

DIABETES AND THYROID CENTER OF FORT WORTH

Radioactive Iodine Treatment for Remnant Ablation and Metastatic Thyroid Carcinoma

Your provider has ordered radioactive iodine for the purpose of thyroid remnant ablation or treatment of metastatic thyroid carcinoma. The purpose of this packet is to explain the risks and benefits of radioactive iodine, the preparation for the treatment, and the precautions to follow after the administration. Included in this packet are consent forms for treatment, a list of precautions including time periods to be followed, and a list of frequently asked questions. Please read this packet carefully and make sure that you understand its contents. If you have further questions, please write them down as they can be discussed over the phone or at a nursing visit if necessary.

The Diabetes and Thyroid Center of Fort Worth is one of the few endocrinology clinics in Texas that administers radioactive iodine (I-131) in the clinic for treatment of various thyroid disorders. The licensure of the provider requires extensive classroom and laboratory training and compliance with strict regulations mandated by the State of Texas and United States nuclear Regulatory Commission.

Thyroid tissue, whether residual tissue remaining after surgery, or metastatic thyroid cancer, typically will take up (absorb) iodine. Thyroid stimulating hormone (TSH) is produced by the pituitary gland (an endocrine gland in your brain). High levels of TSH will typically cause thyroid tissue to take up iodine more vigorously than the surrounding tissue. Previously, endocrinologists have had patients stop all thyroid hormone replacement for six weeks in order to raise TSH levels. Even though this is effective at raising TSH, it unfortunately makes the patient feel poorly for weeks.

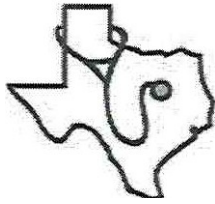
Presently, we commonly order the administration of Thyrogen (synthetically manufactured TSH) prior to the dosage of radioactive iodine. This process has been proven in studies to be as effective as withdrawal from thyroid hormone and patients typically do not have the side effects of fatigue, weight gain, etc. Thyrogen is an expensive medication. Fortunately, most insurance companies will cover this cost but it does take 2-4 weeks to obtain approval and the medication. Some patients will be required to pay a deductible or copay depending on their coverage.

It has also been shown that patients who follow a strict low iodine diet prior to the dosing of radioactive iodine have better uptake levels than those who do not follow such a diet. Since your provider's goal is to have your thyroid take up as much iodine as possible, we recommend that each patient follow such a diet for at least two weeks. A sample diet is included in this packet but more tips can be found online at <http://www.thvca.org>.

The entire process, although new to you, is common in our practice. Rest assured that our medical assistants, administrative staff, and providers are here to make your treatment go as smoothly as possible.

Sincerely

Darren Lackan,MD, FACE Chris Bajaj,DO, FACE Anjanette Tan,MD,FACE,



DIABETES AND THYROID CENTER OF FORT WORTH

1. Will I contaminate a room by walking into it? What about my computer?

You will not significantly contaminate a room, your computer, phone, remote controls, or other personal items by having limited general contact with these items. The main source of radiation to others is from radiation given off as the medication changes to a non-radioactive form. This radiation that is given off is similar to x-rays. The radioactive iodine also concentrates in your bodily fluids including but not limited to perspiration, saliva, urine, feces, vaginal secretions, and semen. Significant contamination will occur if you urinate, perspire, or salivate on one of these items. It is important to follow the list of precautions to limit other people's exposure to these bodily fluids and released radiation.

2. Do I need to throw away my clothing and sheets?

No, it is not necessary to throw away clothes and bedding. We recommend that you wash your clothing and bedding separately from others for two weeks. We do recommend that you throw away your toothbrush after two weeks.

3. Can I prepare food for others?

We recommend that you do not prepare food for others for at least 1 week.

4. Do I need to use disposable dishes or can I use my usual dishes?

It is not necessary to use disposable dishes. You can use your regular dishes as long as you wash them separately from others for at least 1 week.

5. Why do I need a pregnancy test if I know that I am not pregnant?

The amount of radioactive iodine that you will be receiving could result in severe damage or death to an unborn child if you are pregnant. We require that all women under the age of 50 that have not undergone tubal ligation or hysterectomy have a negative serum pregnancy test prior to dosing the radioactive iodine. The radioactive iodine will not be administered without this test being performed.

6. - Why do I need to stay away from my children for so long?

Children are more susceptible to radiation as their tissues are dividing at a higher rate than adults. Because of this, they have a greater risk of developing cancer if significantly exposed. We ask that you stay at least 6 feet away from children for 10 days. Drs. Lackan, Bajaj, Tan, and Hudak all have young children and understand how difficult this precaution is to follow, but our providers also understand the potential risk to the children and the need to absolutely follow this precaution.

7. Why do I need to stay away from my spouse?

It is important to limit exposure to adults as there is risk of damaging their tissue with significant exposure. We ask that you sleep in a separate bed and refrain from kissing or sexual intercourse for 7 days.

8. Do I need to stay away from my pets?

Dogs and cats are just as susceptible to radiation as humans. Although it is difficult to determine the period of isolation, we recommend treating adult pets as adult humans (5 days) and puppies and kittens as children (10 days).

9. How long do I need to stay away from work?

This depends on what type of work you do and your ability to isolate yourself from others. If you are able to stay 6 feet from other adults and children, you can return to work within a few days. If you are near other adults that are not potentially pregnant women, you can return to work after 5-7 days, but if you work with or near children or potentially pregnant women, you need to stay off of work for 10-14 days.

10. Why do I need to drink water, use lemon wedges and laxatives?

Basically, we want to flush the excess radioactive iodine out of your body as fast as possible. Since the iodine will clear through the salivary glands, feces, and urine, it is important to expedite this by drinking plenty of fluids and use laxatives if necessary to maintain at least 1-2 bowel movements a day. The lemon wedges or sour candy should be used 24 hours after taking the radioactive iodine as it stimulates saliva production and clearance through the saliva glands.

11. What happens if I need to vomit after the radioactive iodine?

Almost all patients tolerate the dose of radioactive iodine without significant nausea and/or vomiting. If requested, your provider can prescribe nausea medication. If you do happen to vomit in a public place prior to isolating yourself at home, you should notify our office immediately as we will need to notify the proper Texas officials and HazMat. If you need to vomit at home, please do so in the toilet. Please let your provider know at what time this occurred to make sure that an adequate dose remains.

12. What happens if I have an emergency and need to go to the ER?

If you have an emergency, please proceed to the ER as you usually would. We ask that you inform the triage nurse or ER staff that you recently received radioactive iodine and need to be seated separately from the general public. Please bring a copy of this paperwork with you and ask the physician to call the clinic with any questions.

13. Can I come back into the clinic to ask questions after the treatment?

Once you have received the radioactive iodine, it is necessary for you to follow the precautions. Our clinic is a public place where you can be in extended contact with children and potentially pregnant females including our staff and patients. If you feel it is necessary to see one of our providers before your scheduled appointment, it is required that you call and speak with one of the medical assistants. If the provider feels it is necessary to see you, he or she will bring you through the back door and into a separate room to evaluate you. **DO NOT walk into the clinic without setting up an appointment first as you will be asked to leave immediately.**

14. . Can I exercise?

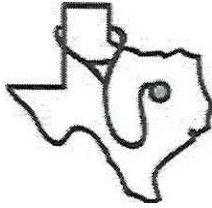
Radioactive iodine is concentrated in your sweat, therefore it is recommended that you not perform vigorous exercise for at least 7 days. Your provider may give you further instructions regarding refraining from exercise while hyperthyroid. Please discuss this with your provider prior to the treatment if you have further concerns.

15. Can I restart breastfeeding after the radioactive iodine?

- If you are breastfeeding prior to the administration of radioactive iodine, it is vital that you **stop immediately after dosage** is administered and you **will not** be able to resume breastfeeding for this child. Radioactive iodine is concentrated in the breast milk and can cause potentially severe damage to the infant if breastfeeding is continued after radioactive iodine dosing. Radioactive iodine should not prevent breastfeeding future children.

16. How long before I can become pregnant after radioactive iodine?

- We ask that you not get pregnant until 6-12 months after treatment with last dose of radioactive iodine. We recommend that you use birth control for at least 6-12 months after receiving dose.



DIABETES AND THYROID CENTER OF FORT WORTH

Release Questionnaire for Thyroid Cancer Patients

Patient's Name: _____ Ordering Physician _____

Date of whole body scan: _____ Date of therapy: _____

Date of consult: _____ Time of consult: _____

Date of birth: _____ Home phone: _____

- 1 Do you live in a private home/apartment? Yes No
- 2...Do you have your own transportation? Yes No
3. Can you not take public transportation for at least 1 day? Yes No
4. Can you remain at home for the next two days after release? Yes No
5. Can you live alone and care for yourself for the next 2 days? Yes No
6. Can you limit your guest's and caregiver's visitation for 2 days after release? Yes No
7. Do you prepare your own food? Yes No
8. Can you sleep alone and abstain from sexual intimacy or sexual activity for the first two days after dose administration? Yes No
9. Are there any children (or pregnant women) in the home? Yes No
10. Can these individuals be removed from the home for at least 2 days?
If not, can you maintain a distance of at least three feet from them during the first 72 hours at home? Yes No
11. Are there separate toilet/sanitation facilities in your home? Yes No
12. Can these facilities be restricted from use other than your own for 2 days following release? Yes No
13. Are you breastfeeding, or intend to stop breastfeeding immediately following this procedure? Yes No

Reviewed by _____ Date: _____
Authorized User

Release criteria: As a minimum, shaded criteria must be met to authorize release with Group II(0.125 occupancy)



DIABETES AND THYROID CENTER OF FORT WORTH

Instructions Following I-131 Therapy

You have received radioactive iodine and need to follow some precautions to reduce the exposure to others during the next few days.

The main source of radiation exposure to others is from radiation given off as the medicine changes from non-radioactive form. The radiation given off is similar to an x-ray. The number of "x-rays" given off will decrease with time and all of the radiation will eventually be completely gone. While this radiation is a beneficial treatment for you, remember that you can reduce the exposure to others by increasing your distance from them and reducing the amount of time spent close to them. A small amount radioactive iodine will come out in your sweat, urine, and saliva. It is important that you wash your hands thoroughly before handling food or children's toys.

It is also important that you use stringent contraceptive measure to avoid pregnancy for at least 6-12 months after treatment. Breastfeeding must be discontinued after treatment and should not be restarted.

If you have any questions concerning these instructions or if you or a family member are concerned that you may be having a medical problem, please call our office at (817) 263-0007.

Day of Treatment

1. Please go directly home following your treatment.
2. If you don't drive yourself home, please sit as far as possible from the driver.
3. You should stay home this evening and maintain at least a 6 foot distance from others.
- 4.- You should sleep in a separate room or a separate bed with at least a 6 foot distance from others.
5. Drink plenty of water after dose (for 5 days). Try to have at least 1-2 bowel movements a day for 5 days (use a laxative if needed). Use lemon wedges or sour candy frequently for the first 4 days to stimulate saliva production. Start the lemon or sour candy 24 hours after treatment.

I, _____ have received the 2 pages of instructions for radioactive iodine and agree to follow the instructions given to me.

Patient Signature

Date



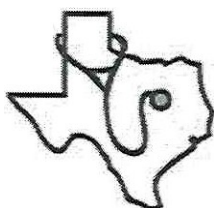
DIABETES AND THYROID CENTER OF FORT WORTH

Following Treatment

Maintain 6 foot distance from adults	5 days
Maintain 6 foot distance from pregnant women or children .	10 days
Limit time spent in public places	5 days
Delay return to work (see above)	5-14 days
Take only short automobile trips with others	5 days
Do not travel by airplane or mass transportation	10 days
If possible, use separate toilet facilities or flush twice after use	7 days
Be careful not to soil the area around the toilet; sit when using toilet	7 days
Wash your hands well and frequently before handling food or dishes	10 days
Use disposable dishes or rinse very well before placing in dishwasher	10 days
Wash clothing, towels, sheets separately from others	10 days
Do not share food, glasses, or utensils with others	10 days
No sexual intercourse, kissing, or vigorous exercise	7 days

Initials

Date



DIABETES AND THYROID CENTER OF FORT WORTH

Informed Consent

Thyroid Remnant/Metastatic Cancer Ablation with Radioactive Iodine

I, _____, hereby state that my date of birth is / / and that I am over the age of 18 years. Furthermore, I state that to the best of my knowledge I am of sound mind and am capable of making a decision regarding my treatment.

I understand that the purpose of radioactive iodine treatment is to attempt to ablate the thyroid tissue in my body. I understand that although rare, the following reactions have been reports: nausea, vomiting, chest pain, rapid heart rate, itching skin, hives, and facial swelling. With higher doses, there are potential risks of damage to saliva glands causing saliva gland pain/swelling and dry mouth, loss of taste or metallic taste (typically resolves within 6 months), secondary cancers (leukemia, lynch carcinoma, colon carcinoma, etc.). Typically these side effects are dependent on the size of the dose and your total lifetime radiation exposure.

I fully understand the potential need for life-long thyroid hormone replacement since my body may no longer be able to make thyroid hormone, and I fully understand that I will have to take this medication daily for the rest of my life or I may become ill and /or die. I also understand the necessity for the periodic blood tests for the rest of my life to verify the adequate thyroid hormone replacement therapy.

I understand that it may be necessary to receive further radioactive iodine doses for the treatment of my hyperthyroidism and/or nodules and that there is no guarantee that this treatment will be curative. I understand that I need to be followed periodically by my provider to determine if and when thyroid hormone replacement medication needs to be prescribed.

The alternative therapies, risks, and benefits have been explained to me and I have had the opportunity to have all of my questions answered regarding each of the above issues. I agree to be treated with radioactive iodine and I understand the risks involved and alternative treatments available to me.

For Females:

I affirm that to the best of my knowledge, I am not pregnant. Either I have had a negative pregnancy test within the last 1 week, or I have had a hysterectomy or am menopausal (circle one).

It has been explained that the amount of radioactive iodine which I will be given could result in severe damage or death to an unborn child if I am pregnant. It has been explained that all patients treated with radioactive iodine should practice birth control for at least 6-12 months after treatment.

If I am breastfeeding, I understand that I must stop immediately after receiving the dose of iodine. I understand that I cannot resume breastfeeding for this current child. I understand that radioactive iodine can pass freely in the breast milk and can cause severe damage or death to the child...

Signature of Patient: _____ Date: _____

Signature of Witness: _____ Date: _____

Date of negative pregnancy test. _____ - *N/A* _____ s/p hysterectomy or menopausal.

Darren Lackan, MD, FACE, RSO

Date

Chris Bajaj, DO, FACE

Date

Anjanette Tan, MD, FACE

Date