I-131 Radioactive Iodine to Treat Thyroid Cancer

What to expect and how to prepare

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

What is radioactive iodine?

Radioactive iodine (also called Iodine-131 or I-131) is a substance used to treat thyroid cancer. Thyroid cancer and thyroid tissue both absorb iodine. This helps us find and treat areas of active thyroid cancer.

How does it work?

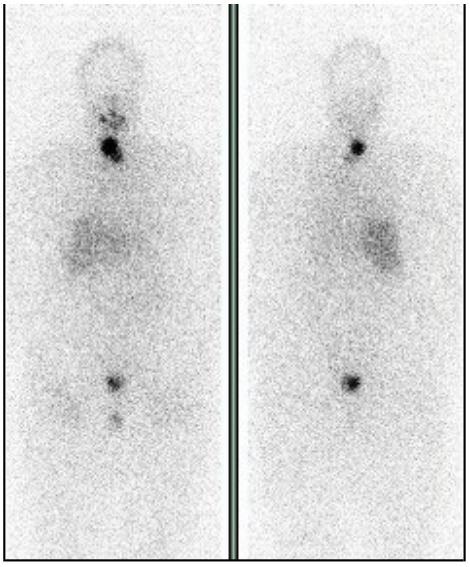
We will ask you to swallow a capsule (pill) that contains I-131. It goes into your blood very quickly. Your thyroid gland and any thyroid cancer tissue will absorb the I-131 from your blood.

The I-131 in your thyroid tissue will give off tiny *beta particles*. These particles travel only a very short distance (about 1 millimeter) and treat the thyroid tissue or cancer cells right where they are.

The beta particles damage the tissue. This damage causes your thyroid gland and any thyroid cancer cells to die over time. It can take a few months for the treatment to work fully.

I-131 also gives off gamma rays (like X-rays). Special Nuclear Medicine cameras can see these rays. This helps us see which tumors the I-131 is treating.

Most of the I-131 that is not absorbed will leave your body in your urine (pee) over the next 24 to 48 hours. The I-131 absorbed by your thyroid or thyroid cancer will stay in your body longer.



The dark areas in these images show where the body has absorbed or excreted I-131.

What can I expect?

Before you have I-131 therapy, you must have a **thyroid cancer survey**. (Please read the handout "Thyroid Cancer Survey Using I-123" or "Thyroid Cancer Dosimetry Using I-131.")

If you are having treatment for residual thyroid tissue or residual sites of thyroid cancer:

- You will come back to Nuclear Medicine on the same day or within 3 days after your thyroid cancer survey scan. At that visit, you will swallow 1 or more small capsules that contain I-131.
- I-131 treatment can be done as an outpatient procedure. After treatment, your body and body fluids will have some radiation. This can make it harder to protect others at home, depending on your living situation. You may stay in the hospital or at Fred Hutch House if it is hard to follow safety steps at home. We will talk with you about what is best for you.

UWMC Imaging Services | Box 356113
1959 N.E. Pacific St., Seattle, WA 98195 | 206.598.6200

What should I know about I-131 treatment?

This treatment has some side effects. You may have:

- Nausea
- Soreness in your neck and salivary glands
- A metallic taste in your mouth for up to 2 to 3 weeks

We will give you tips to help with these symptoms. If you stay overnight in the hospital, we will treat these symptoms. If you go home after your treatment, we will give you prescriptions for anti-nausea medicine.

If You Were Assigned Female at Birth

- If you are under age 50, you **must** have a pregnancy blood test before taking I-131.
- **Tell us if you are pregnant, even if you do not plan to complete the pregnancy.** If you are pregnant, we **cannot** give you radioactive iodine, since it would harm your unborn baby.
- **Tell us if you are breastfeeding.** If you are breastfeeding, you **cannot** have I-131 therapy. The radiation would collect in your breast milk and pass to your baby. It would also expose your breast tissue to extra radiation from the I-131 in the milk.
  - You **must stop** breastfeeding for 3 months before you take your I-131 dose.
  - You **must never** breastfeed your current baby in the future, even after your treatment is done.

Low-iodine Diet

You must be on a **low-iodine diet** for 1 week before this survey. For instructions, please visit *www.thyca.org/pap-fol/lowiodinediet* or ask us for a printed copy.

Day of Your I-131 Dose

At Home

- **For 2 hours before and after your dose**, do **not** eat any solid foods or drink anything except water.
- You may have breakfast before you come to the hospital, if it is **more than 2 hours before** your I-131 dose.

What to Bring with You

- You must have 2 forms of ID, including at least 1 with your photo, such as a driver's license.
- If you will be staying in the hospital or Fred Hutch House after your dose:
  - Bring any medicines you usually take.
  - Bring clothes, personal hygiene items, food, and other important items.
  - You can also bring your laptop, cell phone, and other electronic devices, **if other people do not use them.** If you bring these things, you can cover them with plastic to keep them from being exposed to the radioactive material.
  - You can wear your wedding ring, eyeglasses, and contact lenses.
  - You can bring personal medical devices.

What to Leave at Home

- Do **not** bring valuable personal items.
- If other people use your laptop, cell phone, or other electronic devices, do **not** bring them with you.

When You Arrive

- Go to Nuclear Medicine at your scheduled time.
- If your thyroid cancer survey is on the same day as your I-131 dose:
  - You will have the survey first.
  - You will meet with a Nuclear Medicine doctor and sometimes with the Radiation Safety officer. They will talk with you about your treatment and radiation safety. They will work with the doctor who prescribed your I-131 treatment to decide how much I-131 to order. This will be based on your scan results.
  - After your I-131 dose is decided, we will order your custom dose from the radiopharmacy in Seattle. It can take a few hours for this dose to be prepared and delivered.
  - If you will not be staying overnight the hospital, or your clinic visits are scheduled at Fred Hutch, we will ask you to return to Nuclear Medicine a few hours after your scan. A Nuclear Medicine doctor will give you your I-131 dose at this time.

Inpatients

If you will be staying overnight in the hospital after your treatment at UWMC:

- Check in at about 12:00 p.m. at Admitting Reception in the lobby on the main (3rd) floor of UWMC, just behind the Information Desk.
- Plan to stay in the hospital up to 3 days.
- You will likely receive your I-131 dose in the afternoon.

Your room will be on the 6th or 7th floor. It will look like other hospital rooms, but it was specially designed to protect against radiation. Your door will be open, but visitors may **not** enter the room. They can bring you items and talk with you from the doorway.

After Your Dose

Diet

- **For 2 hours after you swallow the capsule:** Do **not** eat any food. An empty stomach helps your body absorb the radioactive iodine. Drink **only** water.
- **For 1 or 2 days after your treatment:** Avoid fatty or rich foods to help ease any nausea. For an upset stomach, you may take a generic heartburn medicine (H2 blocker) or generic *proton pump inhibitor* (PPI). You can buy these at a drugstore without a prescription.
- **For 3 days after your treatment:** Follow your low-iodine diet. You may resume your normal diet after 3 days.

Other Guidelines

- **For 24 hours** after your treatment:
  - **Drink at least 1 glass (8 ounces) of clear fluid such as water or juice every hour.** Keep drinking plenty of clear fluids such as water or juice for at least the first 3 days.
  - **Flush the toilet 2 times** after you urinate (pee).
- **For 8 to 12 hours** after your treatment: Empty your bladder (pee) every hour.
- **The first night** after your treatment: Get up at least 1 time during the night to empty your bladder. After the first night, you do not need to do this.
- **For 1 week** after your treatment: It is important to have regular bowel movements (poop) after your treatment to clear the I-131 from your colon. Constipation often happens when your thyroid hormone is low. If you have any constipation, it is OK to use most over-the-counter laxatives while you are on a low-iodine diet. Ask us about constipation and laxatives if you have any questions.

Radiation Precautions After Your Dose

Follow each radiation precaution for the number of days shown. **After Your I-131 Dose:**

- **For 3 Days:**
  - Do not travel by airplane or other public transportation such as a bus or train.
  - Do not travel on car trips longer than 4 hours with others in the car.
- **For 4 Days:**
  - Stay at least 3 feet away from all adults. Allow only short periods of closer contact.
  - If you go to the emergency room (ER), please tell them that you had a radioactive I-131 treatment.
- **For Up to 6 Days (depends on your dose):**
  - Sleep in a **separate** bed, at least 6 feet away from other adults.
- **For up to 7 Days (depends on your dose):**
  - Stay **at least 6 feet away** from pregnant people, infants, and young children.
- **For 7 to 14 Days (depends on your dose):**
  - Sleep in a **separate** bed, at least 6 feet away from pregnant people, infants, or children.

Basic Body Fluid Precautions After Your Dose

These precautions will help protect others from your saliva and other body fluids. You may need to follow more precautions based on your living situation. **After Your I-131 Dose:**

- **For 2 Days:**
  - The bathroom you use should be for **ONLY YOU**. No one else should use it. (*Exceptions can sometimes be made if there are only adults in your household*.)

- **For 4 Days:**
  - Do **not** share utensils, glasses or cups, plates, or food with anyone, **especially children**.
  - Do **not** let others handle your dishes or utensils.
  - Rinse all of the utensils, glasses, cups, and dishes you use apart from other dirty dishes. After they are rinsed, they can be washed in a dishwasher with other dishes and utensils.
  - Do **not** use disposable plates, utensils, or cups.
  - Do **not** let others handle your laundry, bedding, or other items that may contain sweat, blood, or urine.
  - Do **not** let others clean up or handle any of your body fluids, such as vomit, urine, or blood.
- **For 7 Days:**
  - Avoid kissing, having sex, and other close or intimate contact.
  - Wash your hands well and often. Use soap and warm running water for at least 20 seconds.

If You Were Assigned Female at Birth

- **Do NOT get pregnant for 1 year after your I-131 treatment.** This is in case you need to be treated with I-131 again. Also, your thyroid replacement medicine level must be adjusted and stable before you get pregnant.
- If you are breastfeeding:
  - You **must stop breastfeeding** your current infant. I-131 can harm your baby.
  - Do **not** re-start breastfeeding with your baby after treatment.
  - If you get pregnant again in the future, you may breastfeed your new baby.

Follow-Up Visits

- You may need to have a **blood draw** for lab tests in the days after your I-131 therapy. Check with your care team.
- You will have a **follow-up thyroid cancer survey** 7 to 10 days after your I-131 dose. We will take images of your body to see where the I-131 dose collected. This appointment will last 1 to 2 hours. You do not need to prepare for this survey.
- You will need a **follow-up visit with your endocrinologist** 4 to 6 weeks after your treatment. This is the soonest we would expect your thyroid hormone levels to become stable. Your endocrinologist will monitor your thyroid hormone replacement dose. Be sure to keep this appointment. We can help you schedule this visit.
- You may need a **follow-up I-131 diagnostic thyroid cancer survey** in 6 to 12 months. If you do, your endocrinologist will refer you for this scan.

To Learn More

To learn more about I-131 radioactive iodine and how it is used to treat thyroid cancer, visit the Thyroid Cancer Survivor's Association website: *www.thyca.org*

Questions?

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

- **UWMC - Montlake Imaging Services:** 206.598.6200
- **UWMC - Montlake Nuclear Medicine:** 206.598.4240
- **Fred Hutchinson Cancer Center - Nuclear Medicine:** 206.606.7045
- **Fred Hutchinson Cancer Center - PET:** 206.606.7191

On weekends and holidays (7 a.m. – 3:30 p.m.), call 206.598.6190 and ask to page the Nuclear Medicine Resident on call.

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