

HYPERTHYROIDISM IN CATS

Hyperthyroidism is a common disease in middle aged and older cats. It is caused by a small tumor, which is usually benign, located on the thyroid gland. This tumor is of thyroid tissue, so it produces thyroid hormones. The tumor itself usually does not cause problems but the excess amount of thyroid hormones in the cat's system does.

Thyroid hormones regulate the body's metabolic rate. When the thyroid level is too high, metabolism speeds up. Body temperature, heart rate, respiratory rate and calorie consumption all go up. The signs and symptoms of the disease usually reflect this increased metabolic rate. Affected cats usually have a voracious appetite (though some cats will be nauseous from the disease and show vomiting and poor appetite instead), but become very thin. They often have a poor, dry haircoat. Many show behavior changes - restlessness, crying or vocalizing more than usual, destructiveness or even aggressive behavior. Any time we see a cat over the age of five with weight loss despite good appetite, behavior changes or chronic vomiting, hyperthyroidism is one of the first diseases we check for.

Hyperthyroidism often causes heart disease. It also aggravates kidney and liver disease. We are very careful to monitor the status of these organs in affected cats. Chest X-rays are usually done before administering an anesthetic to any cat with hyperthyroidism, to look for heart enlargement. Sometimes hyperthyroid cats will have heart murmurs or irregular heart rhythms.

There are three ways to treat hyperthyroidism. The first is with oral medication to suppress thyroid hormone production. The medication, called methimazole, is given either once or twice daily. The dosage must be carefully adjusted to keep the thyroid level in the normal range. Usually at least two follow up blood tests are needed to establish the correct dosage. Testing is then repeated about twice a year. The tumor often continues to grow slowly as the cat ages, so the amount of medication needed can increase as the cat ages.

Methimazole can cause problems in some cats. Many cats will have some stomach upset on the medication, especially for the first few weeks. Some cats will develop dangerous anemias or decreased white blood cell counts. A test called a CBC, or complete blood count, should be done periodically when a cat is started on methimazole. If red or white blood cell counts drop, the medication must be stopped. Methimazole is also somewhat costly, especially if a cat requires a higher dose of medication to keep the disease under control.

For younger cats in fairly good health, radiation treatment of the thyroid tumor is the best treatment option. The cost of this is about \$1000. Radiographic iodine is administered with a simple subcutaneous injection, just as we give vaccinations. The radiation selectively destroys the tumor. Chest X-rays and blood testing are required ahead of time to ensure the cat is a good candidate for the procedure. This treatment seems expensive but eventually pays for itself by saving repeated blood testing and medication costs.

The cat stays at a special treatment facility for 3-7 days after treatment while it is clearing the radiation from its body. The treatment is not hard on the cat except that it must be away from home for several days. Some cats become depressed or don't eat well during this time. The University of Wisconsin veterinary school in Madison, Emergency Veterinary Service in Waukesha, and RadioCat in Wheeling, Illinois all provide this service. The private facilities in Wheeling and Waukesha offer better service, more available appointments (including Sunday drop off and pick up times), chest and abdominal ultrasound scanning included in the price and

more attention and loving care for the cats while they are there.

The third option for treatment of hyperthyroidism is surgical removal of the tumor. The surgery must be done at a referral facility, such as Animal Emergency Center or the veterinary school at the University of Wisconsin that has 24 hour intensive care monitoring. This is because the surgery disturbs the parathyroid glands, located next to the thyroid glands, which regulate calcium levels in the body. Calcium levels can fluctuate wildly for a day or two after surgery, which can cause heart problems if not carefully monitored. Once the first few days after surgery pass, complications are rare and the cat will be expected to have a normal lifespan thereafter. With radiation treatment being less expensive and available close by, surgery is no longer the recommended option.

Our most typical hyperthyroid cats are elderly, so most of our clients choose to use the oral medication to treat the disease. The pills are fairly tasteless and can usually be crushed up in some canned food. We strongly recommend radiation treatment for younger cats, as it is cheaper in the long run and very safe. It is also a good option for cats who cannot tolerate the methimazole medication.

Please let us know if you have questions about hyperthyroidism that this handout didn't answer. We are always happy to help you decide which treatment plan is right for you.