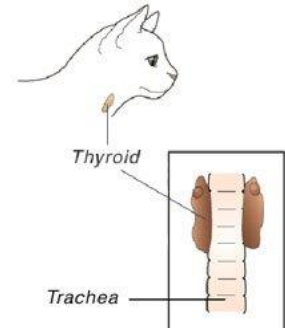


Hyperthyroidism in Cats

What Is Thyroid Hormone?

The thyroid gland is located in the neck, and produces two main types of thyroid hormone, T3 and T4. The production of thyroid hormones is controlled by Thyroid Stimulating Hormone (tsh) which is released from the pituitary gland in the brain.

Thyroid hormone has many effects throughout the body, but the most essential job is to govern the metabolism. Thyroid hormone also affects the digestive system, skin, immune system, and cardiovascular (heart and blood) system.



What Is Hyperthyroidism?

Hyperthyroidism is the overproduction of thyroid hormone by the thyroid gland. In 98% of cases this is from benign hyperplasia (or growth) of the thyroid gland. Only about 2% of cases are associated with thyroid tumors or cancer.

When the body has too much thyroid hormone, the metabolic rate becomes increased. Cats will typically lose weight despite a normal or increased appetite. Many owners describe changes in behavior, such as constant begging for food, hyperactivity, or increased meowing or vocalization. Some cats will drink more water and urinate more frequently. Effects on the intestines may lead to intermittent vomiting and diarrhea, and effects on the skin may lead to an “unkempt” appearance of the fur. The heart rate is often significantly increased, and blood pressure is also increased. As the disease progresses the heart muscle can become damaged, leading to a murmur or cardiomyopathy. High blood pressure can lead to detachment of the retina, causing sudden blindness. Some cats may also become anorexic in the end stages of disease.

What Causes Hyperthyroidism?

Although many environmental or dietary factors have been implicated and investigated, the exact cause of thyroid disease has not been identified.

The disease is most commonly found in older cats, over 8 years of age. Other lifestyle factors, such as being indoors, diet, or history of vaccinations do not seem to have an impact on the likelihood of developing this disease.

How Is Hyperthyroidism Diagnosed?

In most cats hyperthyroidism can be diagnosed with routine screening bloodwork which tests levels of Total T4 (TT4). In some cats who are suspected of having hyperthyroidism but who have normal TT4, additional testing for Free T4 (FT4), T3, or TSH may be ordered. Imaging to look at the thyroid gland, such as a CT scan or ultrasound, may be recommended in cats suspected of having a thyroid tumor.

Your veterinarian will likely recommend a full blood panel if thyroid disease is suspected. This is because symptoms of thyroid disease can be similar to other common diseases, or the thyroid disease could be

occurring in unison with another disease. It is also very important to assess the health of the kidneys in any cat suspected of having thyroid disease. Your veterinarian may also recommend chest x-rays to evaluate the heart for enlargement if a heart murmur or high blood pressure is detected.

How Is Hyperthyroidism Treated?

There are 3 commonly recommended treatments for hyperthyroidism: daily medication (methimazole), prescription diet (Hill's y/d), and Radioactive Iodine (I-131). Surgical removal of the thyroid gland is also an option, but is rarely recommended unless a tumor is present due to risks and the need for lifelong thyroid supplementation following surgery.

- Methimazole – This medication most commonly comes in a small tablet that is given by mouth twice daily for life. Compounded formulations in liquid or which absorb through the skin are available, but are more expensive and have less predictable efficacy. The monthly cost of this medication is relatively low, but consideration should be given to the “convenience” factor of a lifelong twice daily medication.
- Hill's Prescription Diet y/d – This is a specially formulated food which has very low levels of iodine. Since the body requires iodine to make thyroid hormone, and doesn't use iodine for much else, restricting the iodine limits the body's ability to make thyroid hormone. This type of food would be unsafe for a healthy pet, so this diet is usually only a good choice if the cat is the only pet in the house. Since even a single bite of another kind of food could have enough iodine in it to cause treatment failure, the cat must be indoor only, and no other kinds of treats or food are allowed with this diet.
- Radioactive Iodine (I-131) – This is a definitive treatment for hyperthyroidism, which is very effective and can actually be considered a long term cure. The cat goes to a special facility and receives an injection of radioactive iodine which destroys a calculated portion of the thyroid gland, reducing the body's ability to produce excess thyroid hormone. Typically the cat is hospitalized for 3 days for monitoring, and until the levels of radioactive material in waste are safe. If this treatment option is chosen your veterinarian will likely recommend treating with methimazole for 4-6 weeks first, to monitor response to treatment and be sure that no underlying kidney disease is unmasked. The treatment facility will also require bloodwork and chest x-rays prior to treatment to ensure no other significant disease is present.

What is the long term prognosis?

With any of the above treatment options, long term prognosis is excellent. Routine monitoring and consistently following your veterinarian's recommendations are the key to success.