

Hyperthyroidism: Information for Cat Owners

What is hyperthyroidism?

Your cat, like other mammals, including humans, has a pair of thyroid glands located in the neck area. These glands control your cat's metabolic rate by producing the hormone thyroxine (T4). Hyperthyroidism occurs in many older cats when benign (not cancerous) growths in the thyroid glands start producing excessive amounts of thyroxine. The excessive levels of thyroxine can be damaging to many body systems, including the heart.

The most common signs of hyperthyroidism are weight loss, increased appetite, vomiting, diarrhea, increased thirst, increased urination, increased activity, shedding or changes in hair coat, vocalization, agitation, and panting. Some cats may become lethargic and have poor appetites. During a physical exam, your veterinarian may notice an increased heart rate or irregular heart rhythm or an enlarged thyroid nodule. Hyperthyroidism is most often diagnosed by elevated T4 levels in bloodwork. Both male and female cats can be affected, and the average age at the time of diagnosis is 12 years old.

How can hyperthyroidism be treated?

If hyperthyroidism goes untreated, it can be a fatal disease. You have four main options for the treatment of your hyperthyroid cat; it is important to consider all the options and choose what is best for your own cat. However, experts agree that radioactive iodine therapy is the best option for most cats.

1. **Medical Treatment:** Antithyroid Drugs (Methimazole, Tapazole)

Advantages: Relatively inexpensive in the short-term, no hospitalization, no risk of hypothyroidism, and no hypoparathyroidism.

Disadvantages: The price of medication often increases, and when calculated over the lifetime of the animal, in addition to drug monitoring bloodwork, costs accumulate. Also, medications must be given twice daily. Relapses may occur during treatment, and some cats do not respond to medication. Approximately 25% of cats will experience side effects related to the medication, including lethargy, anorexia, or vomiting. A small number of cats may also experience more serious side effects, including facial itching, liver failure, and suppression of bone marrow. Bloodwork is required every 3-6 months, and regardless of treatment success, the disease is never cured. Medical treatment will be lifelong.

2. **Dietary Therapy:** Hill's y/d – This is a special diet developed with a restricted level of iodine.

Advantages: No medication necessary. Good success rates reported.

Disadvantages: Fairly new, long-term effects of restricted iodine unknown. It can be difficult to manage in multi-cat households. Must be very careful that the diet is the only food the cat consumes – no extra treats, even some medications can contain iodine if flavoured. It requires lifelong therapy and is not a cure.

3. **Surgical Treatment:** Thyroidectomy

Advantages: Usually successful, persistent hyperthyroidism is rare, corrects hyperthyroid state in 1-2 days, and usually results in permanent care.

Disadvantages: This can be expensive, hospitalization is required for a few days, and the risk of anesthesia can be significant with senior cats due to the high potential for cardiovascular and renal disease. It is a difficult surgery as all affected thyroid tissue must be identified, and the parathyroid glands, which regulate calcium balance, can easily be damaged or removed. Other potential complications include nerve injury, which can result in Horner's syndrome or vocal fold paralysis.

4. **Treatment:** Radioactive Iodine – I-131

Advantages: This method has the highest cure rate for hyperthyroidism, usually upwards of 95-98%. Regardless of tumour location, this method will destroy all thyroid tumour tissue. This is usually a permanent cure rate, with a very low recurrence rate. Treatment is simple – a single subcutaneous injection, no pilling, no anesthesia, no serious complications or side effects. Limited monitoring will be required after treatment, and in the majority of cases, no ongoing therapy will be needed.

Disadvantages: Although this is a very simple and safe method of treatment, there are a few things to consider. Radioiodine therapy is more expensive in the short-term than medications as Tapazole. However, you must remember to account for ongoing expenses with medications. Hospitalization of your cat is a requirement, usually between 4 days and 1 week, and you will not be able to visit for the duration of hospitalization due to federal regulations. For a short time after discharge, your cat will still be emitting radiation. You will be given specific instructions to follow to ensure your safety, and your cat will have to remain indoors for a period of time after discharge. If your cat does not reliably use the litterbox, they may not be a good candidate for radioiodine.

When considering all of the advantages and disadvantages, it is clear that radioiodine is the best solution for treating hyperthyroidism. With a single injection, a great than 95% cure rate can be achieved. Although the idea of being separated from your cat for an entire week may be difficult, imagine the years of good quality of life you can give your feline friend. After treatment, thyroid function will return to normal over 1-4 weeks, and there are no long-term side effects from the radioiodine. Your cat is never too old to undergo treatment for hyperthyroidism, and unless suffering from serious heart disease, kidney disease or other life-threatening systemic diseases, any cat is a good candidate for this therapy.

How should I prepare my cat for treatment?

You and your veterinarian will work together to ensure all required information is available prior to treatment. Bloodwork and urine tests should be completed within 30 days of treatment. If your cat has been started on Tapazole (methimazole) prior to radioiodine therapy, you should stop medications 2 weeks before treatment, and a T4 level should be taken 5-7 days after stopping treatment. For cats that have heart disease or another serious illness without medication, or have been treated with Tapazole for several years, we will work with you and your regular veterinarian to formulate an appropriate treatment plan. Other supplements should also be discontinued 2 weeks prior to treatment. If your cat does require daily medications, there will be additional costs for daily care.

How long will my cat have to remain in the hospital?

By law, your cat must remain in hospital until they are at a safe and legal radiation level. The average length of stay is 7 days, which may be extended as required. The Radio-iodine Therapy room is found in a quiet corner of our new, state-of-the-art facility, and we will do our best to keep your cat happy during their stay. You can bring toys and blankets to make them feel at home; however, items will be returnable after treatment due to radiation legislation. We suggest you bring your pet's favourite food to encourage a good appetite while in-hospital. We have a radio to play music to keep the cats entertained, and daily exercise outside of the kennel will be provided. Your cat will be checked twice daily by trained technicians and veterinarians. Remember that the time away will be easier for your cat than for you, and the long-term benefits should outweigh any concerns you have. We will call or email you daily with updates, but no visiting is permitted during the hospitalization period.

What kind of post-treatment care will I have to provide?

After returning home, your cat will have a small amount of radiation remaining in the thyroid gland. We will provide detailed instructions on home care for the first 10 days after discharge to ensure safety for yourself and other family members. Your cat will not be dangerous to other pets in the household, and you will be instructed on special handling for litter. You will have to limit close contact such as sleeping with your pet for the first 10 days, and pregnant women or children under the age of 12 should not have contact with your pet during this time. These precautions are for your safety, and you should remember that the dose of radiation emitted from your pet at the time of discharge is less than the radiation received from a dental x-ray, a day at the beach, or a long flight. If you are uncomfortable with this aftercare, boarding can be arranged for your pet. After treatment, you should schedule follow-ups with your regular veterinarian at 1 and 3 months to monitor T4 levels.

What treatment complications can occur?

Less than 3% of treated cats will become hypothyroid after treatment with radioiodine. This tends to occur in cats on antithyroid medications at the time of treatment, or if the thyroid tumor involves so much of the thyroid gland that not enough normal tissue remains to produce sufficient levels of T4. Hypothyroidism, unlike hyperthyroidism, is not a life-threatening disease. Clinical signs include weight gain, lethargy, and poor hair coat. If clinical signs and a low T4 occur in your cat, they can be given a daily thyroid supplement. This supplement is more easily tolerated by cats than Tapazole, is inexpensive, has fewer side effects, and requires less monitoring.

Hyperthyroidism can, in a very small number of cases, recur in cats. If T4 levels do not return to normal within 90 days of treatment, we will retreat your cat at no charge – this will require a lower dose than the initial treatment and shorter hospitalization time. If the recurrence of hyperthyroidism is not the result of treatment failure, but regrowth of tumour tissue on the thyroid gland, treatment can be done again with no additional risk to the cat. This usually happens when cats are diagnosed and treated for the first time at an easy age and is a reflection of increased survival time in these cats – tumour regrowth is most common 3 or more years after initial treatment. Even in these rare cases (0.5%), treatment is cost-effective compared to prolonged treatment with medication.

Please don't hesitate to contact our team if you have any additional questions about radio-iodine therapy for your cat.