

Thyroid Gland Disease: Hypothyroidism

Understanding Your Pet's Medical Diagnosis

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What is hypothyroidism?

Hypothyroidism is a disease caused by inadequate amounts of thyroid hormones. Thyroid hormones are produced by the thyroid gland. The thyroid hormones are thyroxine (T4) and triiodothyronine (T3). When a deficiency of thyroid hormones occurs, the body's metabolic rate drops. Hypothyroidism is a common disease in dogs, but it rarely affects cats.

What causes hypothyroidism?

Thyroid hormones are released into circulation where they affect the metabolic activity of virtually all body tissues. The release of thyroid hormones is under the control of thyroid-stimulating hormone (TSH), which is released from the pituitary gland in the brain. Thus, hypothyroidism can result from any disease that damages or destroys the thyroid gland or disrupts the signaling mechanism between the pituitary gland and the thyroid gland. Primary hypothyroidism, resulting from diseases of the thyroid gland, can occur due to inflammation, shrinkage of the thyroid gland (atrophy), iodine deficiency, infection, or cancer. Secondary hypothyroidism, resulting from an impaired release of TSH, can occur due to cancer, infection, or malformation of the pituitary gland itself. In addition, a temporary decrease in TSH release can occur due to malnutrition, concurrent illnesses, or steroid therapy.

What are the signs of hypothyroidism?

Numerous clinical signs are associated with hypothyroidism as almost every body system is affected. The observed signs develop gradually and will vary with each individual. Common clinical signs include lethargy, exercise intolerance, depression, and weight gain. The animal also may sleep more, and prefer to be in warmer areas of the house. The skin of a hypothyroid animal can range from dry to oily, with symmetrical areas of hair loss starting at the tail. In addition, bacterial skin infection may be present. Other clinical signs include nervous system deficits, constipation, infertility, and a slow heart rate.

How is hypothyroidism diagnosed?

Hypothyroidism is diagnosed by a good medical history and a thorough physical examination. In addition, diagnostic tests (such as blood work and specific tests for thyroid function) will be performed. The specific tests for thyroid function include measurements of thyroid hormones (T3 and T4) and of thyroid-stimulating hormone (TSH).

How is hypothyroidism treated?

Hypothyroidism is treated by providing thyroid hormone through medications. Animals with hypothyroidism will require lifetime supplementation of synthetic thyroid hormones. The response to treatment is gradual and the dose may need to be altered from time to time. Thus, regularly scheduled recheck examinations and blood tests will be required. The concentration of thyroid hormone in the blood will be monitored. High fat diets should be

avoided due to impaired body metabolism. Often, obese animals will lose the excess weight with proper medical management of the disease.

The administration of excessive amounts of the synthetic hormone may result in signs of hyperthyroidism, such as anxiety, increased thirst (polydipsia), increased urination (polyuria), weight loss, diarrhea, or abnormally fast and irregular heartbeats.

What is the prognosis for animals with hypothyroidism?

The prognosis (outcome) for animals with primary hypothyroidism is good, if the thyroid replacement therapy is provided appropriately. However, the prognosis for animals with secondary hypothyroidism is guarded to poor, as part of the brain is diseased.