Receiving
Radioactive Iodine for Thyroid Cancer
Information, instructions, and precautions

What is radioactive iodine?
Radioactive iodine (also called Iodine-131 or I-131) is a substance that is used to treat thyroid cancer. Both thyroid cancer and thyroid tissue trap iodine. This fact helps us locate sites of active thyroid cancer. Part of your thyroid cancer treatment will be to look for tumor sites using a small amount of I-131. This is called a diagnostic thyroid cancer survey. You may also have your thyroid cancer treated with a larger dose of I-131. This is called a therapeutic dose.

How does radioactive iodine work?
We will ask you to swallow a dose of I-131. Your intestines will absorb it quickly, and it will enter your bloodstream. Then, it will travel to your thyroid and to any thyroid cancer sites, where it is taken up. Most of what your thyroid does not take up will be excreted in your urine over the first 24 to 48 hours after your iodine dose. The iodine taken up by your thyroid or thyroid cancer will stay in place for a longer period of time.

The I-131 atoms give off gamma rays (similar to X-rays), which can be seen with the special detectors used in Nuclear Medicine. This allows us to see where there is residual thyroid tissue (small amounts left over after thyroid removal surgery) and any other sites of thyroid cancer. We can only do this after your thyroid is removed, since the normal thyroid tissue also takes up iodine very well. This would interfere with the search for small tumor sites.
In addition to gamma rays, I-131 also gives off beta particles (similar to electrons). These come to rest in your thyroid tissue or cancer sites, very close (within about 1 millimeter) to where they are emitted. They damage tissue along the way and this damage will cause your thyroid or thyroid cancer cells to die over time. This treatment takes up to a few months to have its full effect.

**Will the I-131 affect the people around me?**

For a few days after your I-131 dose, your body will give off a very small amount of radiation. There is a very slight chance that this radiation can affect the people around you, but it is not likely to. This is true for both a diagnostic dose and a treatment dose. After some treatment doses, patients must stay in a private hospital room for a few days.

It is important to protect others from the radioactivity in your urine, feces, and saliva. Follow all of the “Proximity Precautions” and “Body Fluid Precautions” on page 4 to keep the people around you from being exposed to or absorbing any radiation from you during this time.

Almost all of the radiation you receive stays in your thyroid and thyroid cancer sites, where the dose needs to be very high. To reduce radiation to other parts of your body, especially your bladder, we recommend that you drink plenty of fluids and empty your bladder often during the first 24 hours after your dose. See page 4 for more information.

**What is involved in radioactive iodine thyroid cancer survey and treatment?**

- **Diagnostic thyroid cancer survey:** You will receive a small dose (2 to 5 millicuries) of I-131 by mouth in a small capsule. Two or 3 days later, we will use the Nuclear Medicine cameras to take pictures of your head and neck to look for thyroid tissue and sites of thyroid cancer. You will lie on a table for about 30 to 45 minutes while the cameras scan your body.

- **Therapeutic dose:** If you are being treated for residual thyroid tissue and/or residual sites of thyroid cancer, we usually schedule you to come back 1 to 3 days after your thyroid cancer survey scans. At that time, you will receive a higher dose of I-131 by mouth, again in a small capsule. This treatment can be done as an outpatient or you may be admitted to the hospital if it will be hard for you to follow proper radiation safety precautions at home. For instance, if you live with many people, it may be hard to protect them from the radiation in your body and fluids. We will talk with you about these options at your first visit.
If you are admitted to the hospital, you will have a room on the 6th or 7th floor of University of Washington Medical Center (UWMC). These rooms are specially designed to shield against radiation. They look exactly like any other hospital room. Your door will be open, but visitors will not be allowed to come beyond the doorway. Visitors can bring you items and can talk with you from the doorway, so you will not be totally alone.

**What are the side effects of 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, which may last 2 to 3 weeks

We will advise you on how to lessen these symptoms. If you are treated in the hospital, medical staff will treat any symptoms you might have. If you are an outpatient, we will give you prescriptions for anti-nausea medicines.

**Specific Instructions for I-131 Diagnostic Thyroid Cancer Survey**

**How to Prepare**

To make any thyroid cancer cells you may have take up as much iodine as possible, we require all patients to follow a low-iodine diet for 2 weeks before their study. We might also make some changes to your medicines. We suggest visiting the website [www.thyca.org](http://www.thyca.org) for low-iodine foods and recipes. If you do not have Internet access, we will give you a handout of some of the information from this website.

**On the Day of Your Study (Diagnostic Dose)**

- Do not eat any solid foods or milk for 2 hours before your appointment. Water is OK, and we encourage you to drink it.
- You will have blood drawn for lab tests just before you receive your diagnostic dose. This is to check your blood counts and thyroid hormone levels.
- Do not eat any solid foods for 2 hours after your iodine dose. This will ensure that your body absorbs enough of the radioactive iodine.
- Pregnant women cannot receive a radioactive iodine dose, since it would be harmful to the fetus. We require women of childbearing age to have a pregnancy blood test before their I-131 dose. You **must** tell us if you are pregnant, even if you do not plan to complete the pregnancy.
Guidelines for the First 24 Hours After Your Diagnostic Dose

**Fluid Recommendations**

- Do not eat any solid food for 2 hours after your dose. You should drink plenty of water during this time.
- For the first 8 to 12 hours after your dose, drink at least 1 glass of fluid every hour, and empty your bladder every hour.
- Get up at least once during the night after your dose to empty your bladder. After this, no special bladder emptying is needed.
- We encourage you to continue to drink plenty of fluids.
- Flush the toilet 2 times after you urinate to get rid of leftover radioactivity from your urine.

**Proximity Precautions**

It is very important to protect those around you from receiving a dose of gamma rays. **Do NOT:**

- Spend long periods of time closer than 3 feet to any adult. Short periods of contact with adults (minutes only) are OK.
- Be in the same room as any child or infant.
- Have intimate contact or sleep in the same bed with anyone.
- Ride in a car with others for long periods of time.

**Body Fluid Precautions**

**Do NOT:**

- Share silverware, glassware, plates, food, etc. with anyone (because of possible radioactivity in your saliva). All of the silverware, glasses, cups, and dishes you use should be rinsed once separately before being washed with other dishes and silverware. Do not use disposable plates, utensils, cups, etc.
- Have intimate contact, including kissing.

**Do:**

- Flush the toilet 2 times after all toilet visits.
- Wash your hands carefully and often. Use soap and warm, running water for at least 20 seconds.
Your thyroid scan will take place 2 to 4 days after your diagnostic dose. Please take an over-the-counter laxative 24 hours before your scan to empty your bowel. Doing this will keep extra I-131 that has collected in your stool from lighting up on your scan. This could give a false positive reading.

Please be sure that the laxative you use does not contain iodine. Some iodine-free laxatives are Miralax, Bisacodyl, Milk of Magnesia, Magnesium Citrate, and Ducolax suppositories.

**Stay on your low-iodine diet throughout your diagnostic scans and any iodine therapy.** If you are NOT having I-131 therapy (see below), you can resume your normal diet after your final scan. If you are having I-131 therapy, you can resume your normal diet either after you leave the hospital or 3 days after you swallow the I-131 capsule.

### Specific Instructions for I-131 Therapy

If you have I-131 therapy, it will happen right after your diagnostic thyroid cancer survey. Please follow all of the instructions above to prepare for it. You will be scheduled for both the diagnostic thyroid cancer survey and I-131 therapy at the same time.

**On the Day of Your Therapeutic Dose**

- Do not eat any solid foods or milk for 2 hours before your dose. Water is OK and we encourage you to drink it.
- If you are not being admitted to the hospital, go to Nuclear Medicine at your scheduled time. Nuclear Medicine is on the 2nd floor of the hospital, just west of the Pacific elevators.
- Do not eat any solid foods for 2 hours after your I-131 dose. This will ensure that your body absorbs enough of the radioactive iodine.
- If you are being admitted to the hospital:
  - Check in at about 11 a.m. at the UWMC admitting desk on the main (3rd) floor of the hospital, in the lobby area. Be prepared for up to a 3-day stay. (See below for what to bring to the hospital).
  - You will likely receive your dose between 1 p.m. and 3 p.m. You may have breakfast before coming to the hospital, if you wish.

**What to Bring to the Hospital**

- Identification, including photo identification such as a driver’s license.
- Any medicines you usually take.
- Hard sour candy, such as lemon drops.
- A set of clothes to wear home.
What to Leave at Home

- Do **NOT** bring valuable personal items. You may bring a laptop, cell phone, or portable stereo, but these should be covered with plastic to prevent radioactive contamination. If any of these devices are used regularly by other household members, they should **not** be brought. (Wedding rings, eyeglasses, contact lenses, and personal medical devices are OK.)

After Your Dose

- If you are being admitted, medical staff will help you with radiation precautions.
- If you are not being admitted, you will receive more information about home radiation precautions.
- Eating your sour hard candy will make your salivary glands secrete some of the radioactive iodine they might have picked up. This will help make your neck less sore. Start eating the candy 8 to 12 hours after your treatment dose. Usually this is the next morning.
- Keep drinking plenty of clear fluids such as water or juice for at least the first 3 days. We recommend you drink at least 1 glass every hour.
- Empty your bladder every hour during the first 8 to 12 hours after your therapeutic dose.
- Get up at least once during the first night after your treatment to empty your bladder. After this, no special bladder emptying is needed.
- Be sure to flush the toilet 2 times after you urinate and move your bowels to get rid of leftover radioactivity from your waste.
- Stay on your low-iodine diet until you are discharged from the hospital or until 3 days after your dose, whichever comes first.
- Avoid fatty or rich foods for 1 or 2 days after your dose. This will lessen your nausea. Antacids like Zantac or Prilosec are available over the counter, and they may help your stomach symptoms. We recommend using them in the week after your therapy dose.
- It is important to move your bowels in the week after your treatment to clear the I-131 from your colon and avoid constipation, which often occurs when thyroid hormone is low. Most laxatives will work well and do not interfere with the low-iodine diet. Please talk with us about constipation and laxatives if you have any questions.
• We will want to take more thyroid scans after your therapy dose, usually 7 to 14 days later. We will schedule these scans before your treatment. Please use an over-the-counter laxative 24 hours before these scans. As with the scan after your diagnostic dose, this is to keep the I-131 that has collected in your bowels from giving a false positive reading.

**Guidelines to Follow at Home**

**Proximity Precautions**

It is very important to protect those around you from receiving a dose of gamma rays. For the first 1 to 2 days after you leave the hospital, do NOT:

• Spend long periods closer than 3 feet to any adult. Short periods of contact with adults (minutes only) are OK.

• Be in the same room as any child or infant.

• Have intimate contact or sleep in the same bed with anyone.

• Ride in a car with others for long periods of time.

**Body Fluid Precautions**

For the first 5 to 7 days after you leave the hospital, do NOT:

• Share silverware, glassware, plates, food, etc. with anyone (because of possible radioactivity in your saliva). All of the silverware, glasses, cups, and dishes you use should be rinsed once separately before being washed with other dishes and silverware. Do not use disposable plates, utensils, cups, etc.

• Have intimate contact, including kissing.

**Do:**

• Flush the toilet 2 times after each use.

• Wash your hands carefully and often. Use soap and warm, running water for at least 20 seconds.

**Long-Term Follow-Up**

By 7 to 14 days after your treatment, no major radioactivity is left in your body and no more precautions are needed.

You will need to visit your endocrinologist for follow-up about 4 to 6 weeks after your treatment. This is the soonest we would expect your hormone levels to become balanced. Your endocrinologist will monitor your thyroid hormone replacement dose.
Questions?

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

See “Contact Information” on this page for UWMC, SCCA, and HMC clinics and how to get help when these departments are closed.

Be sure to make this follow-up appointment. If you are an SCCA or UWMC patient, we can help you schedule this appointment.

You may need a follow-up I-131 diagnostic thyroid cancer survey in about 6 to 12 months. If you do, your endocrinologist will refer you for this scan.

To Learn More

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

Contact Information

University of Washington Medical Center (UWMC) Patients
UWMC Imaging Services.................................206-598-6200
UWMC Nuclear Medicine.................................206-598-4240
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 Radiology...........................................206-744-3000
After hours and on weekends and holidays, call 206-744-3000 and ask for the Nuclear Medicine specialist on call to be paged.