



Mountainview Animal Hospital

WINTER NEWSLETTER



The Bottom Line

While the thyroid gland may be one of the largest hormone producing glands in the body, it is not the "master gland". That distinction belongs to the Pituitary Gland found in the brain. It regulates the hormone production of the adrenal, thyroid and reproductive systems. The Pituitary Gland is responsible for secreting Thyroid Stimulating Hormone (TSH) which triggers the Thyroid Gland to produce more or less T4 hormone depending on the body's needs.

The incidence of thyroid disease in cats has increased since the 1980s. Many theories as to the cause of hyperthyroidism have been studied, though the specific causes are not yet known.

THYROID DISEASE

The thyroid gland is one of the largest endocrine (hormone producing) glands in the body. There are two thyroid glands located in the neck on either side of the airway. Its function is to produce hormones called thyroxine (T4) and triiodothyronine (T3). These hormones are responsible for the regulation of the metabolism throughout the body. Virtually every cell in the body can be affected by reduced or increased levels of thyroid hormone, leading to symptoms involving multiple organ systems.

The lack of thyroid hormone is called Hypothyroidism and most commonly affects dogs. Too much thyroid hormone production is called Hyperthyroidism and this most commonly affects cats. Interestingly, humans can get both forms of the disease.

HYPERTHYROIDISM

What is hyperthyroidism?

Hyperthyroidism is a disorder characterized by the overproduction of thyroid hormone. This occurs when a tumour or nodule develops on one or both thyroid glands. Sometimes the nodule is large enough to be felt by a veterinarian during a physical examination. Although the thyroid gland enlarges, it is rarely a malignant (cancerous) change; most thyroid gland tumours are benign. Less than 2% of hyperthyroid cases involve malignant thyroid gland tumours.

The result of an overproduction of thyroid hormone is an increase in the metabolic rate.

Who is affected by hyperthyroidism?

Hyperthyroidism is a condition that most commonly affects older cats. The typical cat with hyperthyroidism is middle aged or older; on average, affected cats are about 12 years of age. No individual breed is known to be especially at increased risk.

What are the symptoms of hyperthyroidism?

Because of the overproduction of thyroid hormone, the most consistent finding with this disorder is weight loss secondary to the increased rate of metabolism. The cat tries to compensate for this with an increased appetite. In fact, some of these cats have a ravenous appetite and will literally eat anything in sight! Despite the increased intake of food, most cats continue to lose weight. The weight loss may be so gradual that some owners will not realize it has occurred or the weight loss may be quite rapid. Affected cats often drink a lot of water and frequently urinate. Many of these cats will also urinate inappropriately outside their litter boxes. There may be periodic vomiting or diarrhea, and the hair coat may be unkempt. In some cats, anorexia develops as the disease progresses.

As the disease continues to worsen many of the organs become affected. The heart is stimulated to pump faster and more forcefully; eventually, the heart enlarges to meet this increase in workload. This is called Thyrotoxic Cardiomyopathy. Fortunately, the type of heart disease caused by hyperthyroidism is reversible with the appropriate treatment.

The Bottom Line

Occasionally, a cat suspected of having hyperthyroidism will have T4 levels within the upper range of normal cats. When this occurs, two options are available. If the cat is displaying a number of symptoms and an immediate diagnosis is important, more specific blood tests can be performed. For cats that seem relatively healthy and we suspect they may be in the very early stages of the disease, we may choose to wait a few weeks and measure the T4 again later.

Some cats have pre-existing kidney disease that was being masked by the thyroid disease. For this reason we treat hyperthyroid cats with the anti-thyroid medication before we may choose any of the more permanent surgical or radioactive iodine treatment options.



The increased pumping pressure from the heart leads to a greater output of blood and high blood pressure. About 25% of cats with hyperthyroidism have high blood pressure. In some cats, the blood pressure can become so high that retinal hemorrhage or detachment will occur and result in blindness.

How is hyperthyroidism diagnosed?

In most instances, diagnosis of this disease is relatively straightforward. The first step is to collect a sample of blood and urine. Usually, in cats with hyperthyroidism, the T4 level is so high that there is no question as to the diagnosis. Because cats with hyperthyroidism often also have high blood pressure, testing your cats blood pressure will be important in cats whose T4 is elevated.

How is hyperthyroidism treated?

While hyperthyroidism can become very serious and even fatal, early detection and treatment is usually very successful. There are four choices for the treatment of hyperthyroidism: anti-thyroid medication, surgery, radioactive iodine and diet. Each one of the treatment options has its advantages and disadvantages. Many factors must come into consideration when choosing the best therapy for an individual cat. As your veterinarian, we would be happy to discuss which option is best suited to you and your cat.

Are there any other complications?

Approximately 15 to 22% of cats treated for hyperthyroidism will show signs of kidney disease that was not evident before beginning treatment. These cats had pre-existing kidney disease that was being masked by the thyroid disease. The high blood pressure caused by the hyperthyroidism increases the blood flow to the kidneys making the kidneys more effective. When we treat the hyperthyroidism, the blood pressure normalizes and the kidneys' weakness becomes evident. If this complication occurs, we will adjust by decreasing the dose of medication or discontinue it altogether.

HYPOTHYROIDISM

What is hypothyroidism?

Hypothyroidism is characterized by a deficiency in thyroid hormone. This deficiency can be produced by an immune-mediated destruction of the thyroid gland, meaning the body's own immune system is attacking the gland, or by natural atrophy (shrinkage) of the gland. Uncommonly, it can be caused by a dietary deficiency of iodine or as a congenital problem.

Who is affected by hypothyroidism?

Hypothyroidism is a condition that most commonly affects middle-aged to older dogs. While any breed can be affected, hypothyroidism is most commonly seen in Dobermans, Golden Retrievers, Irish Setters, Great Danes, Dachshunds and Boxers.

What are the symptoms of hypothyroidism?

88 % of dogs with hypothyroidism have some kind of skin abnormality. This might include hair loss particularly around the tail or around the collar, skin infections with an oily coat, or brittle, dry coats. A thickening of the skin around the face and head can also occur. This will lead to more skin folds, giving the dog a "tragic" looking face. Up to 50% of affected dogs will also be obese and lethargic.

The heart and nervous system can also be affected. Many dogs with thyroid disease have slow heart rates and abnormal rhythms. Less commonly, hypothyroidism can cause a variety of neurological weaknesses and disorders.

The Bottom Line

In humans, doctors will often screen for thyroid disease by measuring blood TSH levels. High TSH levels suggests hypothyroidism & a low TSH suggests hyperthyroidism. In either case abnormal TSH levels will prompt your doctor to run further tests to determine what type of thyroid disease you may have.

On rare occasions some dogs will develop changes to the surface of the eye called the cornea. Tiny cholesterol spots will deposit in the cornea, often in the shape of a crescent. While this has no affect on vision, it might be a sign of hypothyroidism.

Mountainview Animal Hospital now has two full-time doctors, Dr. Ewing and Dr. Wick. Dr. Wick joined us this past August. She is a welcomed asset to our team.

In her free time Dr. Wick enjoys scuba diving in exotic locations, knitting, playing the cello and vegetable gardening.

How is hypothyroidism diagnosed?

Typically hypothyroidism is diagnosed by a blood test. Many of our geriatric wellness screens routinely measure T4 levels. While a normal T4 level indicates a normally functioning thyroid gland, a decreased T4 does not necessarily indicate hypothyroidism. Many medications and illness by other causes can artificially reduce the T4 levels in the blood stream. Certainly, any dog with a low blood T4 value will require further testing.

The best way to diagnose hypothyroidism in dogs is to run a blood panel that includes several thyroid hormone variants such as T4, free T4, T3, Thyroid Stimulating Hormone (TSH) and antithyroglobulin antibodies. A more specific and more expensive test called Free T4 by Equilibrium Dialysis might also be helpful in making a diagnosis.

How is hypothyroidism treated?

While the diagnosis of hypothyroidism can sometimes be complicated, the treatment is fairly straight forward. Dogs are usually treated with oral medication that supplements for the missing thyroid hormone. In most cases the medication is given twice daily and treatment is life long.

Once treatment has begun, a change in your dog's energy level can be seen in as little as a week. It can take up to four months to see any dramatic changes in the condition of his/her coat.

Because it is important to be giving the correct amount of thyroid medication, periodic blood testing will be required. Initially, we will want to test every eight weeks until the correct dosage is achieved, then we usually recommend re-testing every six to twelve months.

Can hyperthyroidism or hypothyroidism be prevented?

While there are no preventative measures, early detection and treatment can dramatically influence the outcome of these diseases. We recommend that all pets that are middle-aged and older receive a complete physical examination by a veterinarian every 6 to 12 months. Annual blood and urine tests done during the physical examination appointment can detect high or low thyroid levels, even before there are any noticeable signs of disease. Of course, if you notice any of the changes we wrote about, please do not hesitate to contact us. Your furry friend will thank you for it.

INTRODUCING DR. ERICA WICK

Dr. Erica Wick began her veterinary journey growing up with a wide variety of pets from dogs to horses to amphibians. She was inspired to become a veterinarian after watching her Golden Retriever Scooter undergo treatment for cancer at the University of Wisconsin Veterinary Medical Teaching Hospital. She received her undergraduate degree in Zoology and Scandinavian Studies in 2001 and her Doctor of Veterinary Medicine degree in 2005, both from the University of Wisconsin-Madison. After graduation she completed a one year internship in Small Animal Medicine and Surgery at the Animal Emergency and Critical Care Center in Northbrook, Illinois (now called Blue Pearl Specialty and Emergency Medicine for Pets). She has spent the past 7 years working in small animal hospitals in Missouri and the Greater Toronto Area.

Dr. Wick enjoys the great variety of cases that she is able to see in general practice and loves building relationships with pets and their families. She treats every patient as she would her own pet and finds it especially gratifying when a sick animal is able to make a full recovery and go home with a wagging tail.

She has two cats named Finn and Stanley who like to keep her on her toes.

**SAFETY
REMINDERS**

Chocolate is toxic to our furry friends, particularly the dark chocolate. While most people are aware of this risk, every year we treat several dogs for chocolate toxicity. Dogs can sniff out the chocolate through the packaging and even wrapping paper. So this year, don't leave the grocery bag on the floor with the baking chocolate or that wrapped box of yummy chocolates under the Christmas tree.

Beware of Christmas ornaments made with food and candy. Many of these ornaments are held together with pins and wire. The marshmallow tree ornament that the children make at school may look cute to us, but it smells tasty to our pets. Believe me, they will eat it, pins and all.



TIME WITH TUX

Hey, guess what? I think I'm famous! I know I have always been popular with our great clients, especially the ladies, and I love the attention. But now, the clinic has started something called a Facebook page and my pictures are all over it. I was wondering why the staff here at Mountainview Animal Hospital were acting like paparazzi, chasing me all over the clinic taking my pictures. At first I was a little perturbed but have you seen all the "Likes" I am getting? This Facebook page could be really great for me, I could be contacted by agents and modeling agencies. I could become even bigger and more famous than Garfield! I sure am lucky to live in a clinic with such great staff who are smart enough to see my tremendous potential. Next time I see them chasing me around with their cameras, I'll be sure to strike a pose.



HOLIDAY HOURS

Dec. 24 th - Christmas Eve:	Open 9:00 - 12:00
Dec. 25 th - Christmas Day:	Closed
Dec. 26 th - Thursday:	Closed
Dec. 31 st - New Years Eve:	Open 9:00 - 12:00
Jan 1 st - New Years Day:	Closed

Unless otherwise specified here, Mountainview Animal Hospital will be open during its regular office hours. Animals in the hospital over the holidays will receive the same great care and attention as always. For those patients requiring emergency care over Christmas and New Years, The Emergency Veterinary Clinic on Hwy 10 will be open to serve your pet's medical and surgical needs. You can call ahead at 905-495-9907 or go directly there. The Emergency Veterinary Clinic is located on the south east corner of highway 10 and Wexford Rd, just one block north of Bovaird (Highway 7).

From all of us at Mountainview Animal Hospital,
we wish all of you

**A Very Merry Christmas, A Joyous
Holiday Season and A Happy New Year!**