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WHY IS I-131 THE TREATMENT OF CHOICE?

I-131 is considered the treatment of choice for most hyperthyroid felines. VVC is one of the few hospitals nationwide to offer this alternative. Treatment is cost effective when compared to long term medical therapy or surgery. I-131 eliminates daily pilling, does NOT require anesthesia, typically does not affect healthy thyroid tissue, does NOT damage any other tissue or organs, does NOT have any harmful side effects, returns thyroid function to normal usually with-in one month, and selectively destroys thyroid tumors irrespective to their location or number.

WHAT DOES THE TREATMENT INVOLVE?

- Radioactive iodine therapy is administered by a single injection of radioactive iodine (I-131).
- Your feline friend gets a physical examination prior to treatment.
- We will evaluate all diagnostic tests provided by your family veterinarian.
- We will administer I-131 by injections similar to a routine vaccination.
- VVC provides daily care and monitoring of radiation levels. Your pet stays with VVC for 2-4 days.
- A follow up telephone consultation is performed with your family veterinarian as needed to evaluate post treatment status.



CONSULTATION APPOINTMENTS AVAILABLE BY REFERRAL

FREDERICKSBURG: 540.372.3470

MIDLOTHIAN: 804.744.9800

RICHMOND: 804.353.9000

FREQUENTLY ASKED QUESTIONS

What does the treatment involve?

- Physical examination prior to treatment.
- Evaluation of all diagnostic tests provided by your primary care veterinarian.
- Administration of I-131 by injection, similar to a routine vaccination!
- Daily care and monitoring of radiation levels.
- Follow up telephone consultation with your primary care veterinarian as needed to evaluate post treatment status.

Will my cat experience any side effects?

No direct side effects from administration are expected. As the radioactivity destroys the abnormal thyroid tissue, there may be mild changes in individual patient behaviors but your cat should not experience any significant undesirable changes.

When can my cat come home?

Length of hospitalization is 2-4 days after treatment. Patients are admitted by 6pm on Sunday evening, treated on Monday morning and discharged 2-4 days after treatment. We will monitor your cat's radiation levels during his/her stay with us. Release is determined by compliance with federal and state regulations which define the "safe" level of residual radioactivity at which a patient can be discharged. As required by these regulations, please remember to bring your cat in a carrier for drop-off and pick-up.

What is the quality of care my cat will receive during his/her stay?

Experienced licensed veterinary technicians lovingly care for our I-131 patients. Your cat will be in a comfortable and relaxed atmosphere away from noise and dogs. We obtain specific information from the owners regarding favorite foods (including special treats), sleeping habits, and personal behaviors.

Can I visit my cat during his/her stay?

Unfortunately state and federal regulations currently limit access to the areas where patients recently treated with radioactive iodine are maintained to trained hospital personnel. Our technicians are thoroughly trained in working with radiation and must work under strict guidelines for their own protection.

How will I find out how my cat is doing?

You can call any time to receive an update from a technician or referral coordinator.

FREQUENTLY ASKED QUESTIONS (CONTINUED)

Will there be any follow up visits with I-131?

There are no follow up visits required at VVC. Follow up visits to your primary care veterinarian are recommended one, three, six, and twelve months after treatment to monitor both the thyroid hormone levels and your cat's general health. The results of these tests are forwarded to VVC for evaluation and consultation as needed.

How does Radioiodine (I-131) Therapy work?

Feline hyperthyroidism is caused by spontaneously occurring thyroid masses. Approximately 98% of these nodules are benign (called adenoma) and the condition frequently (70%) involves both lobes of the thyroid gland. Fortunately, the incidence of thyroid malignancy (carcinoma) is rare (1-2%). Both thyroid conditions are treatable with radioactive iodine (I-131); however, the dose administered and the desired results of therapy are different. The goal in treating benign disease is to selectively destroy the abnormally functioning cells and spare the rest of the thyroid gland. Ideally this should result in normal thyroid hormone levels and correction of weight loss and the other clinical signs. Usually, there is no need for daily thyroid medication after I-131 treatment. The goal in treating the much rarer thyroid adenocarcinoma is to destroy all the thyroid tissue. After treatment, these patients will need daily thyroid supplementation for life.

I-131 is a radioactive form of iodine. Iodine is needed by thyroid cells to produce thyroid hormone. In a normal animal, thyroid hormone levels are controlled by a system similar to our household thermostat. When enough thyroid hormone is present (similar to enough heat being in your house), the system automatically shuts off. In hyperthyroid cats, the system fails to shut off and too much thyroid hormone is produced. When radioactive iodine is administered to these individuals, the cells that fail to shut off are killed by the radioactivity while the normal cells (which are shut off) are protected.

What is the success rate?

The success rate of I-131 is approximately 85-95%. A few patients may require an additional treatment with I-131 if they do not return to normal thyroid function within 3-6 months. For unknown reasons, a small percentage of cats will become hypothyroid (do not produce enough thyroid hormone) after treatment. If this occurs it may be a temporary problem and require no medical intervention. In rare cases of permanent hypothyroidism, cats may require a daily supplement to maintain normal thyroid hormone levels.

Please call Virginia Veterinary Center's Richmond location with any questions: 804.353.9000.

FREDERICKSBURG: 540.372.3470

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RICHMOND: 804.353.9000

WHAT TO EXPECT WITH RADIOACTIVE IODINE THERAPY (CONTINUED)

BLOODWORK AND TEST PROVIDED BY YOUR REFERRING VETERINARIAN

- Laboratory test and x-rays within THIRTY DAYS of the treatment date.**
- Thyroid hormone level (T4)**
- Laboratory analysis required:**
 - CBC with differential (complete Blood Count)
 - Complete Biochemical Profile
 - T4 (Thyroid level)
 - Urinalysis with sediment
 - Retrovirus testing for FeLV and FIV
 - Results of additional laboratory tests if indicated by individual patient profile
- Imaging studies:**
 - Two view thoracic and abdominal radiographs
 - Results and interpretation of cardiac and abdominal ultrasound examination if indicated by individual patient profile.

BEFORE TREATMENT

- Careful screening for other disease conditions will be completed before being admitted for radioactive treatment. The screening will consist of bloodwork, urinalysis, radiographs, and possibly additional tests such as ultrasound of the heart or abdomen.
- We must complete an examination of your cat before the scheduled admission date. At that time, or shortly thereafter, it will be determined if your cat is a suitable candidate for I-131 treatment.
- If your cat is on antithyroid medication such as Tapazole (methimazole), please discontinue at least one week before your cat's scheduled admission date for treatment. Discontinuing medication will increase the chances of a successful treatment.

TREATMENT DAY

- PLEASE BRING:** **Six day supply of regular food**
 Your cat in a carrier (required)



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SAFETY PRECAUTIONS FOLLOWING I-131 THERAPY

The present level of radioactivity is such that it will be necessary for you to alter your social interactions and possibly alter litter box routines for the next three weeks. Following these instructions will ensure that the radiation doses that you and your family member might receive are extremely small.

Your cat's waste products will contain radioactive substances for the first 3 weeks after discharge, necessitating strict litter disposal requirements. Preferentially, use flushable, scoopable litter and simply flush soiled litter 2-3 times daily. The litter box should be placed in a room not typically occupied by family members for extended periods. A spare bathroom or bedroom is ideal. If you are unable or are unwilling to flush soiled litter, place all soiled litter in a designated, rigid trash container that has been doubled lined with heavy duty plastic bags. Place the container in an infrequently used area of the house, outside or garage. At the end of the three week collection period, secure the top of the plastic bags (tape, zip tie), place a lid on the receptacle and store for three months prior to disposal in regular trash.

Wear examination gloves when changing or disposing of soiled litter.

Do not allow young children to change the litter.

Prohibit contact between pregnant women and the cat or its waste products.

Limit your cat's activity to a single room of the house such as a spare bedroom for the first 7 days after discharge. If confinement is not possible, minimize and when possible eliminate being in the same room for more than a few minutes. After the first week, avoid close and prolonged contact for an additional two weeks. You should feel free to shower some affection on your pet, but do not cuddle for lengthy periods of time.

Wash your hands after petting or handling your cat. Be particularly vigilant about having your children frequently wash their hands when they are home with the cat.

Do not let your cat run free outdoors for the next three weeks.

Do your best to keep your cat out of your kitchen, especially when food is being prepared or consumed. Do not panic if he/she manages to gain entrance to the kitchen, but do a good job of cleaning surfaces which could come in contact with food.

After the initial three week period, you can dispose of litter as you normally would, as your cat's waste products no longer contain significant amounts of radioactive iodine. Normal social interactions with your cat can also be resumed at this time. However, any surface contaminated by your cat's waste products during the first 21 days should be considered potentially radioactive. All potentially contaminated material (litter box, gloves, any non-flushable waste) should be placed into a sealed plastic bag and should be stored in an infrequently used area of your house or garage for 3 months prior to disposal in regular trash or re-use.

Please call our Virginia Veterinary Center's Richmond location at 804.353.9000 to discuss any other radiation safety concerns.

SAFETY PRECAUTIONS FOLLOWING I-131 THERAPY (CONTINUED)

It is imperative that you follow the restrictions as indicated for both your own safety and to avoid problems at your local trash processing facility. If you dispose of any contaminated litter in your trash can during the initial 3-week period, radiation monitors at the trash disposal facility will likely be activated. This has resulted in costly expenditures of labor for cities and towns necessitated by isolating and analyzing the radioactive materials. Should the radioactive trash be traced back to you it could result in substantial financial liability.

By my signature below, I acknowledge that I have received a copy of the above-entitled document "Safety Precautions Following I-131 Therapy". I further acknowledge that I have read and understand this document.

Client Signature at Admission

Date

Client Signature at Release

Date

Witness

Date

I-131 PROGRAM DISCHARGE KIT INFORMATION

The following is a list of supplies that you should obtain prior to your pet's discharge. This will allow you to conform to the safety precautions as outlined in "Safety Precautions Following I-131 Therapy".

Flushable, scoopable litter: *Check local pet supply stores for availability.*

Many brands are available, including:

- Worlds' Best Cat Litter™
- Our Cat's Choice Cat Litter
- Arm & Hammer™ Easy Flush Litter
- Cat Country Organic Wheatgrass Litter
- Cat's Pride®
- sWheat Scoop®
- Premium Choice® Carefree Kitty

Rubber or Latex gloves, *such as from a grocery store, drug store, home improvement store*

Plastic litter box liners: *three week supply (optional but recommended)*

One injection of Radioiodine (I-131) is all it takes!

- Cost effective when compared to long term medical therapy and monitoring or surgery
- \$50 Consultation
- Eliminates daily pilling and associated compliance issues
- Does NOT require anesthesia
- Typically does NOT affect healthy thyroid tissue
- Does NOT damage any other tissue or organs, including the parathyroid glands
- Does NOT have any harmful side effects
- Selectively destroys thyroid tumors irrespective of their location or number
- Returns thyroid function to normal usually within one month

I-131 therapy is generally regarded as the treatment of choice for most hyperthyroid patients who are systemically stable without clinically significant cardiopulmonary, gastrointestinal, renal, hepatic, endocrine or neurological disease. Non-thyroid related medical problems should be discussed with I-131 personnel to determine if I-131 is appropriate for your patients.

Please review the following information with clients when considering referring a patient for I-131 therapy.

- Required pre-therapy workup: CBC, biochemical profile, T4, urinalysis with sediment, retrovirus testing for FeLV and FIV and diagnostic quality radiographs depicting thoracic and abdominal structures. All tests should be current with 30-45 days.
- An initial screening appointment is required with VVC before the scheduled admission date to confirm the diagnosis of hyperthyroidism, evaluate and discuss overall patient health, obtain additional or updated test results and allow clients to discuss concerns or questions they may have regarding therapy.
- In most cases, discontinuation of antithyroid medications approximately 7 days prior to scheduled therapy is recommended.
- Patients are admitted for therapy by appointment after all information relating to the screening examination has been evaluated.
- Patients are hospitalized in the nuclear medicine ward for 2-4 days. Clients cannot visit patients during therapy, nor can patients be removed from the ward until officially released. Clients cannot terminate therapy or arrange for early release once therapy has begun. These rules are dictated by the Federal guidelines on radiation safety.
- After admission for I-131 therapy, information on patient's daily status will be available to clients by a referral coordinator or other designated personnel.

I-131 therapy includes:

- Review of all patient case records and radiographs
- Physical examination
- Hospitalization in the nuclear medicine ward
- Administration of I-131
- I-131 and appropriate radiation monitoring
- Daily care and feeding
- Phone Consultations with primary care veterinarians and clients as needed to discuss post treatment follow up tests and patient clinical status.

Morgan Brown, DVM Radioactive Iodine Therapy, Emergency

Dr. Morgan Brown grew up in Woodbridge, Virginia before completing her undergraduate degree at Penn State University in 2015. She graduated with her doctorate in veterinary medicine from Virginia-Maryland College of Veterinary Medicine in 2018, and has special interests in emergency medicine, ophthalmology, and hyperthyroidism management in cats.

In her spare time, Dr. Brown loves to serve it up on the volleyball court, expand her culinary horizons by trying new foods, and spend time exploring Richmond with her husband Shawn and their Yorkie mix, Gizmo.



VIRGINIA VETERINARY CENTERS LOCATIONS

FREDERICKSBURG

1301 Central Park Boulevard
Fredericksburg, VA 22401

P: 540.372.3470

F: 540.736.0319

MIDLOTHIAN

2460 Colony Crossing Place
Midlothian, VA 23112

P: 804.744.9800

F: 804.744.4842

RICHMOND

3312 West Cary Street
Richmond, VA 23221

P: 804.353.9000

F: 804.353.9271