



# The Woof-Meow Show

1653 Union St., Bangor, ME 04401-2204  
(207) 945-6841 – donh@greenacreskennel.com

The “Woof-Meow” show is on every Sunday at 8:30PM on WVOM, 103.9FM, the Voice of Maine. Hosted by Don Hanson of Green Acres Kennel Shop, the show focuses on educating dog and cat guardians about their dogs and cats.

**AIR DATE:22JAN06 and 29JAN06**

**GUEST: Dr. Mark Hanks, Kindred Spirit Veterinary Clinic**

## **THYROID DISEASE IN PETS**

The occurrence of thyroid disease is on the rise in companion animals. The thyroid gland, located in the neck, is part of the endocrine system and its function is to set the basal metabolic rate by secreting two major hormones, thyroxine (T-4) and triiodothyronine (T-3). These hormones have several objectives. They control metabolism, affect the heart, regulate cholesterol synthesis and degradation, and stimulate the development of red blood cells and normal growth and development of the neurological and skeletal systems. Often hypothyroidism and hyperthyroidism are misdiagnosed since their physical symptoms are very similar to other common diseases and old age, so be sure to ask that your veterinarian perform blood work and a complete thyroid panel to eliminate these as possibilities prior to treating for other illnesses.

## **HYPOTHYROIDISM & DOGS**

Hypothyroidism occurs when there is decreased production of T-4 and T-3. Animals most at risk for hypothyroidism are mostly young adults and pure breeds. Seventy percent of the 140 AKC breeds recognize hypothyroidism as a major concern in their breeds. The top five dog breeds considered most at risk are English Setters, Polish Lowland Sheepdogs, Havanese, Old English Sheepdogs and Boxers, however hypothyroidism is most often seen in Golden Retrievers, Cocker Spaniels, Shetland Sheepdogs and Labrador Retrievers (most likely because these breeds are much more prevalent in our society). Hypothyroidism is relatively rare in cats, although it does occur.

## **SYMPTOMS OF HYPOTHYROIDISM**

Signs of hypothyroidism in dogs, unlike cats, are more individualized. There is a thin line between the symptoms of obesity and those of hypothyroidism so animals must be tested to determine if they are suffering from hypothyroidism.

Some of the symptoms of hypothyroidism are:

- U Lethargy/Canine Couch Potatoes

- U Dullness
- U Poor Coats/Chronic Skin Disease
- U Weight Gain
- U Peripheral Neuropathies (such as difficulties with feet/walking)
- U Chronic Ear Problems (80% of dogs had this as a primary symptom one year prior to diagnosis)
- U Behavioral Abnormalities. These often precede physical symptoms and some neuropathies may be associated with aggression. Various abnormalities are: aggressing without warning, extreme shyness and fear, obsessive/compulsive behavior and seizure like activity. Hypothyroidism's link with behavior remains unclear. There may be a possible connection with the hypothalamic-pituitary-adrenal axis and a chronically high level of cortisol (stress hormone), which causes a constant mimicked state of stress and suppresses pituitary function thus decreasing the production thyroid stimulation hormone (TSH).

## **CAUSES OF HYPOTHYROIDISM**

There are many potential causes of hypothyroidism such as autoimmune thyroiditis, which occurs when the immune system fails to recognize the thyroid and attacks its cells. In this case the thyroid gland cannot produce hormones. There is growing research on the immune system and the thyroid gland. A controversial theory suggests that vaccines are over stimulating the immune system and this may be a cause of an immune mediated response against the thyroid gland. All of the data is not in yet on this hypothesis. Additionally, genetics appears to play a large role in the occurrence of hypothyroidism or it may be a secondary problem, such as when the pituitary gland secretes insufficient levels of thyroid stimulation hormone in order to activate the thyroid gland.

## **DETERMINING & TREATING HYPOTHYROIDISM**

If your pet displays a sudden change in behavior or any physical symptoms or changes, you should take them to your vet, as diagnosing thyroid disease requires a qualified professional. Based upon their professional opinion, your veterinarian may do a full physical exam, a complete thyroid panel including checking for elevated levels of thyroglobulin auto antibodies (TgAA) and thyroid stimulating hormone (TSH), a blood chemistry and a urinalysis. Testing is harder in dogs because the T-4 level does not give adequate information by itself. A dog needs to have low thyroid levels and high TSH levels to make an accurate diagnosis. When performing the blood test, elevated cholesterol levels may be observed which is a “red flag” for hypothyroidism. Often, in-office thyroid tests are inadequate and may prove to be inaccurate.

The good thing about hypothyroidism is that it is often quite treatable with hormone replacement at an approximate cost of \$5 to \$10 per month. L-thyroxine (Soloxine) is used to replace the missing or deficient hormones. It is important that this medication is given twice daily as it has a half-life of 12 to 16 hours, and it should not be given with meals high in calcium due to interference with absorption. Changes are typically noticed in three to four weeks; energy levels will increase and hair and coat will improve. The neurological changes are less reversible and behavioral changes become complicated because they often turn into learned behaviors. Additionally, thyroid glandulars may be introduced to act as another target for the immune system to focus on so that the thyroid does not bare the brunt of destruction. Animals diagnosed with hypothyroidism will need to be monitored regularly as dosages may need to be adjusted.

---

## **HYPERTHYROIDISM & CATS**

Hyperthyroidism is the number one endocrinopathy for older cats (11+) and as many as one in seventeen cats are diagnosed with this condition. This is a relatively new syndrome being observed in the last 25 years or so. The increase in the rate of occurrence of hyperthyroidism is possibly due to increased awareness or because the average age of cats has climbed. Ninety-eight percent of the time hyperthyroidism develops from a benign tumor located on the thyroid gland.

### **SYMPTOMS OF HYPERTHYROIDISM**

The symptoms of hyperthyroidism are typically:

- U Weight Loss
- U Excessive Appetite
- U Increased Drinking and Urination
- U Vomiting/Diarrhea
- U Poor Coat
- U Hyperactivity
- U Abnormal Sleep/Wake Cycles. (Often these cats will wake up howling in the middle of the night.)

### **DETERMINING & TREATING HYPERTHYROIDISM**

One of the great things about hyperthyroidism is that it is usually a very treatable condition. To assess if a cat has this disease a veterinarian will typically do a physical exam (often it is possible to feel an enlargement in the area of the thyroid gland) and discuss your cat's behaviors with you. This will be followed with a blood test to determine T-4 levels.

If it is discovered that your cat is suffering from hyperthyroidism, there are three ways of treating this condition.

#### **Medication**

This is the form of treatment most often used. Typically a veterinarian will prescribe Tapazol to be administered twice daily for the life of the cat. Tapazol is usually a relatively inexpensive medication and takes effect within seven to ten days. However, as time passes, the tumor may grow larger and the dosage may need to be increased. Approximately 5% of cats experience facial itching as a side effect of this treatment.

#### **Surgery**

This procedure involves the removal of both lobes of the thyroid gland and cats that have the surgery typically do very well. The benefit of doing surgery is that it eliminates the need for a lifetime of medication, which with some cats may be very difficult. The major concern is that the thyroid gland is located in a very sensitive area due to its close proximity to other structures such as the carotid artery. Moreover, the parathyroid is interwoven with the thyroid gland and consists of two parts; the inner and the outer parathyroid gland. When surgery is performed, the inner parathyroid must be removed while the outer parathyroid needs to remain in place. Since the parathyroid is responsible for balancing calcium and phosphorus levels, the cat will have to be monitored for hypocalcaemia post-surgically. Typically if hypocalcaemia is to occur it will be noticed within 24 hours after surgery.

## **Radioactive Iodine**

Radioactive iodine is a very effective way of selectively killing the thyroid gland without the risks of surgery. The thyroid gland concentrates iodine and by using Iodine 131, a toxic substance is selectively carried to the thyroid gland. This procedure must be done under close supervision of a veterinarian who is licensed to perform it – the closest place in Maine being Portland. A major downside to using radioactive iodine is the cost as this procedure is very expensive.

## **ALSO OF NOTE**

Recent research suggests that there may be a link between hyperthyroidism and canned cat foods with pop-top lids as well as fish flavored foods. The theory is that the plasticized sealer on the lids is in some way affecting hormone production. Regardless, there still remain some real advantages to feeding canned food, such as increased water intake, decreased probability of developing urinary tract problems, and less of a likelihood of obesity and diabetes because canned foods contain fewer carbohydrates.

## **OTHER SOURCES:**

Endocrine Systems & Disorders

[http://maxshouse.com/Endocrine\\_System\\_&\\_Disorders.htm](http://maxshouse.com/Endocrine_System_&_Disorders.htm)

Pawprints and Purrs. Inc. – Cat Health Care.

<http://www.sniksnak.com/cathealth/hypothyroidism.html>

Whole Dog Journal

June 2005