Radioactive Iodine (I-131) Therapy for Treatment of Thyroid Cancer

This pamphlet provides general information. You can get more information on this treatment from:

- the doctor caring for your thyroid condition, or
- the Nuclear Medicine Department (see page 12)

What is radioactive iodine?

The radioactive form of iodine is also called radioiodine. It has been used since the 1950s to treat thyroid cancer.

This type of treatment is used to:

- kill any cancer cells that may have been left behind after thyroid removal
- treat thyroid cancer that has spread (called metastases)
- treat recurring cancer

Am I radioactive after treatment?

Yes, but only as long as the radioactive iodine remains in your body. Some radioactive iodine stays in your thyroid tissue to get the desired treatment effect. The rest is eliminated in your body fluids such as urine, saliva, sweat and bowel movements. Most of the radioactive iodine that your thyroid tissue does not use comes out the first 2 days after treatment. The amount you eliminate decreases after that.

You need to follow precautions for 7 days to make sure you reduce the amount of radiation to which you expose others.

Contact information for the Nuclear Medicine Department

Regular hours

905-521-6095
Monday to Friday
7:30 a.m. to 4:30 p.m.

After hours

905-522-1155, ext. 33311 (hospital paging system)
Page the “Radiation Safety Officer”.

Please arrive 15 minutes early to allow for parking and registration.

Check in at the: Nuclear Medicine Department
Level 0 – Marian Wing
St. Joseph’s Hospital
50 Charlton Avenue East
Hamilton, Ontario L8N 4A6

If you need to cancel or reschedule your appointment or if you have any questions call:

Nuclear Medicine Department
905-521-6095
How are other people exposed?

The radiation given off by radioactive iodine in your body is similar to x-rays. People who stay close to you for long periods of time may be exposed to unnecessary radiation. They may also come in contact with small quantities of radioactive iodine eliminated by your body through urine, saliva or sweat.

This is why you must follow special precautions for 7 days.

How long does radioactive iodine stay in my body?

Radioactive iodine that is not used by your thyroid tissue will be eliminated through your body fluids. Also, every 8 days, half of the radioactive iodine present in your body becomes non-radioactive.

As a result, after 7 days of taking the radioactive iodine, you will have low levels of radioactive iodine which may remain in your body for a few months. This would only be a problem if you want to cross the border or take a plane as this radiation will be noticed by detectors. We will give you a letter stating that you received radioactive iodine to present at the border or airport if you need to travel.

How do I get the radioactive iodine therapy?

You will need to come to the hospital for 3 appointments.

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What about pets?

Many of the measures used to protect family members are also suitable for pets (cats, dogs).

For example:
- Do not allow your pets to sleep with you for 7 days.
- Avoid preparing food for your pets for 7 days, unless you wear gloves.
- Wash your hands well with soap and water before petting them.
- Follow the contact time/distance guidelines on page 8 as much as possible.

If you follow these precautions, pets will not receive harmful radiation exposure.

Emergency information

- If you vomit or spill urine at home in the first 7 days after receiving the radioactive iodine capsule, clean up the spill yourself and contact the Nuclear Medicine Department. See “Use good hygiene” on page 9.
- In you have a medical emergency during the 7 days after receiving the radioactive iodine capsule, do not delay treatment. Contact the Nuclear Medicine Department.
- In the event of death of a person who has received radioactive iodine, contact the Nuclear Medicine Department.
How can I reduce radiation exposure to my other organs?

Most of the extra radioactive iodine is eliminated in your urine. It is important to drink fluids after your treatment and for the first 2 days. This lowers the amount of radiation exposure to your bladder.

These guidelines depend on your personal health history. Before your treatment begins, ask your doctor about the amount of fluid you should drink.

What about pregnancy?

Radioactive iodine treatment is not given during pregnancy. You should also wait 6 months to become pregnant or father a child.

What about breastfeeding and caring for a baby?

You cannot breastfeed after radioactive iodine as it is secreted in breast milk.

Limit time spent in close contact with your baby for 7 days. After 7 days, you can care for your baby again.

Appointment #1 – Assessment and Planning Interview

- Go to the Nuclear Medicine Department for this appointment.
- Bring your main care helper to this appointment. This is the person who spends the most time with you at home. If you live alone, you can attend this appointment alone.
- You will meet with a nuclear medicine doctor and/or radiation safety officer to complete a questionnaire about your living arrangements. This will help to assess whether you are eligible for outpatient therapy.
- The nuclear medicine doctor and/or the radiation safety officer will go over the questionnaire with you. At this point, they decide if you will have outpatient or inpatient therapy:
  - **Outpatient therapy** – you receive the radioactive iodine treatment in the Nuclear Medicine Department and then go home afterwards. This is the most common form of treatment and is very safe, provided your living arrangements are suitable.
  - **Inpatient therapy** – you receive the radioactive iodine treatment in a private room for therapy patients in the hospital. You will stay in this room for 1 to 3 days. You can go home once a certain amount of radioiodine has been eliminated from your body.
Appointment #1 (continued)

- You will learn about the radiation safety precautions in this booklet as well as any medical information relevant to radioactive iodine therapy.

- The nuclear medicine doctor will tell you if you need to take any medications before your therapy. You may be eligible for Thyrogen, which will be prescribed by your endocrinologist/surgeon.

- You may also be advised to follow a low iodine diet for 2 weeks before treatment and 2 days after treatment. These preparations help your body use the radioactive iodine more effectively during treatment.

- You will be given appointment cards for:
  - your Radioactive Iodine Therapy (Appointment #2)
  - your Follow-up Whole Body Scan (Appointment #3)

Use good hygiene

- Use a separate washroom in your home.
- Clean this washroom well on the 7th day after treatment.
- Wash your hands with soap and water each time you use the toilet.
- Have at least 1 shower a day. No baths.
- Keep the toilet and surrounding area very clean.
- Men must urinate sitting down to avoid splashing.
- Flush the toilet 3 times with the lid closed after each use.
- Rinse the bathroom sink, shower and tub thoroughly after using.
- After brushing your teeth, spit into the toilet and flush the toilet 2 times.
- Do not chew gum.

Preparing food

- Use separate dishes (regular non-disposable plates and cutlery) and wash separately from those of others in your home.
- Do not prepare food for others in your home, unless you wear gloves.

Clothes, bedding and towels

- Wash bedding, towels and clothing worn during the 7 day period separately from that of others in the home.
- Wear slippers or shoes and socks.

Close contact

- Do not kiss, have sex or take part in any other sexual activities.
Once at home

- Stay at home and limit your contact with others.
- Do not return to work or school.
- Do not travel on public transit or go to public places or events.

**Time**

*The less time you spend around other people the better.*

This is very important with children and pregnant women. Avoid being close to pregnant women and children under the age of 12 years for 7 days.

**Distance**

*The greater the distance from other people the better.*

Examples of increasing distance and decreasing time include:

- Sleep alone.
- Do not sit right beside someone on a couch or in a vehicle.
- Do not go to the theatre or any event where you would be close to people.

When you are around people, spend no more than:

- 45 minutes a day at 1 meter or 3.5 feet or
- 2 hours a day at 2 meters or 7 feet or
- 7 hours a day at 3 meters or 10 feet

You can spend as much time as you like at 4 meters or 13 feet from other people.

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**Appointment #2 - The Radioactive Iodine Therapy**

**Before your appointment:**

- Follow the diet and medication guidelines provided by the nuclear medicine doctor during Appointment #1.
- Make arrangements to follow the radiation safety precautions.
- **Women must be certain that they are not pregnant at the time they get the radioactive iodine.** You may need to have a pregnancy test on the day of treatment. If there is any chance that you are pregnant, the treatment will be cancelled.
- Breastfeeding must be stopped completely since radioactive iodine is secreted in breast milk.

**On the day of your appointment:**

- **Do not eat or drink anything for 2 hours** before your appointment time. This is to make sure the radioactive iodine will be absorbed.

**If you are an outpatient:**

- Go to the Nuclear Medicine Department for your therapy.
- A nuclear medicine doctor will take you to the treatment room and answer any questions you have. You will sign a “Consent to Treatment” form stating that you agree to the procedure and to the radiation safety precautions.
- The radioactive iodine is usually in capsule form and you take it with water. You swallow the radioactive iodine capsule whole then leave the hospital right away and follow the safety precautions on pages 7 to 11.
If you are an inpatient:

- Go to the Bed Allocation Office before your scheduled treatment. Once you check in, you will be sent to the inpatient room. Nursing staff for the inpatient room will assess your health.
- The inpatient therapy room is a private room with a private washroom. The room will be prepared with special coverings for radioactive iodine patients and you will be using disposable dishes during your inpatient stay.
- You may bring items into the inpatient room to keep yourself busy during your inpatient stay such as a laptop, books, magazines and cards.
- Bring your own clothes from home to wear during the inpatient stay or wear hospital gowns. Bring your own personal items such as soap, shampoo, toothbrush and toothpaste, and any medications that you normally take.
- There is a television and phone (local calls) provided in the inpatient room. Bring your own calling card for long distance calls.
- You will sign a “Consent to Treatment” form stating that you agree to the procedure and to the radiation safety precautions. A nuclear medicine doctor will answer any questions you may have.
- The radioactive iodine capsule is brought to you in the inpatient room. You swallow the capsule whole and take it with water.

After you take the radioactive iodine capsule:
- Drink lots of fluids.
- Stay in the inpatient room until you go home.
- No visitors (other than hospital staff) are allowed in the inpatient room but you can contact others by phone.
- Your meals will be brought to you in your room.
- Follow good personal hygiene such as showering every day and washing hands often.

- Nurses are trained to only help you when needed and will wear protective clothing when helping you.
- You stay in the inpatient room for 1 to 3 days. The amount of time you spend in the hospital depends on how quickly radioactive iodine is eliminated from your body. A nuclear medicine technologist will visit you daily to measure the radiation levels in your body using special equipment. The technologist will let you know when it is safe to go home.

Appointment #3– Follow-up Whole Body Scan

- Go to the Nuclear Medicine Department for your follow-up whole body scan.
- This scan is usually booked 7 days after your radioactive iodine therapy.
- The scan takes 1 hour.
- Book a follow-up appointment with the doctor who referred you for radioactive iodine therapy, to discuss the results of your scan.

Radiation safety precautions to follow at home

Follow the precautions below and on pages 8 to 11 for 7 days after receiving the radioactive iodine capsule. This will safely limit the amount of radiation to which you expose others.

- Talk to the nuclear medicine doctor or radiation safety officer if you think you will not be able to follow all of these precautions.

While travelling home from the hospital

Sit as far away from the driver as you can. For example, sit opposite the driver in the back seat. There should be no other passengers.