

Radioactive iodine (radioiodine) ablation treatment for thyroid cancer

This information outlines what happens during radioiodine ablation treatment for thyroid cancer and includes risks and complications, how to prepare, precautions and aftercare advice.

What is radioactive iodine (radioiodine) ablation?

Radioactive iodine 'ablation' is treatment with radioactive iodine, which is used to destroy any remaining thyroid tissue in the neck after a thyroid cancer operation. Radioactive iodine ablation consists of swallowing radioactive iodine in the form of an ordinary sized capsule. The radioactive iodine is taken up by the thyroid gland and is concentrated in the thyroid cells, which are subsequently destroyed. To receive radioactive iodine ablation or treatment, you will need to be admitted into hospital and stay in a special room (called the iodine suite) so that the radioactivity that your body will be excreting (via urine and faeces) can be safely contained.

How does radioactive iodine ablation work?

It has been understood for a considerable amount of time that iodine (and radioactive iodine) concentrates naturally in the thyroid gland. Your treatment team will utilise this effect to specifically treat any cells that may have escaped surgical removal.

Is radioactive iodine ablation safe?

Radioactive iodine has been used to treat thyroid cancer for over 50 years. Radioactive iodine treatment has been linked to an increased risk of developing other cancers, but this risk is small and 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 described below are intended to protect other people, particularly pregnant women and young children. It makes sense to reduce everyone's exposure to radioactivity, as any one of us may need this form of treatment in the future.

Are there any side effects from radioactive iodine ablation?

Most patients do not have side effects from radioactive iodine ablation. Some patients may experience a feeling of tightness or swelling in the throat and/or feel flushed, which usually lasts for no more than 24 hours. If this goes on longer, please inform the nursing staff, as

an anti-inflammatory drug can be given to relieve this problem. Sometimes having radioactive iodine can result in a temporary taste disturbance, which can last for a few weeks. Drinking plenty of fluids after the treatment helps to wash out the radioactivity and reduce both these problems. Sucking boiled sweets may also help to stop iodine concentrating in the salivary glands. Please do talk through any of your questions with the specialist consultant or a member of the treatment team.

What if I am pregnant or breastfeeding?

It is very important that you do not have radioactive iodine treatment if you are pregnant or think there is a chance that you may be. Please let your treatment team know if you are unsure before you have any treatment. It is important not to become pregnant when having investigations for thyroid cancer. You should use a reliable contraceptive during investigations, treatment and for at least **six months** after radioactive iodine treatment. In the long term, your fertility will not be affected even after repeated doses of radioactive iodine. If you are breastfeeding, you should stop this at least four weeks and preferably eight weeks before you have the radioactive iodine treatment and you should not start again afterwards for that baby.

Will it affect my ability to have children (male patients)?

Male patients are advised not to father children (get their partners pregnant) for **four months** after radioactive iodine treatment and until they are sure they will not need any more radioactive iodine treatment. In the long term your fertility should not be affected but there may be a small risk if repeated radioactive iodine therapy is needed. Please discuss this with your specialist consultant or a member of the treatment team before trying for a family after this treatment. Specialist advice and help is available.

Before having radioactive iodine treatment, what medication/tablets should I take?

You will probably be given Thyrogen (Thyrotropin alfa) – instead of stopping the thyroid medication before your treatment. Thyrogen is a recombinant form of human thyroid-stimulating hormone (TSH). It works by binding to TSH receptors on normal thyroid cells or on thyroid cancer tissue. This is given as an intramuscular injection on the two days immediately before the treatment date. The most common side effects reported were nausea, headache and dizziness. The dizziness may be worse if you take it with alcohol or certain medicines. Do not drive or perform other possibly unsafe tasks until you know how you react to it.

An alternative regime, without Thyrogen, is that if you are taking T3 (triiodothyronine) tablets, these should be stopped for two weeks before your radioactive iodine treatment. If you are on T4 (levothyroxine) tablets, you should stop taking them for four weeks before the radioactive iodine treatment. In this four week period your specialist may first change you to T3 tablets for 2 weeks, and then stop your tablets altogether for the last two weeks before your treatment. You may feel weak and tired when you are not taking your tablets.

This is normal and will disappear once you start taking them again, usually a few days after you have had your radioactive iodine.

It is important that you follow the instructions about your thyroid medication given to you by your specialist centre staff as it may vary from patient to patient.

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 vitamin or mineral supplements or cod liver oil, you should stop taking them around three weeks before your therapy to help reduce your iodine levels. If you have been prescribed calcium tablets, these should not be stopped.

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Before my radioactive iodine therapy what should I eat?

A diet which is rich in iodine can reduce the effectiveness of the treatment. Therefore, two weeks before coming in to hospital we recommend the following:

- Do eat fresh meat, vegetables, fresh fruit, pasta and rice. These are low in iodine.
- Do not eat glacé and maraschino cherries, salami, spam or other foods which contain the colouring material E127. Food coloured by spices is allowed.
- Do not take cough medicine, iodised table salt or sea salt, as these contain iodine. Ordinary table salt is allowed.
- Try to cut down on dairy produce such as eggs, cheese, milk and milk products as they all contain some iodine.
- Avoid fish, kelp and all seafood.
- Avoid vitamin supplements which contain iodine.

Do I have to come into hospital for radioactive iodine treatment?

Yes, you will probably need to stay in hospital until the Friday following your treatment. Occasionally, patients are able to leave hospital earlier, depending on how quickly the radioactivity leaves your body.

What happens on admission?

On the ward you will be greeted and your details will be registered. You will then be given a hospital name band to wear, with your hospital registration number and a few details on it. One of the nursing staff will take your blood pressure, pulse and temperature as a routine procedure. You will be given an explanation of the treatment and details about the room where you will be staying. You will also have the opportunity to ask any questions that you might have. A doctor will then come to examine you and check that you have had your Thyrogen, or stopped taking your thyroid tablets before the treatment as appropriate, as failure to do one or the other interferes with the absorption of the radioactive iodine. You will be asked to sign a form giving consent for the treatment.

Who gives the radioiodine?

The medical physics department within the hospital is responsible for dealing with the radioactive iodine treatment. A physicist will come to the ward to give you the radioiodine which is in the form of a capsule (which is about the size of an antibiotic capsule).

What happens next?

For the first two hours after taking the capsule you should not eat or drink anything to allow time for the iodine to be absorbed. After this time you should eat as normal and drink as much as possible so that you pass urine frequently. This will flush the excess radioactive iodine out of your system.

Are there any restrictions?

As the treatment you have received is radioactive, no young children or pregnant women will be allowed to visit. Others may visit for a short time, please ask the physicist for specific times. Everybody entering the room after you have had the capsule, including visitors, must wear overshoes. Because you are radioactive, staff will spend only short periods of time in your room. When they bring in your meals and drinks they will place them on the table by the door and you should try to stay on the opposite side of the room. Do not expect them to stay and chat for long periods of time but do not hesitate to contact them if you need anything.

What happens at meal times?

The nursing staff will bring you meals in your room. These meals will be served on ordinary plates which will stay in your room. Any uneaten food should be flushed down the toilet or placed in the bin provided. A sink is available to wash up your dirty plates and cutlery. At the start of the week you will receive menu cards to fill in for the whole week. If you do not receive your meal for whatever reason please ring the nurses' station, and they will provide you with one. We will try our best to ensure that this does not happen. There is a kettle and drink supplies in the room so that you can have drinks at any other time.

What about washing and hygiene?

As you should be drinking a lot, you should also be using the toilet frequently. All your bodily fluids are radioactive so you must flush the toilet after use. Your sweat is also radioactive, so we advise you to shower daily.

What can I bring in with me to help me relax or pass the time?

You can bring DVDs, CDs, laptops, iPods, books, clothes and toiletries with you, but they may need to be monitored for contamination before they can be removed from your room. It may sometimes be necessary for us to ask you to store some of your belongings, if they become contaminated, in a shed, garage or loft area for a period of up to ten weeks. After storage your belongings may be cleaned and returned to normal usage. Your physicist will discuss this with you before you leave hospital. Most mobile phones work in the room and you may bring your own.

When can I go home?

A member of the Physics Department will come to the ward to take measurements each day in the morning and late in the afternoon 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. You must stay in your own room until that time. On the Friday after your treatment you will have a whole body scan (unless we arrange a different date with you).

Will I still have any restrictions when I get home?

The physicists will explain to you the restrictions you must follow when you go home, for example avoiding crowded places and limiting the people you come into close contact with. They can work out exactly how many days you need to restrict yourself. The restrictions you are given may be different from other patients as some patients may be lower or higher in their radioactivity. These restrictions are to protect other people, especially pregnant women and children. Medical or nursing staff will organise a new supply of thyroid tablets for you to take home and you will be told when to re-start them.

Will I have to come back to the hospital?

You will need to be seen again in the hospital as an outpatient by Dr Dallas or one of her team. You will normally be given this date with your appointment letter.

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 ablation dose and some people require more than one treatment. Please remember that all these procedures are to protect you and others in case they should need to have radiation treatment in the future. The aim is to keep everybody's radiation exposure to a minimum. Please contact your specialist treatment centre staff if you have any questions or concerns after reading this information. Together we can help you through your investigations, treatment and recovery.

Contact details

Do not hesitate to telephone the Physics Department if you need further advice. It is important that any problems are dealt with as far as possible before your appointment date. Tel: 0118 322 7355

Further information

- British Thyroid Foundation <http://www.btf-thyroid.org/> 01423 810093
- Macmillan Cancer Support www.macmillan.org.uk 0808 808 00 00
- Butterfly Thyroid Cancer Trust <http://www.butterfly.org.uk/> 01207 545 469
- CancerHelp UK www.cancerhelp.org.uk 0800 800 4040
- Thyroid Cancer Support [/www.thyroidcancer.eu](http://www.thyroidcancer.eu)
- ThyCa Thyroid Cancer Survivors' Association www.thyca.org
- Association for Multiple Endocrine Neoplasia Disorders <http://www.amend.org.uk/>
- More information on the Royal Berkshire Hospital is available on our website www.royalberkshire.nhs.uk

Key points

- You will need to stay in hospital approximately 5 days.
- You must not be pregnant during treatment and must avoid getting pregnant for six months after treatment (women).
- You must avoid fathering a child for at least four months following treatment (men).
- If you are **not** having Thyrogen, stop T3 tablets two weeks before treatment.
- If you are **not** having Thyrogen, stop T4 tablets four weeks before treatment.
- Stop vitamins/mineral supplements three weeks before treatment (do not stop taking calcium tablets).
- Adjust your diet two weeks before treatment to avoid iodine rich foods.
- You will stay in a side room in hospital and will have visiting restrictions – no children or pregnant women.

This document can be made available in other languages and formats upon request.

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