

HYPOTHYROIDISM - *What You Need to Know!*

By Dr. Dawn Burke, YGRR Board of Directors

Hypothyroidism, a deficiency of thyroid hormone, is the most common endocrine disorder of dogs. The condition most commonly results from destruction of the thyroid gland by the immune system (autoimmune thyroiditis) or atrophy (shrinkage) of the gland. Hypothyroidism is usually seen in middle-aged to older dogs, and there is a breed predilection in golden retrievers.

There are two types of thyroid hormone – T4, the circulating form in the bloodstream, and T3, which is the active form. Most of the circulating T4 is bound to proteins and inactive. The unbound portion is called free T4. It is this form that enters the tissues and is converted to active T3. The thyroid gland can also convert free T4 into T3.

Signs of hypothyroidism include skin problems (oily coat resulting in scaling and smell, skin infections, hair loss, “puppy” coat), obesity, lethargy, “heat seeking” (looking for warmth), and anemia. Less common are neurological signs like weakness, ataxia (incoordination) and facial nerve paralysis. Some specialists feel that laryngeal paralysis, megaesophagus and aggression may be linked to hypothyroidism.

Diagnosis of hypothyroidism is made by a blood test for thyroid hormones in addition to the clinical signs. It would seem that testing would be straightforward - if T3 is too low, the dog is hypothyroid. The problem with this is that T3 levels fluctuate into the normal range even in hypothyroid dogs, making this test inaccurate. We commonly measure T4 levels in dogs to diagnose hypothyroidism, although this test also has problems as other illnesses or medications like phenobarbital, potassium bromide, steroids (like prednisone) and some non-steroidal anti-inflammatory drugs can falsely depress T4 levels. Measuring free T4 by a process called equilibrium dialysis can provide more accurate results in these cases. Another test that is helpful is measurement of thyroid stimulating hormone (TSH), a hormone produced by the brain which tells the thyroid to produce more thyroid hormone. This hormone is usually elevated in dogs with hypothyroidism. It is



Sully, YGRR #4234 exhibited many of the classic symptoms of severe and untreated hypothyroidism when he was admitted to YGRR

not a good single test, however, as about 25% of hypothyroid dogs have a normal TSH level. In some cases, a dog with clinical signs of hypothyroidism but normal test results may need a clinical trial of thyroid hormone to see if symptoms improve.

Treatment of hypothyroidism requires the dog be given oral thyroid hormone medication for the rest of its life. Periodic monitoring of thyroid levels is needed to ensure the dog is getting the correct dose - too little and the symptoms may not resolve, too much can cause increased thirst, weight loss, restlessness and anxiety. Most veterinarians retest the dog after it has been on medication for about 6-8 weeks and if the levels are good, once or twice a year after that. The blood sample is typically drawn 4-8 hours after the medication is given (peak levels) or just before the next dose is due (lowest level of the day). It is important for your veterinarian to know what time your dog had its last dose. There are many manufacturers of thyroid medication and some can be more effective than others for some dogs. If the medication doesn't seem to be working, talk with your veterinarian about trying another brand. Many endocrinologists feel if a dog doesn't respond to a generic form, the brand name Soloxine should be tried. The good news is that once the diagnosis is made and treatment started, hypothyroid dogs can live a normal and happy life.