



Radioactive Iodine (I131) Treatment for Hyperthyroidism

Radioactive Iodine therapy for hyperthyroidism is a cure for the condition and involves a short stay in hospital in a special radiation ward facility.

How does I131 work?

When a cat is treated with radioactive iodine (I-131), the tumour cells in the thyroid trap the radioactive iodine and the radiation then destroys these cells. Fortunately, the normal cells of the thyroid gland become atrophied (or under-active) because they don't need to produce thyroid hormone while the tumour cells are producing it, this means they do not take up the radioactive iodine and are protected from damage. Any radioactive iodine that is not trapped by the thyroid cells, is excreted from the body in the urine or the faeces.

During treatment, cats receive a single dose of radioactive iodine in a capsule given by mouth. This single treatment will cure 95-98% of cats.

It will take about a month for thyroid levels to return to normal in most cats (85%) while some cats take a little longer – up to 3 months. You should notice gradual improvement in the signs of hyperthyroidism over this time.

Are there side effects?

Side effects from radioactive iodine therapy are very rare (<2% of cases), cats may show temporary difficulty swallowing or fever in the first few days and this resolves spontaneously. There may be a change of voice following treatment, which rarely may be permanent.

The two most common issues with treatment are hypothyroidism and “unmasking” of kidney disease.

Hypothyroidism (underactive thyroid) often occurs in the initial stages after treatment (first 2-4 weeks) as the “normal” thyroid cells need to start functioning properly again after having been inactive for a while. Cats who have had hyperthyroidism for a long period of time, especially if they haven't been treated, are more likely to develop hypothyroidism as they will have less “normal” thyroid tissue. Usually thyroid levels will return to normal within 3 months, although it may take up to 6 months in some cats. If hypothyroidism persists, medication may be required either temporarily or permanently to supplement the thyroid hormones.

Kidney disease is common in older cats and so many cats with hyperthyroidism may also have kidney disease. When a cat is first diagnosed with hyperthyroidism, the effect of the hyperthyroidism may “hide” the kidney disease and it may not be apparent until after the hyperthyroidism has been treated. It is still important to treat hyperthyroidism as leaving it untreated will worsen kidney disease but care needs to be taken with treatment and ideally a good picture of kidney function will be obtained before treatment.

We may recommend short term medical treatment of hyperthyroidism before using I131 therapy to get a better picture of your cat’s kidney function. Cats who have advanced kidney disease may not be suitable for I131 therapy.

Other considerations

It is also important to be aware older cats are more likely to have other additional diseases and while treatment of hyperthyroidism may be successful, there may be other diseases that can cause ongoing health issues. For example, hyperthyroidism may cause vomiting and diarrhoea but this can also be caused by things such as inflammatory bowel disease or gastrointestinal lymphosarcoma. If signs of disease persist after treatment, despite normal thyroid levels, it can indicate there is another health concern present.

Is treatment always successful?

A small number of cats (<5%) will remain hyperthyroid after treatment, this may occur in cats with severe hyperthyroidism and very high pre-treatment thyroid levels, large benign tumours, cancerous tumours (rare) or in some cats with milder disease who have an individual failure to respond normally to the treatment. If this is the case, your cat will need to have either a second treatment or to use other medical or surgical methods of treatment.

Very occasionally a cat may develop a relapse of hyperthyroidism due to a new tumour occurring. This occurs in <5% of cases and usually more than 3 years after the original treatment.

Caring for your cat after treatment

When your cat has undergone I131 therapy, they will be hospitalised until their radiation level is below the acceptable level for discharge. Once they are discharged, there is a set of guidelines that must be followed for 2 weeks post discharge to ensure there is no risk of radiation exposure to your family.

Your cat will need to return to your usual veterinarian for a health check and follow up blood test at 4-6 weeks after treatment, and may need an additional check up 3 months after treatment.