

Hyperthyroidism results from an overproduction of thyroid hormone (thyroxine) from the thyroid gland and is one of the most common endocrine diseases affecting older cats. The thyroid gland consists of 2 lobes, one sitting on either side of the trachea (windpipe) in a cat's neck. Hyperthyroidism is typically the result of a benign tumor in either one or both of the thyroid lobes however, malignant tumors can occur.

WHAT ARE THE SYMPTOMS OF HYPERTHYROIDISM?

Some of the more common symptoms of hyperthyroidism are weight loss, increased thirst, increased urination and restlessness. Initially the appetite is increased, even ravenous, but a decline in appetite can also be noted. Increased levels of thyroxine in the body lead to an increase in metabolic rates in virtually every organ system so symptoms are varied.

Other signs often seen are diarrhea, unkempt haircoat, vomiting and panting. The heart and the kidneys are very sensitive to the increase in metabolic rate seen with hyperthyroidism. This may lead to thickening of the heart muscle and impaired cardiac function. This is called thyrotoxic cardiomyopathy. These changes in the heart may be reversible if the hyperthyroidism is caught early enough and treated appropriately.

HOW IS HYPERTHYROIDISM DIAGNOSED?

The diagnosis of hyperthyroidism is typically straight forward. A blood test can be performed which measures the level of thyroxine (T4) in the body. If your cat is ill with another disease (i.e. diabetes, liver disease, etc.) the T4 level may be falsely low despite having hyperthyroidism – this is called 'occult hyperthyroidism'. If your veterinarian suspects that hyperthyroidism is still a potential diagnosis despite a normal T4 level, there are other types of more specialized T4 blood testing that can be done. Alternatively, your veterinarian may simply suggest rechecking the T4 level at a later date as this hormone can fluctuate and give a false low reading.

Another potential diagnostic tool is nuclear scintigraphy. This involves an intravenous injection of a radionuclide that is picked up by the overactive thyroid tissue and then can be seen with a special camera. The procedure is safe for your cat but requires special facilities so is typically only available at large referral hospitals such as Gulf Coast Veterinary Specialists.

Once a diagnosis of hyperthyroidism is made, your veterinarian may recommend other tests to determine if there are problems in other organ systems secondary to the thyroid disease. Blood tests to check kidney function, urinalysis, blood pressure, chest x-rays and/or echocardiogram to look for underlying heart disease may be recommended.

HOW IS HYPERTHYROIDISM TREATED?

There are 3 main ways to treat hyperthyroidism each with advantages and disadvantages. You and your veterinarian will decide which is best for you and your cat.

Medical therapy: The most common oral medication used to treat hyperthyroidism is a drug called Methimazole. This drug works by blocking the iodine that the thyroid glands need to make the thyroxine hormone.

One of the benefits of oral medical therapy is that it allows us to see how your cat will do once the hyperthyroidism is controlled. Hyperthyroidism can sometimes mask an underlying kidney problem which cannot be diagnosed until hormone levels are normalized.

One of the biggest disadvantages of Methimazole therapy is having to give your cat a pill every day, sometimes twice a day. Unlike other treatment options, this therapy is not curative so the symptoms will recur once the medication is stopped.

Surgery: Depending on your cat's health and your veterinarian's level of comfort with the procedure, surgical removal of the affected thyroid lobe(s) may be recommended. This can be a curative procedure if it is done well and your cat is a good candidate for it. Depending on the technique used, potential risks associated with surgery are anesthetic complications, postoperative calcium imbalances and recurrence of thyroid disease.

If available, your veterinarian may recommend nuclear scintigraphy prior to surgery to identify which of the thyroid lobes is involved or if they are in a location that is surgically inaccessible. In some instances, the affected lobe can drop into the chest cavity where it may be difficult to reach. It may also be possible to identify the presence of malignant thyroid carcinoma versus benign disease which may alter the choice of therapy.

Prior to surgery your veterinarian may also recommend a course of Methimazole treatment. This is to ensure that any underlying kidney problems are diagnosed before the procedure. If kidney disease is found, your veterinarian may recommend a different treatment option.

Cats with thyrotoxic cardiomyopathy may also benefit from medical therapy before surgery.

Radioactive Iodine: Iodine is the main ingredient used by the thyroid glands to make thyroxine. The thyroid cells cannot differentiate between stable iodine and radioactive iodine. An injection of the radioactive form of iodine is given and it becomes concentrated in the overactive thyroid tissue. The radioactive iodine (called I-131) emits radiation to the surrounding hyperactive tissue thereby destroying it. The radiation only travels for a very short distance within the gland so the normal thyroid tissue is spared.

This treatment is **curative** in 98% of cases and is very safe. It typically requires only 1 injection under the skin but there is a small percentage of cases that require more than one treatment. The major disadvantage to this mode of therapy is that your cat will need to be hospitalized for a few days. Because we are dealing with a radioactive substance, your cat will need to remain in the hospital until the iodine is cleared from their body. This typically takes about 3-7 days. This treatment option is only available at certain referral centers due to the special care and handling it requires.

Fortunately, VSNT is fully equipped to offer this treatment and successfully treats about 15 cats a month.

Your veterinarian may recommend a course of Methimazole treatment to verify the absence of any underlying kidney problems prior to I-131 treatment.

WHAT IS MY CAT'S PROGNOSIS?

How your cat will do with this disease depends on their condition at the time of diagnosis, age and the presence of any underlying concurrent problems. Overall, this is a very treatable condition and we strongly encourage you to consider treatment if at all possible. Over the years veterinarians have become more adept at noting the signs of hyperthyroidism and most cases are diagnosed early enough that therapy is often successful.