

The Hope Line

Preparing cats and owners for I-131 treatment: The Calm before the Storm

This year, the specialists at SEVO-Med have seen a major increase in referral cases for radioactive iodine therapy (I-131) for treatment of feline hyperthyroidism. Regardless of the reason why, we want to make sure each pet receives the tailored treatment they deserve.

WHAT IS THE COST?

Treatment cost is \$1,960. This includes the consultation fee, abdominal ultrasound, echocardiogram, chest radiographs (reviewed by a radiologist), CBC/Chem/UA/T4 and blood pressure, I-131 injection, required hospital stay, bloodwork and exam one month post-injection.

Cats are eligible if they have hyperthyroidism and (preferably) not in renal failure as mandated by the IRIS guidelines. If a pet is not showing any clinical signs of hyperthyroidism and the value is slightly above the high end of the reference range, I sometimes recheck T4 levels and monitor before treating.



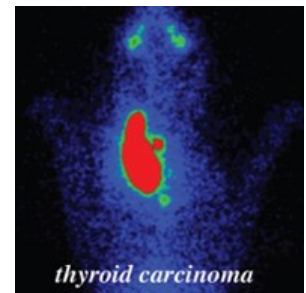
WHAT ARE THE RISKS?

- **Hypothyroidism post-treatment** occurs in about 30% of cases is usually transient. We usually will not treat unless persistent and/or associated with azotemia or clinical signs. Most cats easily tolerate supplementation with levothyroxine if it is necessary.
- **Residual hyperthyroidism** occurs in <10% of cases and is monitored to see if the level will drop (it can take months to plateau, but should trend downward). If the thyroid level does not decrease considerably and the pet is still acting hyperthyroid, then we consider re-treatment. Re-instituting Methimazole is another option.
- **Unmasking renal failure** (more on that below), and experiencing a 'thyroid storm' during treatment are also risks discussed, although the latter is rare.
- **Failure to normalize thyroid levels**

WHAT IF THIS IS THYROID NEOPLASIA?

Thyroid carcinoma is rare. Unfortunately, it is difficult to diagnose with cytology (the gold standard is histopathology). Suspicion (not proof) arises when:

- The thyroid level is very high, fails to normalize with consistent administration of Methimazole or does not respond to I-131 therapy
- A large goiter is palpable
- Metastatic disease is discovered on imaging



If any of these circumstances are present, I strongly advise a nuclear scintigraphy scan using injectable Tc99m. Increased uptake is detected with a gamma camera to determine if neoplasia is likely (this test is not as specific as a biopsy, however). It's important for the treating veterinarian to identify thyroid neoplasia prior to treatment, because cats will require a larger dose of radioactive iodine (10-30 mCi) than a cat with thyroid adenomatous hyperplasia. When nuclear scintigraphy is declined and biopsy is not possible, I will still treat with standard I-131 dosing (but there will a risk of treatment failure).

DO WE HAVE TO TREAT WITH METHIMAZOLE?

Short answer: No.

Long answer: **When cats can tolerate Methimazole**, I prefer them to be treated for at least two weeks by the time of the consultation when bloodwork is drawn. The reason for this is that a euthyroid state will better reflect the true status of kidney health, as azotemia can become unmasked by lowering the thyroid level (regardless of the treatment). Renal failure is present in 24% of cats aged 10-15 and 32% of cats 15 years of age and older. Hyperthyroidism masks azotemia by increasing GFR. We will still be able to determine renal health in other ways (SDMA, urinalysis, and ultrasonography) but cannot predict which cats will become azotemic after treatment. Renal failure has the potential to be more detrimental for the pet than uncontrolled hyperthyroidism.

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If cats (or their owners) cannot tolerate Methimazole administration, I will treat cautiously as long as the owner understands the risks. Azotemia can occur months post-treatment and if associated with hypothyroidism, can improve when levothyroxine is instituted.

WHAT IF MY PATIENT HAS **CONCURRENT DISEASE?**

Some internists treat hyperthyroid cats in renal failure with I-131 since it will eliminate one problem allowing us to treat the renal failure. This may be true, but it can also make the renal failure more difficult to treat and possibly progress faster. Likewise, cats who are found to have serious illnesses (neoplasia, inflammatory bowel disease, advanced hypertrophic cardiomyopathy, diabetes, neurologic disease, etc.) will still be able to be treated with I-131 because the hyperthyroidism is (usually) an independent disease. Owners may pause or reconsider I-131 if neoplasia is suspected/confirmed during the workup (due to cost, prognostic and quality of life considerations). The decision to treat in these cases is case-dependent.

I hope that this summarizes many of the major points I cover with clients during their consultation for I-131 so that each pet can have a successful and smooth treatment!

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References available upon request

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