

Feline Hyperthyroidism Fact Sheet

What is feline hyperthyroidism?

Hyperthyroidism is a relatively commonly diagnosed disease in older cats (>7 years of age) and is caused by the overproduction of thyroid hormone by the thyroid glands which are located in the neck. Thyroid hormone is important for many normal body functions, including growth, fur production and activity levels, but in older animals its most profound effect is on metabolism. Thyroid hormone is responsible for increasing the metabolic rate, therefore patients with hyperthyroidism have an excessive energy demand and energy consumption which leads to the classic signs of this condition.

What causes Feline Hyperthyroidism?

The majority of cases of hyperthyroidism in cats are as a result of a benign change to one or more of the thyroid glands called 'hyperplasia' or 'adenoma'. These cause enlargement of the gland and cause it to produce thyroid hormone in an uncontrolled way. Despite extensive investigations, no one, single cause has been found to explain the development of these changes, however, it appears to be more common in cats that live entirely or predominantly indoors and those that consume tinned cat food. Fire retardant chemicals have also been suggested as a cause, but this has not been conclusively proved.

In a small proportion of cases (<5%), hyperthyroidism can be caused by malignant cancer of the thyroid gland called thyroid carcinoma.

What are the clinical signs of Feline Hyperthyroidism?

The typical clinical signs of hyperthyroidism include increased appetite, increased drinking and progressive weight loss. Affected cats are also often reported to be overactive and can sometimes become progressively more aggressive. Less frequently, cats can show the opposite clinical signs and become very quiet and lethargic. Other common signs include an increased frequency of vomiting and development of diarrhoea.

When examining your cat, your vet may identify an enlarged thyroid gland by feeling up and down his or her neck. The presence of such a sign is known as a 'goitre'. Hyperthyroid cats typically also have a very high heart rate and some show dangerously increased blood pressure.

How is Feline Hyperthyroidism diagnosed?

In many cases, the diagnosis of feline hyperthyroidism is by a straight-forward blood test. This tests the levels of thyroid hormone in the blood, and if the level is high, then the diagnosis is made. In some cases, the diagnosis can be more challenging, however, because other illnesses can cause thyroid levels to decrease, meaning cats with the disease are missed. In patients whose signs are consistent with hyperthyroidism but whose thyroid levels are towards the mid-to-high end of the normal range, further blood testing and imaging (e.g. ultrasound) can be useful to make a final diagnosis.

What treatment is available for Feline Hyperthyroidism?

Many treatment options for feline hyperthyroidism have been developed. The majority of cases are started initially on an oral medication (tablet or liquid), which stops the production of the thyroid hormone. This does not cure the disease but controls it in a way that the symptoms and consequences of the disease resolve. However, as it does not cure the disease, treatment is required for the rest of the patient's life. Monitoring of the patient on oral medication is required and will require regular blood tests and check-ups. The blood tests will ensure that your cat is receiving the correct amount of medication and helps us monitor possible side-effects.

After initial stabilisation with oral medication, a number of curative treatments are also available. These include surgical removal of the thyroid gland (thyroidectomy) or treatment with radioactive iodine. Radioactive iodine targets the thyroid tissue – as this is the only tissue in the body that uses significant quantities of iodine. The radioactive material therefore builds up in the thyroid tissue and destroys it, without causing damage to other tissues with the body. Radioactive iodine administration can only be performed at specialist facilities due to the use of radioactive substance, and a period of hospitalisation is required after treatment is given to reduce environmental exposure.

Other, less commonly used treatments include ultra-low iodine diets, which prevent thyroid hormone production by eliminating the supply of iodine (required to make it), and trans-dermal gels (creams containing medication that are absorbed through the skin). Although some effect is seen with these treatments, the effectiveness is very variable and they are challenging to accurately dose, therefore they are not typically utilised unless other methods are exhausted.

Are there any side effects to treatments for Feline Hyperthyroidism?

The main side effect is 'unmasking' of previously hidden kidney disease. There is an increasing prevalence of kidney disease as cats age, and therefore cats who develop hyperthyroidism (also older cats) may also have underlying kidney disease.

Hyperthyroidism can hide kidney disease, and therefore when treatment for hyperthyroidism is started the kidney disease can become rapidly visible. These cases can be challenging to manage, as a balance between control of hyperthyroidism and maintenance of kidney function needs to be reached.

Treatment can also be too effective in cats, leading to the opposite problem: hypothyroidism, or low thyroid levels. This can make cats unduly quiet, lethargic, and not want to eat. It can also lead to the previously mentioned kidney problems and therefore, in some cases, cats who have undergone curative treatment may require ongoing hormone supplementation.

As with all medications, the drugs used for hyperthyroidism can also lead to mild, often self-limiting side-effects. The most commonly seen side-effects include vomiting and reduced appetite, however, other less common consequences are also described, including skin problems and facial itching.

Are there any complications associated with Feline Hyperthyroidism?

As well as the clinical signs listed above, long term hyperthyroidism can also have severe consequences internally. The most important of these is the development of hyperthyroidism-associated heart disease as a result of the consistently high heart rate. If severe, specific treatment to support the heart may also be required.

A proportion of cats with hyperthyroidism will also have significantly increased blood pressure. In cats, the result of this can include damage to the kidneys, eyes, brain and heart, therefore, if detected, treatment for high blood pressure may be required alongside other medication if this does not resolve with treatment of the hyperthyroidism.

What is the prognosis for cats diagnosed with Feline Hyperthyroidism?

If effectively managed, cats with hyperthyroidism can live for many years with a very good quality of life. If untreated, this disease will cause uncontrolled weight loss, severe heart disease and eventually death.