

# Radioiodine Treatment for Outpatients

## **How does radioiodine treatment work?**

The thyroid gland accumulates the iodine entering your body in food and uses this iodine to perform its normal functions, which is to make thyroid hormone. The thyroid processes radioactive iodine (radioiodine) in a similar manner. The radiation given off by this form of iodine decreases the function of the thyroid cells and inhibits their ability to grow, which is the desired medical effect of the treatment. The radioiodine is administered in the form of a capsule which will be given to you by your doctor. The capsule contains the radioactive isotope I-131 in the form of sodium iodide salt.

## **How long does the radioiodine stay in your body?**

The radioiodine will remain in your body only temporarily. Most of the radioiodine not collected by your thyroid gland will be eliminated during the first 2 days following treatment. Radioiodine leaves your body primarily in your urine, but small amounts may leave in your saliva, sweat and faeces. The amount of radioiodine remaining in your thyroid tissue is responsible for the desired medical effect, however, this amount also decreases with time. Radioiodine disappears by itself as part of the physical “decay” process of radioactive material. I-131 has a “half-life” of 8 days, which means the amount of radioactivity remaining will be reduced by one half every 8 days until it is completely gone. At the end of treatment, no radioiodine remains in your body.

## **How can others be exposed to radiation from the radioiodine given to you?**

The radiation safety hazard of radioiodine is twofold. You are a source of radiation from the radioiodine within your body and you are a source of radioactive contamination from the radioiodine being eliminated from your body. Exposure to radiation from the radioiodine in your body may occur if other people remain very close to you for long periods of time. However, because of the elimination and natural decay of the radioiodine the possibility of radiation exposure is reduced with time. The radiation received is very similar to the radiation from medical and dental X-rays. The groups of people at most risk are pregnant women and young children. The younger the child the greater the sensitivity to radiation. Contamination with radioiodine can occur if it is deposited in any place where other people may have contact with it and it gets transferred to their hands. If this radioiodine is taken into someone’s body from their hands or from food that has been touched, it will act as a source of radiation exposure to that person.

## How can you reduce radiation exposure to others?

There is no evidence that radiation exposure from radioiodine has caused harm, but efforts should always be made to avoid unnecessary exposure to radiation.

You can reduce radiation exposure to others by taking some simple precautions during the first few days after treatment.

There are three basic principles to remember to reduce radiation exposure to others:

- **Distance:** The greater the distance you are from others, the less radiation they will receive. Even an increase in distance of a few feet will greatly reduce the exposure.
- **Time:** Radiation exposure to others depends on how long you remain close to them. You should try to minimize the time spent in close contact with others.
- **Hygiene:** Good hygiene lessens the possibility of contaminating others with the radioiodine that leaves your body. Since most of the radioiodine leaves your body in your urine, good toilet hygiene and careful and thorough washing of your hands will reduce the possibility of contamination.

## Guidelines to follow:

- Sleep alone for the first few days after your treatment. During this period, avoid kissing or sexual intercourse. Also avoid prolonged physical contact, particularly with children and pregnant women.
- If you have a baby, you can probably do all things necessary to care for your baby, except breastfeeding. However it is preferable not to have the baby too close, such as sitting in your lap, for more than a short time during the first few days after treatment.
- If you have been breastfeeding your baby, you must stop because radioiodine is secreted in breast milk.
- If you are pregnant, or think you could be, tell your doctor because radioiodine should not be given during pregnancy. If you are planning to become pregnant, ask your doctor how long should wait after the treatment.
- Wash your hands with soap and plenty of water each time you go to the toilet.
- Keep the toilet especially clean. Flush the toilet two or three times after each use.
- Rinse the bathroom sink and tub thoroughly after using them to reduce the chance of exposing others to the radioiodine in your saliva and sweat.

- Drink plenty of fluids, such as water or juices, to help you urinate more frequently. This will help the radioiodine to leave your body more quickly, thus lowering the amount in your body.
- Use separate (or disposable) eating utensils for the first few days and wash them separately to reduce the chance of contaminating other family members with radioiodine in your saliva.
- Use separate towels and washcloths and launder your bath towels, bed linens and underclothing separately.
- Avoid preparing food for others as contamination on food would be ingested.
- Wipe the telephone mouthpiece after each use to prevent contamination from saliva.
- Avoid public transport or areas where you would be in close contact with lots of people.