



## Michigan Veterinary Specialists<sub>sm</sub>

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## Feline Hyperthyroidism

### Key Points

- Feline Hyperthyroidism is a relatively common disorder seen in middle to older aged cats. It is caused by excessive production of thyroid hormones (T4 and T3).
- Cats have two thyroid glands. One or both may be affected.
- Diagnosis is made by combining physical signs with blood testing and/or an imaging technique called thyroid scintigraphy.
- Treatment includes daily medication administration, surgery or radioactive iodine therapy.

### What is Feline Hyperthyroidism?

- Feline hyperthyroidism is a relatively common disorder seen in middle to older aged cats. It is caused by excessive production of thyroid hormones (T4 and T3)
- There is no breed or gender predilection
- Cats have two thyroid glands of which one or both may be affected.
- In cats with one gland affected, the diseased gland is large and overactive. The non-diseased gland is smaller and non-functioning because its activity is suppressed by the diseased gland.

### Clinical Signs

- Physical signs associated with feline hyperthyroidism include weight loss,

increased appetite, vomiting, diarrhea, hair loss, increased activity and restlessness, increased thirst and urination, panting, heat and stress intolerance, increased heart rate and/or heart murmur and increased blood pressure.

-Occasionally depression or weakness may be seen.

-If left undiagnosed and untreated death may occur.

-Sometimes a thyroid mass is palpable in the neck region.

## Diagnosis

-Diagnosis is facilitated via physical examination, blood serum thyroid levels or an imaging technique called thyroid scintigraphy.

-T4 blood serum concentration is typically the most reliable means for diagnosing hyperthyroidism.

-T4 elevations, along with physical examination findings with or without a palpable thyroid mass aid in the diagnosis of feline hyperthyroidism

-Hyperthyroidism cannot be ruled out if the T4 is normal and the cat is showing clinical signs. In these cases it is recommended to perform a blood serum free T4 by equilibrium dialysis test. This test is more accurate because it is not as easily affected by outside influences.

-Thyroid scintigraphy is otherwise referred to as radionuclide thyroid scanning. This testing procedure is not as readily available. An image is formed after the administration of a radioisotope. Hyperthyroid cats show an enlargement in the area of one or both thyroid glands in comparison to the salivary glands.

## Treatment

-Feline hyperthyroidism is treated by one of three methods. Daily medication administration (methimazole) is the most common means.

-Surgical removal of the diseased thyroid gland may be performed, but sometimes has complications. The parathyroid glands may become damaged during surgery, thus requiring the patient to have calcium supplementation for the rest of its life.

-Radioactive iodine treatment is the preferred method of treatment for feline hyperthyroidism.

-Cats receiving this treatment are hospitalized for approximately 7 days. -

-They will be isolated from other animals and people while the radioactivity dissipates to a safe level.

-Because these cats have limited contact with doctors or technicians during their stay, they should ultimately be in good physical condition prior to treatment. They should not have any underlying renal, cardiac, neurological, endocrine or gastrointestinal disease that requires a higher level of nursing care.

-Cats are administered I-131 (radioactive iodine) by mouth or injection.

-The radioactive iodine is then taken up by the thyroid gland where the radiation selectively destroys the thyroid tissue.

-Iodine is not used by other organs in the body and therefore the I-131

- does not harm other tissues in the body.
- Normal thyroid cells, that are small and non-functional from being suppressed by the overactive, diseased gland are left unharmed and therefore prevents the cat from becoming hypothyroid after treatment.
- Radioactive iodine treatment is more cost effective over the lifetime of the cat.
- Medication and follow-up bloodwork usually cost more over the lifetime of the cat, especially in younger cats.
- A disadvantage may occur if both thyroid glands had been affected and were destroyed by the radioactive iodine treatment. These cats would require thyroid supplementation for life.
- The majority of cats with have normal thyroid function return within six months.
- A small percentage will require a second treatment and a small number may become hyperthyroid again within one to six years.

## Home Care

- Owners will have strict home care instructions for two weeks following the release from the hospital
- At home proper disposal of patient waste is important. The litter box will need to have a plastic liner. Flushable, scoopable litter will need to be used so that it can be flushed down the toilet.
- Close contact should be avoided. The cat should not sleep in the same bed as the owner. Hands should be washed after handling the cat.
- If the cat is an outdoor cat it should remain inside for two weeks.
- Finally, anything that may have become contaminated by urine or feces during the two-week period should be placed in a plastic bag and stored for three months before placing in the city trash. If radioactive waste is found in the trash it may result in a very large fine to the client.
- Lastly, any pregnant women or children under the age of sixteen should not handle the cat or come into contact with its urine or feces during the two-week period.

## Prognosis

- The prognosis is great. It is higher than any other form of treatment for feline hyperthyroidism.
- Radioactive iodine is the safest method for treating feline hyperthyroidism.
- Most cats usually have normal thyroid function return within one month.
- There are few discernible side effects associated with radioactive iodine Treatment.