



HYPOTHYROIDISM

What is Hypothyroidism?

Hypothyroidism is a common condition associated with deficiency of thyroxine (thyroid hormone), which causes low cell metabolism in most tissues of the body. About one in every 200 dogs will develop it.

There are two types of hypothyroidism:

1. Primary acquired hypothyroidism (90% of dog patients) is caused by primary thyroid dysfunction due to degenerative inflammation. Less common causes include dietary iodine deficiency and thyroid destruction by tumor or infection.

2. Secondary hypothyroidism is caused by impaired thyroid stimulating hormone (TSH) secretion as a result of congenital malformation of the pituitary gland or destruction of the pituitary by tumor or infection. Congenital hypothyroidism causes cretinism (dwarfism) because thyroid hormone is necessary for normal development of the skeleton and central nervous systems. Glucocorticoids (cortisones), concurrent illness, and malnutrition can also impair TSH secretion.

Hypothyroidism in cats is uncommon and is usually caused by surgical removal of the thyroid or radiotherapy for hyperthyroidism. Common breeds of dogs affected include Airedale terrier, boxer, cocker spaniel, dachshund, Doberman pinscher, golden retriever, Great Dane, Irish setter, miniature schnauzer, Old English sheepdog, Pomeranian, poodle, and Shetland sheepdog. It is usually seen in dogs 4-10 years old and over twice as common in females than males.

What Does It Affect?

The systems affected include the skin, cardiovascular, nervous, neuromuscular, reproductive, gastro-intestinal, eyes, and endocrine & metabolic. So essentially the whole body is in some way affected by hypothyroidism.

What are the Symptoms of Hypothyroidism?

The symptoms develop gradually and vary widely. The history may include lethargy, mental depression, exercise intolerance, increased sleeping, personality change, unexplained weight gain, heat seeking (sensitivity to cold), infertility or low libido in breeding animals, and gradual hair loss.

On examination signs may include: skin abnormalities (very common) and symmetrical hair loss beginning on the tail ("rat tail") and becoming generalized; dark or

thickened skin, dry or oily dermatitis; dry, dull, brittle, and easily pulled hair coat; change in coat color possible. Poor wound healing and easy bruising are often seen with an increased prevalence of skin & ear infections.

The heart may beat slower than normal. And several neurological anomalies may be seen, especially involving the face, voice, and balance. Dogs may show a stiff gait and general muscle weakness. Constipation or acid regurgitation (megaesophagus) are fairly common. Infertility in intact animals is common.

How is Hypothyroidism Diagnosed?

The history & physical examination may make a doctor suspect the condition, but blood tests are required to confirm it.

How is Hypothyroidism Treated?

DIET: Avoid high-fat diets. Most obese patients lose weight with proper medical management.

HORMONES: The treatment of choice is synthetic sodium levothyroxine. Approximately 4 weeks of treatment is necessary to reach a steady state.

CLIENT EDUCATION: Successful management is possible and the prognosis is good. Hormone supplementation is required for the remainder of the patient's life. Dosages of thyroid hormone vary and must be individualized to the patient. Frequent rechecks to evaluate thyroid hormone concentrations may be necessary. Improper dosage or frequency of administration (failure of compliance) of thyroid supplement may significantly affect response. Response to thyroid supplement is gradual and a minimum 3 months of treatment is recommended before effectiveness is judged. **PATIENT MONITORING:** Improvement in patient activity and attitude is often observed within 7-10 days of initiating treatment. Visible improvement in skin and hair coat may take 6-8 weeks. A repeat blood test should be conducted to assess post-pill serum T4 concentration after about 8 weeks of treatment.

Overdosage of L-thyroxine can cause anxiety, thirst, increased urine production, weight loss, diarrhea, and rapid heart rate, so don't give extra tablets.

Thank you for this opportunity to serve you!