring out on long walks
- Weight gain, sometimes without an apparent gain in appetite
- Bacterial infections of the skin
- Dry skin
- Hair loss, especially on the trunk or tail ("rat's tail")
- Discoloration or thickening of the skin where hair loss has occurred
- Cold intolerance/seeking out warm places to lie down
- Slow heart rate
- Chronic ear infections
- Severe behavioral changes such as unprovoked aggression, head tilt, seizures, anxiety and/or compulsivity
- Depression

### Are there certain breeds that are more susceptible to hypothyroidism?

Most dogs who are affected by hypothyroidism fall into the mid to large size category. Many breeds are affected by this disease, including (but not limited to):

- Golden retrievers
- Doberman pinschers
- Greyhounds
- Irish setters
- Dachshunds
- Cocker spaniels
- Airedale terriers

Hypothyroidism is rare in toy and miniature breeds of dogs.

## **Is age or gender a factor?**

Most dogs contract hypothyroidism between the ages of 4 to 10. It appears to affect males and females equally, however spayed females are at a higher risk than unspayed females.

## **How is hypothyroidism diagnosed?**

All diagnosis begins with an examination and taking of a history. Your veterinarian will be looking for clinical signs of hypothyroidism during a thorough physical examination of the dog, and will ask questions about your dog's health and behavior. If hypothyroidism is suspected, a blood test will be ordered. There are a number of different methods for testing the thyroid. They involve some complicated terminology, but it is important to understand the efficacy of these tests when discussing diagnosis with your veterinarian:

- **Baseline T4 Test or Total T4 (TT4):** This is the most common test. Dogs with a failure of the thyroid gland will have a lowered level of the T4 hormone. However, there are other conditions that can cause the T4 to decrease, so if this test comes back positive for hypothyroidism your vet should recommend an additional blood test, either the T3 Test or the Baseline TSH test.
- **Baseline TSH Test:** Measures the level of Thyroid Stimulating Hormone. In combination with the T4 or T3 test provides a more complete picture of the hormonal activity of your dog's thyroid gland.
- **Free T4 by RIA (radio immunoassay):** The Free T4 test using RIA techniques does not appear to be more or less accurate than the above TT4 test.
- **Free T4 by ED (equilibrium dialysis):** This test may provide more accurate data on the level of T4 hormone in your dog's bloodstream.
- **Baseline T3 Test:** In combination with the T4 or TSH test, these two blood tests can give a clearer picture of the hormone levels found in the bloodstream. This test is not reliable when used alone. The T3 Test should always be given in combination with one of the other blood tests.
- **TSH Response Test:** In this test, the veterinarian takes an initial measurement of the thyroid hormones in your dog's bloodstream, and then injects Thyroid Stimulating Hormone (TSH) into the vein. After 6 hours a blood sample is drawn and the level of T4 is checked. If your dog has hypothyroidism, the level of T4 will not increase even after the TSH is injected. This is an expensive test and is being used less often due to decreased production by the manufacturers.

## **How is hypothyroidism treated?**

Hypothyroidism is treated with a daily dose of synthetic thyroid hormone called thyroxine (levothyroxine). Blood samples will need to be drawn periodically to assess the effectiveness of the dosage and make any adjustments necessary.

## **What should I expect from the treatment?**

Most symptoms should clear up after treatment. With regularly scheduled check-ups to ensure correct dosage, your dog should be mostly symptom-free for the rest of his or her life. Hypothyroid dogs who receive proper treatment have a normal life span and are able to maintain good health well into their golden years.