



Hyperthyroidism in Cats



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ALL THE CARE YOUR PET NEEDS!












What is hyperthyroidism?

Hyperthyroidism is a common hormonal disorder of older cats. It is rarely seen in cats under eight years of age, and there is no sex or breed predisposition. It is due to an abnormal increase in production and secretion of thyroid hormone from benign cancer cells in the thyroid gland.

What are the clinical signs of hyperthyroidism?

Signs of hyperthyroidism develop gradually over time and may include:

-  Weight loss
-  Increased appetite
-  Hyperactivity and restlessness
-  Increased heart rate, with a variety of cardiac rhythm irregularities and murmurs
-  Increased frequency of defecation, with abundant, bulky stools
-  Increased thirst and urination
-  Occasional vomiting
-  Panting
-  Matted, greasy and unkempt coat

How is hyperthyroidism diagnosed?

Hyperthyroidism is possible if your cat has any of the clinical signs above. Careful examination of the neck area will usually reveal an enlarged thyroid gland. As the enlarged lobe may be freely movable and can slide along and behind the trachea, it may be difficult to detect. In the normal cat, the thyroid lobes are either not palpable or small and symmetrical. Sometimes the gland is located inside the chest cavity and cannot be palpated.

Hyperthyroidism is confirmed by running blood and urine tests to check liver function, kidney function and to measure blood thyroid hormone levels. Echocardiology (heart ultrasound) and an electrocardiograph (ECG) are used to check for heart abnormalities. The blood pressure will also be measured to check for hypertension (high blood pressure).

How can hyperthyroidism be treated?

There are four therapeutic options for the treatment of hyperthyroidism. The treatment option most suitable for your cat depends on a number of factors.

Anti-thyroid drug therapy

Most cats will start treatment with anti-thyroid drugs. They do not destroy the thyroid gland, but act by interfering with production and secretion of thyroid hormone. They do not result in a cure, but rather control the condition so treatment will be long-term. Anti-thyroid drugs may be given orally in tablet form or as a cream which is applied to the hairless area on the inside of your cat's ear. After 3-4 weeks medication, blood tests are used to check the response to treatment. Body weight will stabilise or increase, liver function should improve, the thyroid hormone level should be within the normal range and kidney function should be adequate.



Some cats with hyperthyroidism may be in compensated kidney failure. Treating these cats for hyperthyroidism may adversely affect their kidney function. Treatment will need to be adjusted to maintain adequate kidney function. With a good response to medication, and maintenance of good renal function, alternative treatment methods can be considered.

Side effects of anti-thyroid drugs are usually mild and can include poor appetite, vomiting and lethargy. Occasionally more serious side effects such as a low white blood cell count, clotting problems, or liver disorders may occur. When used as a long term treatment, regular monitoring is required and maintaining regular medication can be difficult. Periodic blood tests are required to monitor response to treatment and screen for potential side effects. Severe adverse reactions may necessitate withdrawal of the drug and alternative management. Drugs to improve liver function, manage kidney failure and to control blood pressure and heart function may also be required.

Dietary Management






An alternative to anti-thyroid medications is a restricted iodine diet. Iodine is used by the thyroid gland to produce thyroid hormones so by restricting the building blocks available to the gland we limit the amount of thyroid hormone that can be produced. Hills YD is a restricted iodine diet produced specifically for control of hyperthyroidism in cats. It is available in both dry and wet forms. For Hills YD to be effective for your cat, it must be the only food they are eating, so for cats that eat elsewhere it may not be a suitable treatment option. Cats can take a while to get used to eating a new food, so Hills YD should be gradually introduced over a 2 week period. New bowls and food containers should be used for storing and feeding YD as iodine from any other source will reduce its effectiveness. After 4 weeks of eating only YD food blood and urine tests are taken to check the effectiveness of the treatment and also to check liver and kidney function. These are repeated again after 8 weeks of treatment.

If you have other cats in the household they can eat the YD food as well, if it is difficult to feed them separately. The other cats will each need to be fed at least a tablespoon of normal adult cat food each day to ensure they receive an adequate iodine intake.

Radioactive iodine (I^{131}) therapy






Radioactive iodine given by mouth or injected under the skin is selectively concentrated within the overactive thyroid gland. I^{131} destroys the affected thyroid tissue, including any areas of thyroid tissue which may be inaccessible to surgery, and spares adjacent normal tissue, including the parathyroid glands. Treatment is likely to be curative in around 90% of cases. If hyperthyroidism persists after I^{131} , or returns some time after treatment, a second dose can be given. Very occasionally permanent hypothyroidism (lack of thyroid hormone) has been seen after I^{131} treatment, but this can be easily managed with thyroid hormone replacement therapy.

Advantages of I^{131} treatment are:

-  That it is curative
-  Serious side-effects are very rare
-  Non toxic and no risk of hypoparathyroidism
-  Does not require an anaesthetic or sedation
-  Low recurrence of hyperthyroidism and the location of the tumour is unimportant.



Disadvantages of I^{131} treatment

-  Hospitalisation for between 1 and 2 weeks following treatment to allow adequate decay of the I^{131} .
-  Radiation safety regulations limit treatment to an approved site that can adequately manage the use of radioactive products.
-  Not suitable for cats requiring intensive care or receiving other long term medication as excessive handling must be avoided.
-  The radiation risk to personnel treating the cats.
-  Treatment cannot be adjusted to compensate for deteriorating kidney function.

Surgical thyroidectomy (removal of the thyroid glands)

Removal of the thyroid glands has the advantage over drug therapy and radioactive iodine treatment as it provides a single treatment and only requires a short stay in hospital. This treatment is readily available, although surgical skill and experience are necessary to minimise potential side effects.

As many hyperthyroid cats also suffer from chronic renal failure, liver disease and cardiac disease anaesthesia can be risky. To reduce hyperthyroid-related surgical risks, patients are pre-treated with anti-thyroid drugs for 3 to 4 weeks prior to surgery.

Major side effects of the surgical procedure include hypoparathyroidism (lack of the hormone that controls the level of calcium in the blood). The parathyroid glands are located very close to the thyroid glands, and can be easily damaged when the abnormal thyroid glands are removed. The resultant low blood calcium level can cause muscle twitching, weakness and convulsive seizures. Important nerve fibers run very close to the thyroid gland and can be damaged during surgery. Affected patients may suffer breathing and swallowing difficulties.

Hyperthyroidism may recur following surgery. The differentiation of normal from abnormal thyroid tissue is not always straightforward and some abnormal thyroid tissue may remain after surgery. This can happen when both thyroid lobes are affected but only one is removed. Occasionally, malignant thyroid tumours are present, and although they do not usually spread through the body, local invasion may prevent satisfactory surgical excision.

The cost of surgical treatment is comparable to I^{131} treatment.

What are the outcomes of treatment?

Generally after treatment for hyperthyroidism your cats' quality of life will improve. Most of the symptoms will either resolve or significantly reduce. Body weight will either be maintained or increase. Appetite and thirst will return to normal levels. Gastrointestinal signs associated with hyperthyroidism will improve. The coat will be less scruffy looking. Hyperactivity is a common symptom of hyperthyroidism and many owners may become concerned that their cat is less active after treatment. Reduced activity is a normal response to treatment, however, some cats may be lethargy due to other conditions such as arthritis. There are good drugs available to help manage any discomfort your cat may have as a result of this.

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