



What is hyperthyroidism?

Hyperthyroidism is the most common hormone disease we see in cats, and generally affects individuals over the age of 8 years old. It is caused by an increase in the production of thyroid hormones from the thyroid glands in the neck usually caused by a benign tumour in one or both of the thyroid glands. In 1% of cases the condition is caused by a malignant tumour which makes treatment more difficult, *however this is very rare.*

Signs

The thyroid glands are responsible for regulating the body's metabolic rate therefore the most common clinical signs seen are weight loss with and increased appetite. Other symptoms include:-

- Increased thirst
- Increased irritability
- Restlessness or hyperactivity
- Rapid heart rate
- Unkempt coat
- Diarrhoea and/or vomiting
- Intolerance to heat

These signs are not all present in every case and so we would recommend that cats which have even one or two of these symptoms along with an enlarged thyroid gland should be screened for the disease by way of a blood test.

In the later stages of hyperthyroidism cats can become weak, lethargic and lose their appetite, this is commonly due to secondary complications.

Diagnosis

A combination of a physical examination and some blood tests will be required to diagnose hyperthyroidism. Your vet will probably try to feel for an enlarged thyroid in your cat's neck – however this is not always obvious and can't always be felt, even if it is significantly enlarged.

The diagnosis of hyperthyroidism therefore relies mainly on testing the levels of thyroid hormones in the blood, specifically thyroxine (T4) which is increased in most cases. In the rare event that the thyroid hormone level is normal even though hyperthyroidism is strongly suspected, your vet may suggest repeating the test at a later date, or alternatively sending some extra blood to the laboratory for measurement of other thyroid hormones. Other blood samples and urine tests are also usually run at the same time as the T4 test to rule out other causes of your cats symptoms, and also other diseases which may be present alongside the hyperthyroidism (see below). Where possible measurements of blood pressure should be taken and if secondary heart disease is suspected your vet may also recommend an ECG.

Secondary Complications

- Heart disease. The high levels of thyroid hormones cause the heart to beat faster. Over time this can lead to the walls of the heart becoming thicker and if left untreated or unmanaged this can lead to a disruption in the normal function of the heart and eventually to heart failure. This means that some hyperthyroid cats may need additional treatment to control secondary heart disease although some cases improve once the hyperthyroidism is managed.
- High blood pressure (hypertension) is another potential complication of hyperthyroidism. This can lead to damage of other organs including the heart, brain, kidneys and eyes.
- Kidney disease, otherwise known as chronic renal failure, does not always occur as a direct result of hyperthyroidism but the two conditions can occur together. Untreated hyperthyroidism may mask indicators of kidney disease on blood samples and so we would always recommend rechecking kidney enzymes once the hyperthyroidism is under control.

Treatment

There are three main options for the treatment of hyperthyroidism. Each one has its own advantages and disadvantages and not all treatments may be suitable for your cat.

Medical Management

Anti-thyroid drugs are available in tablet form and act to reduce the production and release of thyroid hormones. Whilst this is not a cure for the condition it can allow either short-term or long-term control of hyperthyroidism. Two different options are available as neither is suitable for every cat with hyperthyroidism and the response to the two different medications varies:

- Felimazole (active ingredient methimazole) is a twice daily medication
- Vidalta (active ingredient carbimazole) is a slow release formulation that can be given once daily

Treatment is adjusted according to the response which we measure by way of blood samples, and once a sufficient control has been reached periodic blood tests will be required to monitor your cat's levels. Treatment needs to be given daily for the rest of the cat's life. For most cats these treatments are safe and effective however in a small number of cases it can produce certain side effects such as: - poor appetite, vomiting and lethargy. If you notice any of these signs it is important that you inform the vet.

Surgical Thyroidectomy

The term thyroidectomy means the removal of the affected thyroid tissue and can produce a permanent cure for many of the cats undergoing this procedure. Stabilisation with anti thyroid drugs is recommended for 3 to 4 weeks before surgery to reduce the risk of anaesthetic complications. Despite this however, complications can arise - the most significant being a return of the hyperthyroidism due to the remaining thyroid tissue becoming overactive if only half the gland is removed, as this is commonly all that is required.

Other complications can arise because of the close association the thyroid gland has to the parathyroid gland, as the parathyroid is easily damaged when performing this type of surgery. The parathyroid has a crucial role in maintaining blood calcium levels, and if these are upset there is the potential for life-threatening consequences. To minimise the risk of disturbance in calcium levels in the rare event that both thyroid glands need to be removed, it may be appropriate to perform two separate surgeries to remove one gland at a time. A period of hospitalisation after the operation may also be

recommended to allow blood calcium levels to be monitored, and many cats will need supplemental calcium, vitamin D and/or thyroxine afterwards.

Dietary manipulation

Recently Hill's have launched a new diet called "y/d" which is designed to treat hyperthyroidism in cats. It is a restricted iodine diet – the theory is that if the thyroid gland does not have any iodine available to it, it cannot make thyroid hormones. The diet is only successful if it is truly the only thing your cat eats. The only fluid it should take on board is water also. It is important to stress this is a treatment and not a prevention for the disease, and for obvious reasons is not appropriate for every case of hyperthyroidism.

Radioactive iodine treatment

Radioactive iodine therapy can be used in most cases as a cure for hyperthyroidism. However it can only be administered at a specialist centre and may not be suitable in all cases. Your veterinary surgeon will be able to give you further advice about the procedure.