

Sugar Land Veterinary Specialists

Radiation Therapy for Feline Hyperthyroidism

281.491.7800

281.491.7800 Fax

Royce E. Roberts, DVM, MS, Diplomate, ACVR

Answers To Frequently Asked Questions About Radioiodine Treatment of Hyperthyroid Cats

1. Iodine ¹³¹ (radioiodine) is a potentially dangerous substance that requires stringent radiation safety practices in order to protect medical personnel and cat owners. Federal and state oversight of veterinary users of radioiodine is intense.
2. Many experts believe that radioiodine treatment of feline hyperthyroidism is the preferred treatment in cats that are otherwise healthy and medically stable.
3. Treatment success (return to normal thyroid function) approaches 99% after a single dose of I¹³¹.
4. Treatment failure is very rare. If this occurs, a second dose of the I¹³¹ is almost always successful.
5. A semi-arbitrary dose of 4-5 mCi of I¹³¹ is used. Severity of clinical signs, Total T4/freeT4 values, and size of the thyroid nodules may influence dosing within this range.
6. After radioiodine is administered subcutaneously, treated cats must be isolated in a nuclear therapy ward until radiation from the patient is reduced by decay and excretion to a predetermined level. This usually takes 3-4 days.
7. Treated cats will receive daily care; including food, water and litter replacement. Supplemental medical care is not permitted if it requires prolonged contact by hospital staff, such as forced or assisted feeding, the administration of intravenous or subcutaneous fluids, or the administration of oral medication.
8. Owners are not allowed visitation, and personal items (toys, towels, bedding, etc.) cannot be placed in the cat's cage.
9. In the extremely rare event a cat dies during isolation, its remains must be isolated kept in a frozen state for a minimum of 80 days or until radioactivity is reduced to less than or equal to background measurements.
10. Small traces of I¹³¹ are still present in the treated cat at the time of discharge. Owners are given explicit instructions on how to manage their cats for the first two weeks at home. These instructions are reasonably achievable and will not

cause unnecessary hardship on most cat owners. A copy of these instructions can be obtained by calling Sugar Land Veterinary Imaging at (281)491-7800.

11. If the household of a treated cat includes a pregnant woman, an infant, an immunosuppressed person, persons especially concerned about radiation exposure, or persons not able to perform the management tasks for two weeks, extended hospitalization (2 weeks) can be discussed. There is an additional charge for this extra time in the hospital. Non-pregnant owners over 18 years of age may visit the cat during this additional 2-week period.
12. Costs of radioiodine therapy is \$1,350.00, which includes treatment, hospitalization for up to 5 days, radiation monitoring, and consultation with members of the treatment team. This does not include extended hospitalization. In addition, it does not include additional diagnostic tests or treatment for any other condition that may arise while the cat is hospitalized.
13. We have chosen not to require thyroid nuclear scanning prior to radioiodine treatment. This nuclear scan is generally performed for two reasons. First, in cases of equivocal or mild hyperthyroidism, routine laboratory data can be inconclusive. There are less expensive methods to make a conclusive diagnosis of hyperthyroidism in most of these unusual cases. To perform these methods, heavy sedation or general anesthesia is not required. Many of these cats can be anesthetic risks. More than 90% of hyperthyroid patients exhibit weight loss, increased appetite, palpable thyroid nodules, and elevated total T4 and/or free T4 values. If the preceding criteria are not conclusive, a T3 suppression test will be recommended prior to radioiodine therapy. A second and rare indication for nuclear scanning is in suspected cases of thyroid adenocarcinoma. Fortunately, thyroid adenocarcinoma occurs in 1% or less of cats with hyperthyroidism. A **presumptive** diagnosis of thyroid adenocarcinoma based on nuclear scan findings, resistance to methimazole therapy, multiple palpable nodules, etc. is not adequate to initiate radioiodine therapy for adenocarcinoma. Radioiodine treatment for thyroid adenocarcinoma requires approximately 6-7 times the dose of I¹³¹ that is used for benign hyperthyroidism (thyroid adenoma). A **definitive** diagnosis can only be made by thyroid biopsy and histopathology or, possibly, fine needle aspirate (FNA) cytology.

Many questions arise as owners and veterinarians consider the best treatment option for cats with hyperthyroidism. Although we strongly endorse radioiodine therapy, we also believe that it is not the best choice for every hyperthyroid cat or for every owner of a hyperthyroid cat. If we can provide additional information that will make this decision easier, please do not hesitate to contact us.