

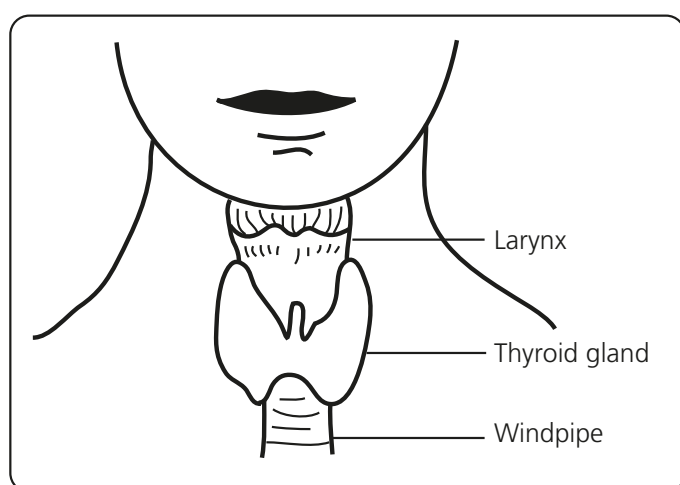
Radioiodine Treatment for Benign Thyroid Conditions

Introduction

Your doctor has recommended radioiodine (a radioactive form of iodine) for the treatment of your thyroid problem, and this booklet has been produced to help explain the treatment.

What is the thyroid gland?

The thyroid gland is an endocrine gland; which means it produces hormones. It lies in the front of the neck just below your Adam's apple and produces the hormone thyroxine. This hormone is released into the bloodstream where it controls your metabolism and is responsible for the normal working of every cell in your body. Thyroxine has a direct effect on your heart rate, bowel activity, skin and organs.



Thyroid problems

What is hyperthyroidism?

Hyperthyroidism (also known as thyrotoxicosis and overactive thyroid) develops when your thyroid gland produces too much thyroxine, making your metabolism or 'body clock' run too fast. The two common causes of thyrotoxicosis are Graves' disease and toxic nodular goitre. In Graves' disease, the body produces 'antibodies' that act against the thyroid causing it to malfunction. In toxic nodular goitre small clusters of cells become enlarged and produce too much thyroxine.

What is goitre?

The thyroid gland may sometimes work normally but increases in size. This is known as goitre. Sometimes radioiodine is used to help decrease the size of the goitre.

I have thyroid eye disease, can I have radioiodine treatment?

Radioiodine is generally safe when thyroid eye disease is no longer active, however there is a chance it can make active thyroid eye disease worse. The doctor in the thyroid clinic will check your eyes to ensure that the eye disease is stable and no longer active prior to you having radioiodine treatment. If there is any doubt, the doctor will refer you to the joint thyroid eye disease clinic for further tests. Sometimes a short course of steroids may be given at the time of having the radioiodine treatment.

If you have Graves' disease and you smoke, it is strongly advised that you stop smoking before radioiodine treatment. This is to reduce the risk of new development, or worsening, of thyroid eye disease following radioiodine. Help to stop smoking is available. Please discuss this with the doctor or nurse in the clinic.

What is radioiodine treatment?

Iodine is found in various foodstuffs as part of our normal diet and it is necessary for the normal working of the thyroid gland.

Radioiodine treatment is a radioactive form of natural iodine which can be used to cure hyperthyroidism and shrink goitre size. The radioactivity destroys the overactive thyroid tissue and slows down the production of thyroxine.

What will happen at my appointment?

Radioiodine for goitre or an overactive thyroid is given during an outpatient appointment in the Oncology Centre. You should allow two hours for this visit, as there can be some unavoidable waiting.

During the visit, please feel free to ask staff any questions you may have.

Consultation with Endocrinologist

When you attend for your treatment, you will first be seen by an Endocrinologist. They will discuss the clinical side of the treatment with you including the benefits, risks and any possible side effects. You will then fill in a consent form together; this form covers risks, pregnancy and chest/breastfeeding status. Please ensure you read and fill in **all** the sections and ask as many questions as you need to - we are here to help.

Pregnancy test

Radioiodine is dangerous to a foetus. You cannot have this treatment if you are pregnant. 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.

Administration with Medical Physicist

You will then be seen by a Medical Physicist. The Medical Physicist will talk through the radiation protection precautions you need to follow and will give you the capsule. The capsule is a bit smaller than a paracetamol capsule and needs to be swallowed whole with a cup of water.

If you have difficulty swallowing capsules please notify Medical Physics as soon as possible and in advance of your appointment.

After you have taken the capsule you will be asked to head straight home.

You should avoid eating anything for 1 hour before your appointment time and for 2 hours after taking the capsule. You should stay well hydrated on the day of your treatment. This allows the capsule to dissolve quickly in your stomach and for your thyroid to start using the radioiodine. Please speak to Medical Physics if this will be a problem for you.

If you vomit within 24 hours of having your radioiodine capsule please call Medical Physics to let us know.

What about my thyroid medication?

If you have been given carbimazole tablets to control your hyperthyroidism, you will need to stop taking them 7 days before having your radioiodine treatment.

If you have been taking propylthiouracil (PTU) tablets, you will need to stop them 14 days before having your radioiodine treatment.

Radioiodine will only be effective if you have stopped taking your tablets, so please follow the instructions carefully.

Also, if you are taking any tablets which contain iodine or kelp (a seaweed which contains iodine), such as vitamin or mineral supplements, you will need to stop taking them at least a week before being treated with radioiodine. If you have thyroid problems, it is best not to take any tablets or vitamin supplements that contain iodine or kelp.

Are there any short-term side effects?

Most people notice no side effects from the treatment. A few people develop symptoms of an overactive thyroid such as palpitations and sweating. For this reason, your doctor may advise you to take a tablet called a beta-blocker for a few weeks after the treatment, and they may tell you to start taking your anti-thyroid tablets again.

Are there any long-term side effects?

Between a few months and many years after treatment, your thyroid gland may become underactive causing 'hypothyroidism'. In a small number of people, this happens quite soon after radioiodine treatment. The follow up blood tests will show whether this has happened.

If your thyroid gland does become underactive, your doctor will give you thyroxine tablets to replace the thyroxine that your thyroid gland is no longer producing. It may take a little time to find the right dose of thyroxine for you.

Will I need to see the doctor after the radioiodine treatment?

You will have an appointment with either the doctor or nurse at the thyroid clinic 6-8 weeks after the radioiodine treatment. You will also need to have regular blood tests to monitor how the treatment is affecting your thyroid gland. It is useful for you to have these blood tests done at your GP's surgery one week before each appointment so that the results will be available for the doctor or nurse to discuss with you at your clinic visit.

How does the radioiodine work?

Like natural iodine, radioiodine is taken up by the cells in your thyroid gland. It gives off radiation which reduces the number of cells causing your thyroid problem. It can take between a few weeks and several months for the treatment to work. Most people with hyperthyroidism are cured by a single dose of radioiodine, however, if the treatment has not worked within six months it can be repeated.

Is radioiodine treatment dangerous?

Large follow-up studies have been carried out for more than 70 years in many European countries and the United States. Some of these show that there is an extremely small excess risk of developing cancer from treatment with radioactive iodine. For most patients the benefit of treating the overactive thyroid gland far outweighs the extremely low cancer risk. Your consultant will be able to answer any questions you have about the safety of treatment in your situation.

Does my radioiodine treatment pose a risk to anyone else?

In order to keep the radiation exposure of those around you to a minimum we ask you to follow some simple precautions, which are described in the section below.

If you follow these precautions then the amount of radiation which other people are exposed to is very small and there is no evidence that such exposure has ever caused other people harm.

Can I bring a friend / family member to the appointment with me?

You may bring a friend or family member with you to the appointment with the Endocrinologist. They may also attend your appointment with the Medical Physicist but will need to leave the room before the capsule is administered.

If it is essential that someone remains in the room with you whilst the capsule is given, please let Medical Physics know in advance.

Precautions for 500MBq radioiodine

People who stand close to you will be exposed to radiation coming from your body. The length of the restrictions is based upon typical contact patterns and also how sensitive that group is to radiation.

Keep more than 1 metre away from, and sleep separately from:		
	Pregnant people and children under 3 years old	23 days
	Children over 3 and under 5 years old	18 days
	Other persons over 5 years old	12 days
Stay off work. Jobs which involve contact with pregnant people or children, prolonged close contact with other people or which involve food or photographic film preparation or handling may require longer. Please contact Medical Physics for advice if your job involves one or more of the factors described.		Minimum 2 days

If you feel unable to comply with any of the above restrictions, for example you have someone who provides care for you, it is important that you discuss this with Medical Physics in advance of your appointment.

It is also important not to pass the radioiodine on to other people. Most of the radioiodine which is not used by your thyroid gland will be passed in your urine in the first few days. There will also be traces of radioiodine in your saliva, perspiration and faeces.

<p>General precautions</p> <ul style="list-style-type: none"> ■ Drink plenty of liquids to help the radioiodine leave your body more quickly. ■ Wash your hands with soap and plenty of water each time you go to the toilet. ■ Keep the toilet particularly clean. Do not stand whilst urinating and flush the toilet twice after each use. ■ Rinse the bathroom washbasin, bath and shower thoroughly after you use them. Do not use chlorine bleach based cleaning agents. ■ Do not share your toothbrush. ■ Use separate crockery and cutlery and wash them separately, or use a dishwasher. ■ Use separate towels and flannels. Wash your towels, bed linen and underclothing separately. 	3 days
Do not travel on public transport on the day of treatment if the journey time exceeds 3 hours.*	1 day

* Journeys of up to 3 hours are permitted because your contact with other people is considered a 'one off' exposure and is necessary for you to attend your treatment. There are stricter restrictions for people who you live or work with as they are exposed every day.

Do I need to inform other health care workers about my radioiodine treatment?

After you have been given the radioiodine you will be given a yellow card which will tell you how long you have to follow the special instructions. You should note that different times apply to different instructions.

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 you have any queries about these instructions, please ask the Medical Physicist who gives you your radioiodine capsule.

Some commonly asked questions regarding radioiodine and necessary precautions

Is radioiodine suitable while I am breastfeeding my baby?

No, radioiodine is not suitable while you are still breastfeeding as small amounts may be excreted in breast milk and can build up in the breast tissue. It is essential you tell your clinician if you are still breastfeeding, or have only finished in the last 2 months.

It will be safe to breastfeed after future pregnancies.

I am considering radioiodine treatment. Should I still have it if I am planning on starting a family in the near future?

If you are pregnant, you cannot have radioiodine treatment.

It is also important that you do not become pregnant, or conceive a baby, within six months of having radioiodine.

What is the iodine capsule made from?

The radioiodine is administered in a standard capsule that 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 about going to a special social event in the near future?

Please discuss this with the Medical Physicist who gives you your capsule. It will depend very much on when the event is. If it is in the near future, and involves close contact with children (or those who are pregnant), it would be better not to go.

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 happens to the radioiodine that I have taken?

Most of it ends up in your thyroid gland where, over the following weeks, it treats your thyroid problem. Any that is not taken up is expelled quite quickly from your body in your urine (hence the need for care in the bathroom).

Radioactivity is not a static thing; it reduces in strength as time goes by. With the radioiodine in your body, the strength halves over a period of about eight days, so, before too long, it will have completely disappeared. At the end of the treatment, no radioiodine remains in your body.

How should I dispose of hygiene products?

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

If you suffer from incontinence, it is important to discuss this with team referring you for radioiodine, and with the Medical Physics team who organise your treatment. This is so you can be given specific advice.

What about travel and holidays?

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 3 hours. We advise against journeys longer than 3 hours by public transport for 23 days from having radioiodine 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.

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 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.

If you have any questions or you need more advice, please call the endocrine nurses on 01392 402847 (Exeter), 01803 654923 (Torbay), 01271 322417 (North Devon).

If you have any questions regarding the radiation aspects of your treatment, please call the **Medical Physics Department** on **01392 402123**.

You can get more information about radioiodine treatment and thyroid disease, and information about patient forum Facebook groups, from:

The British Thyroid Foundation,
www.btf-thyroid.org

The Trust cannot accept any responsibility for the accuracy of the information given if the leaflet is not used by Royal Devon staff undertaking procedures at the Royal Devon hospitals.

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