

# Radioiodine Treatment for Thyroid Cancer

You are to be given radioactive iodine (I-131) as part of your treatment for thyroid cancer. Most of this iodine will leave your body through your urine but some will remain inside your body for several weeks.

The following questions and answers are designed to inform you about simple precautions to be taken so that you can protect relatives, friends, colleagues and others.

## What is radioactive iodine treatment?

Iodine is found in various foodstuffs as part of our normal diet and it is naturally taken up by functioning thyroid cells.

Radioiodine treatment uses a radioactive form of natural iodine (I-131), which can be given in the form of a capsule. The radioactive iodine is taken up by any remaining thyroid tissue where radiation destroys the thyroid cells.

## Is radioactive iodine treatment safe?

Radioactive iodine has been used to treat thyroid cancer for over 70 years. There is a very small increased risk of developing a second cancer. This risk has to be balanced against the benefits in treating the thyroid cancer. Your treatment team will discuss these issues with you in detail before the treatment.

The precautions and restrictions you are asked to follow are in place to protect other people from the radiation, particularly pregnant women and young children.

## What if I am pregnant or breastfeeding?

Radioiodine is dangerous to a foetus. **You cannot have this treatment if you are pregnant or think there is any chance that you may be.** Everyone is required to give a urine sample for a pregnancy test, unless:

- you were registered male at birth, and have no known physical variations in sex characteristics which could result in pregnancy,
- you are 56 years of age or over, or
- you have had surgery which means you are unable to become pregnant, e.g. hysterectomy.

If you do not meet one of the above exemptions and we cannot confirm that you are not pregnant by means of a pregnancy test then we will not be able to go ahead with the treatment. Sexual orientation and sexual history are not considered valid reasons for not taking a pregnancy test.

If you are breastfeeding, **you should stop this at least six weeks and preferably eight weeks before you have the radioactive iodine treatment and you should not start again afterwards.** It will, however, be safe to breastfeed after future pregnancies.

## Preparation for radioactive iodine treatment

You should continue taking your levothyroxine (T4) throughout your treatment.

You will be given two injections of Thyrogen into the buttock on two consecutive days prior to the day of your radioactive iodine treatment. You may need to attend the RD&E or Torbay Hospital for these injections.

Some patients may need to stop taking their thyroid medication instead of having Thyrogen injections. If this applies to you, you will be given further information.

## Should I keep taking my other medication/tablets?

If you are taking any other tablets you should carry on doing so and bring a supply with you on admission and show them to the doctor and nurse team. If you are taking any iodine-containing vitamin or mineral supplements or cod liver oil, you should stop taking them one week before your treatment as part of your low iodine diet.

## Before my radioactive iodine treatment what can I eat?

A diet which is rich in iodine can reduce the effectiveness of the treatment. Therefore, one week before you have the radioactive iodine treatment we recommend you follow a low iodine diet. Further information can be found in the enclosed leaflet.

For an hour before your appointment time, and then for 2 hours after you have had the capsule, you must not eat anything. This is to allow rapid absorption of the radioactive iodine from your stomach.

On the day of your treatment, it is important that you stay well hydrated.

## Do I have to stay in hospital for radioactive iodine treatment?

Yes. Depending on the dose of radioactive iodine prescribed by your consultant you will have to stay in hospital for between 6 hours and 4 days. How soon you go home depends on the dose given and on how quickly the radioactivity leaves your body.

## What should I bring into hospital with me?

Radioactive iodine treatments are given on Yeo ward in a dedicated side room. The room has an iPad, television, DVD player, DVDs, radio, books and a phone which accepts incoming calls. You may be contacted by friends and relatives on 01392 402863 and may take your mobile phone into the room with you and can use this to make outgoing calls. Unfortunately the WiFi connection in the room isn't very good. We are working with IT to improve this.

You are welcome to bring in magazine and/or newspapers with you. However, please try to bring minimal personal possessions, as these may need to be discarded or kept separately when you return home.

Your room has an en-suite shower room and shampoo, conditioner, shower gel and face wipes are provided. If you wish to bring your own toiletries please keep these to a minimum and only bring items which will not be shared with others once you return home.

You will be provided with a hospital gown or pyjamas during your stay. You can bring your own clothing if necessary, however, these items may need to be retained in the hospital, discarded or stored separately for a month after you leave the hospital.

## What happens on admission?

Your details will be checked and you will be given a hospital name band to wear. One of the nursing staff will take your blood pressure, pulse and temperature as part of routine procedures and you may see a Doctor. You may be required to have a pregnancy test (see section on pregnancy and breastfeeding).

You will be shown to your room where you can make yourself at home whilst you wait for the physicist to arrive with your capsule. You may open the windows, but please leave the door closed.

The room may have sticky backed plastic over the floor and some of the surfaces. This is there to assist the staff with cleaning the room after you have been discharged.

## How will I be given the radioactive iodine?

The Medical Physics department is responsible for administering the radioactive iodine treatment. A physicist trained in radioactive iodine treatments will come to the ward to give you the capsule. You will have the opportunity to ask any questions that you might have regarding the treatment and the radiation protection restrictions.

The capsule is a bit smaller than a paracetamol capsule and you can take it with a cup of water. It is essential that you inform your treatment team before coming in to hospital if you have any difficulties swallowing capsules.

The capsule may contain gelatine derived from animal products. Unfortunately, there is no plant-based alternative available. The capsule also contains 63.5 mg of sodium and 23 mg of sucrose.

## What happens next?

After taking the capsule you must remain in the room until discharged by Medical Physics and the nursing staff.

For the first 2 hours after taking the capsule you should not eat anything to allow time for the radioactive iodine to be absorbed. After this time you can eat as normal (i.e. no need to follow the low iodine diet any more).

Throughout your stay it is important to stay well hydrated. You should aim to drink 2 to 3 litres a day so that you pass urine frequently. This will flush the excess radioactive iodine out of your system.

If you vomit whilst on the ward please let the nursing staff know as soon as possible. There is a toilet in the en-suite bathroom and vomit bowls are provided in the room.

## What happens to the radioactive iodine that I have taken?

If there is any thyroid tissue remaining after the surgical removal of your thyroid then this tissue will take up the radioactive iodine and the radioactive iodine will treat these remaining cells over the following weeks. The radioactivity in this tissue will naturally decay away with time.

The radioactive iodine that is not taken up by the thyroid tissue will be expelled from your body over the first few days, mainly in your urine.

Other bodily fluids will also become slightly radioactive over the first few days - this includes your sweat, saliva and blood.

## Are there any side effects from radioactive iodine treatment?

Most patients do not have any side effects from radioactive iodine treatment. However, the following side effects have been reported:

- A feeling of tightness or swelling in the throat and/or feel flushed - this usually lasts for no more than 24 hours - nursing staff can give anti-inflammatory drugs to relieve the problem
- Nausea - nursing staff can give anti-sickness medication
- Slight loss of sense of taste, or dry mouth - this may start after a few days and can last for a few weeks - drinking plenty of fluids and taking sweets or drinks containing citric acid (lemon juice, vitamin C) can help
- Some patients can feel sensitive to the cold during their stay. Please use the nursing call bell to request more blankets if you are cold.

Please do talk through any of your questions or concerns with the consultant or a member of the treatment team.

## Can I have visitors?

Visitors are not routinely permitted. If you feel that you require a visitor during your stay you must let Medical Physics know in advance. The Medical Physics team will need to get in contact with the visitor to let them know about the precautions they would need to follow.

No visitors are allowed on the day you take the capsule, and approved visitors are only permitted for up to 30 minutes a day after that. Those who are pregnant or breast feeding, and those under 18 years of age, are not permitted to visit.

Visitors may bring items such as newspapers, food or drink into the room for your use but must not eat or drink in the room, and must not take any items out of the room.

Friends and relatives can bring items to the Yeo ward reception desk and these can be delivered to your room by the nursing staff.

## Are nursing staff allowed in the room?

Staff will spend only short periods of time in your room. When they deliver your meals and drinks they may stay outside of the door. Please do not expect them to stay and chat for long periods of time but equally do not hesitate to contact them if you need anything by using your call bell.

## What happens at meal times?

The ward staff will bring your meals to your room. These meals will be served on paper plates and you will need to use plastic cutlery. When you have finished your meal these should be thrown away in the bin provided. If there is any unwanted food this needs to be sealed in a plastic bag and put in the bin.

Each day you will receive a menu to fill in for the next day. If you do not receive your meal for whatever reason, or you are hungry and would like a snack box, please use your call bell and speak to the nursing team.

## Can I bring my own food?

The room is equipped with a fridge and kettle. Tea, coffee, sugar and milk will be provided. The water from the tap in the room is drinking water and squash is provided in the fridge.

Please do not bring in more food than you will consume during your stay. Food remaining at the end of your stay will need to be disposed of, or taken home for personal consumption only.

## What about washing and hygiene?

You should empty your bladder frequently over the first few days. As your urine will be radioactive we ask you to sit down when using the toilet and to flush the toilet twice after each use. Your sweat will also be slightly radioactive, so we advise you take a shower daily. Please do not urinate in the shower.

Please use a disposable toothbrush for the first 3 days, and then dispose of this in your normal waste bin. Disposable tissues, and not handkerchiefs, should also be used for the first 3 days. Tissues are provided in the room. Please try and catch any sneezes or coughs in a tissue.

Sanitary products can be disposed of in the usual way. Avoid the use of reusable sanitary wear for the first 3 days.

## When can I go home?

The staff from the Medical Physics department will come to the ward to take measurements and they can then work out how much radiation is still in your body and if the level is safe for you to go home. When Medical Physics are happy for you to go home, they will notify the ward. If you have stayed in overnight then your nurse will take a blood sample to test your thyroid hormone levels. They will then return your clothes and belongings and discharge you. Your shoes will be left outside the room for you to put on when you leave. If you need to sit down to put on your shoes you can be given shoe covers to put on your shoes whilst you are in the room.

If a friend or relative is collecting you from the hospital, please stay in the dedicated room until they reach the hospital. We ask that when you leave the room you then continue to leave the hospital site as soon as possible.

When you leave your side room you are likely to trigger a radiation alarm which is located outside the door. This is nothing to worry about, and will be silenced by the nursing staff.

## Will I have to come back to the hospital?

During the week of, or the week following, your radioactive iodine treatment you will be asked to attend the nuclear medicine department to have a whole body scan and a SPECT/CT scan. You will also have a blood sample taken if you did not one have taken when you were discharged from Yeo ward. This is to test your thyroid hormone levels.

You will have a follow up appointment with your consultant a few months after your treatment. This might be in the outpatient department or by phone.

Remember that radioiodine takes many months to work and waiting for follow up appointments, scans and tests can be very hard. Reading the resources listed at the end of this leaflet may help you with this journey.

## What happens during the nuclear medicine scan?

During the scan you will have to remain still on a bed while a gamma camera takes pictures of the radioactive iodine in your body. The camera will be quite close to you so that it can take good quality pictures.

During the whole body scan the camera will slowly move from your head to your toes. During the SPECT/CT scan the camera will rotate slowly around you.

You should allow about one hour for this appointment.

## Will I need radioactive iodine treatment again?

The treatment may need to be repeated until all the remaining thyroid tissue has been destroyed. Some people require one treatment and some people require more than one treatment.

## Will I still have restrictions when I go home?

The Medical Physics staff will explain to you the restrictions you must follow when you go home, for example, avoiding crowded places. They will work out how many days you need to follow these restrictions for. The restrictions you are given may be different from other patients as some patients may have lower or higher levels of radioactivity. These restrictions are to protect other people, especially pregnant women and children.

You will be provided with a yellow card which gives end dates for each restriction. You should carry this card with you until these instructions no longer apply. If you need any medical treatment during that time you must show the card to the staff treating you.

If possible, use a separate toilet/bathroom until 3 days after you have taken the capsule. The toilet and sink should be cleaned thoroughly using non-chlorine bleach based cleaners.

## What about my children?

If you are looking after young children, it is particularly important to discuss arrangements in advance with the Medical Physics Department (telephone **01392 402123**). Close physical contact with children should be avoided for up to 2 weeks. Your physicist will advise you further on this.

## What about my work?

You are advised to take the first 2 days following treatment off from work whilst your body is excreting the radioactive iodine. Depending on the nature of your work it may be necessary to take further time off, particularly if you work in close contact with other people. This should be discussed with the medical physics department



prior to coming in for treatment and a letter to your employer can be provided if required. The Medical Physicist will discuss this with you again when you come in for treatment and will write restrictions on your yellow card.

## **Can I share a bed when I get home?**

You must arrange to sleep by yourself for a period of up to 12 days following discharge from your radioactive iodine treatment. The exact duration will depend on the amount of radioactive iodine you are given and how quickly the radioiodine leaves your body. This will be discussed with you prior to your treatment appointment and the exact restriction will be written on your yellow card.

All bedding must be washed before allowing anyone else to sleep in the bed as it will contain traces of radioactive iodine.

## **What about sex, contraception and fertility?**

Due to traces of the radioactive iodine in bodily fluids, you should use a condom during sex, for seven days after treatment.

It is important not to become pregnant when having investigations for thyroid cancer. You should use a reliable form of contraceptive during investigations, treatment and for at least 6 months after radioactive iodine treatment. In the long term, your fertility should not be affected even after repeated doses of radioactive iodine.

Patients born male are also advised not to conceive a baby for at least six months after radioactive iodine treatment. In the long term, fertility should not be affected but there may be a small risk of reduced fertility if repeated radioactive iodine treatment is needed. Specialist advice and help is available.

## **Can I prepare food?**

Yes, by all means. Just remember to wash your hands carefully before doing so, as there may be slight traces of radioiodine on your hands from perspiration.

Remember also that traces of radioiodine will be present for a while in your saliva, so do not share things that go in your mouth with other people (e.g. cups, spoons, forks). Wash these items up carefully after use or put them in the dishwasher on a pots/pans clean.

## **What about my pets?**

There is no evidence of harm coming to patient's pets from treatment with radioiodine. However, if you have young pets, it is sensible to wash your hands before preparing their food for the first 3 days and not allow them to sit on your lap, or sleep on your bed (unless near your feet) for the duration of your adult contact restrictions. It is safe to continue to make a fuss of your pet, and to take your dog for a walk.

## **What about going to a special social event in the near future?**

If the event is in the first two weeks following treatment please contact the Medical Physics department for advice. If it involves close contact with other people, it would be safer not to go.

## **What if the drainage at home is into a septic tank or cesspit?**

If you have a septic tank or cesspit, the radioiodine that is going to come out of your body in your urine will end up in it. Emptying the tank could potentially be harmful for others so we advise not having the cesspit emptied until at least 3 months after having the radioiodine treatment to give the radioactivity time to decay away.

## **What about my laundry?**

Your towels, bed linen, underwear and clothing may get traces of radioactive iodine on them from perspiration during the first 3 days after treatment. It is recommended that you change your bed linen after these 3 days and wash it by itself. Clothes worn in the first 3 days should also be washed separately from the rest of the family wash.

## Can I prepare food?

Yes, by all means, but it is important to follow good hand hygiene and wash your hands thoroughly before preparing food. If you wish to make pastry or bread by hand in the first 3 days after treatment then it is recommended that you wear gloves.

Traces of radioactive iodine will be present for a while in your saliva, so do not share things that go in your mouth with other people (e.g. cups, spoons, forks). Wash these items up carefully after use or use a dishwasher.

## What about travel and holiday?

It is possible to travel home by public transport after your treatment, as long as your journey doesn't involve sitting next to the same person for more than 2 hours. We advise against journeys longer than 2 hours by public transport for up to 12 days following discharge after your treatment because of the possibility of sitting next to children or people who may be pregnant.

After your contact restrictions end you are free to travel as normal. However, please be aware that ports, international train stations and airports have very sensitive radiation detectors, which may pick up traces of radioiodine in your body for up to 12 weeks after treatment. You should carry your yellow card when travelling to demonstrate that you have had a treatment with radioiodine.

Please discuss travel plans with us before you agree to this treatment.

**Please remember that this is a low dose of radiation and all these procedures are to protect yourself and others, keeping everybody's radiation exposure to a minimum. Please contact the medical physics department if you have any questions or concerns after reading this information.**

## Resources

Butterfly Thyroid Cancer Trust  
[www.butterfly.org.uk](http://www.butterfly.org.uk)

British Thyroid Association  
[www.british-thyroid-association.org](http://www.british-thyroid-association.org)

The British Thyroid Foundation  
[www.btf-thyroid.org](http://www.btf-thyroid.org)

Macmillan Cancer Support  
[www.macmillan.org.uk](http://www.macmillan.org.uk)

Cancer Research UK  
<https://www.cancerresearchuk.org>

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