

UW Medicine

Thyroid Cancer Dosimetry Using I131

Information, instructions, and precautions



This handout gives instructions for patients who will receive radioactive iodine to help look for thyroid cancer.

What is radioactive iodine (I131)?

Radioactive iodine I131 is a substance that is used to see where thyroid tumors are in your body. Both thyroid cancer and thyroid tissue trap iodine. This helps us find where there is active thyroid cancer.

This study (also called a “survey”) is called *I131 thyroid cancer dosimetry*. You may also have your thyroid cancer treated with a larger dose of I131. This larger dose is called a *therapeutic dose*.

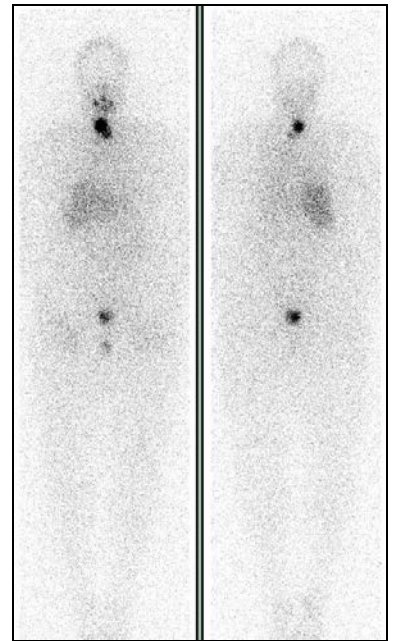
How does radioactive iodine work?

We will ask you to swallow a dose of I131.

The I131 will go to your thyroid and to any thyroid cancer sites, where it will be absorbed. Most of the I131 that your thyroid tissue does not absorb will leave your body in your urine, stool, and other body fluids over the next 24 to 48 hours. The iodine taken up by your thyroid tissue will stay in your body for a longer time.

The I131 iodine gives off *gamma rays* (like X-rays), which can be seen with special Nuclear Medicine cameras. This allows us to see *residual thyroid tissue* (small amounts that are left after thyroid removal surgery) and any other places where there is still thyroid cancer.

It also allows us to measure the amount of I131 in your body and blood. We will watch how much it decreases over the next week. This information is used to create a customized I131 therapeutic dose for you.



Images taken by a special Nuclear Medicine camera show dark areas where I131 is absorbed by the body.

What can I expect?

- On a Monday, you will swallow a small capsule that contains a diagnostic dose (3 millicuries) of I131.
- We will take many blood and body measurements each day for the next 5 days (Monday through Friday).
- On Wednesday, Thursday, and Friday, Nuclear Medicine cameras will take pictures of your head, neck, and body to look for thyroid tissue and sites of thyroid cancer. For these pictures, you will lie on your back on a table for about 1 to 1½ hours while the cameras scan your body.

What are the side effects of the survey?

Side effects from the radioactive iodine are very rare, but you may have itchy skin, a rash, or hives.

How to Prepare for Your Survey

Diet

You must be on a **low-iodine diet** for 1 week before your I131 thyroid cancer dosimetry study. For low-iodine diet instructions, please visit this website: www.thyca.org/rai.htm#diet. If you do not use the Internet, please ask for a printed copy of these instructions.

Medicines

- **If you are a “withdrawal” patient**, you will need to stop taking:
 - Synthroid (Levothyroxine). Stop taking this for at least 6 weeks before your survey.
 - Cytomel (Liothyronine). Stop taking this for 3 weeks before your survey.
- **If you are a “Thyrogen rTSH” patient**, you do not need to stop taking any of your thyroid medicines. You will receive Thyrogen rTSH injections on 2 different days before you take the I131 capsule.

On the Day You Take Your Diagnostic Dose of I131

- Do **not** eat or drink anything except water for 2 hours before your appointment.
- You will have a blood draw for lab tests right before you receive your diagnostic dose.

For Women

- You **must** tell us if you are pregnant.

- If you will receive I131 and are of childbearing age, **you must have a blood pregnancy test before you take the radioactive iodine.** This test may be done again on the day of your I131 therapy.
- **Please tell us if you are breastfeeding.** Women who are breastfeeding may **not** receive radioactive iodine, since it would be passed to the child through breast milk. It would also expose the breast tissue to extra radiation from the I131 in the milk. Women who will have I131 therapy after their thyroid cancer survey must stop breastfeeding for 3 months before they take the I131 dose.

After Taking Your Diagnostic Dose of I131

- Do **not** eat or drink anything except water for 2 hours after you swallow the iodine capsule. An empty stomach will ensure that your body absorbs enough of the radioactive iodine.
- We encourage you to continue to drink plenty of fluids throughout the week.
- **Stay on your low-iodine diet.**
- You will be scheduled throughout the week for blood draws, whole body measurements, and imaging sessions. Here is the daily schedule for patients who have I131 thyroid cancer dosimetry:

Monday	<ol style="list-style-type: none"> 1. Blood work, including a pregnancy test for women. Expect to wait at least 1 hour to get pregnancy test results. 2. Swallow I131 capsule (30-minute appointment). 3. Blood draw and body measurements at 2, 4, and 6 hours after swallowing the I131 capsule (30 minutes for each appointment).
Tuesday	<ol style="list-style-type: none"> 4. Blood draw and body and neck measurements (30-minute appointment).
Wednesday	<ol style="list-style-type: none"> 5. Blood draw, body measurements, and whole body imaging (60-minute appointment).
Thursday	<ol style="list-style-type: none"> 6. Blood draw, body and neck measurements, whole body and neck imaging (90-minute appointment).
Friday	<ol style="list-style-type: none"> 7. Blood draw, body measurements, and whole body imaging (90-minute appointment).

Radiation Safety Precautions

IMPORTANT: Please take extra precautions during the first 48 hours to keep your body fluids away from young children.

Follow these precautions for 48 hours after receiving your I131 dose:

- Do not kiss on the mouth.
- Wash your hands well after using the bathroom.
- Do **not** share food, drinking glasses and cups, dishes, or silverware.

Who reads the thyroid cancer dosimetry and when will I get the results?

- A Nuclear Medicine doctor will read your thyroid cancer survey scan. This doctor also will review any other scan results that you bring with you.
- If you are scheduled for I131 therapy after your thyroid cancer survey, the Nuclear Medicine doctor may also talk with you about some of the findings of your survey.
- If you are not scheduled for I131 therapy right away, the doctor who referred you for this test will give you your thyroid cancer survey results within about 3 days.

To Learn More

Visit the Thyroid Cancer Association website at www.thyca.org.

Who to Call

University of Washington Medical Center (UWMC) Patients

UWMC Imaging Services206-598-6200

UWMC Nuclear Medicine206-598-4240

After hours and on weekends and holidays, call 206-598-6190 and ask for the Nuclear Medicine Resident on call to be paged.

Seattle Cancer Care Alliance (SCCA) Patients

SCCA Endocrine Clinic.....206-288-1160

After hours and on weekends and holidays, call 206-598-6190 and ask for the Nuclear Medicine Resident on call to be paged.

Harborview Medical Center (HMC) Patients

HMC Radiology206-744-3105

After hours and on weekends and holidays, call 206-744-3000 and ask for the Nuclear Medicine Specialist on call to be paged.

Questions?

Your questions are important. Call your doctor or health care provider if you have questions or concerns.

See "Who to Call" on this page for UWMC, SCCA, and HMC clinics and how to get help when these departments are closed.