

Radioiodine treatment for hyperthyroidism

What is hyperthyroidism?

Your thyroid gland is in your neck, in front of your windpipe. It produces a hormone called thyroxine which acts as your 'body clock', keeping your body working properly. Thyroxine has a direct effect on your heart rate, bowel activity, skin and organs. Hyperthyroidism (also known as Graves' disease, thyrotoxicosis and overactive thyroid) develops when your thyroid gland produces too much thyroxine, making your body clock run too fast.

What is radioiodine treatment?

Radioiodine treatment uses radioactive iodine to cure hyperthyroidism. The radioactivity destroys the overactive thyroid tissue and slows down the production of thyroxine. The thyroid gland uses most of the iodine, so only a relatively small amount of radioactivity is needed. Using the same amount of activity for everyone is standard practice here.

Who will be involved in this procedure?

An endocrinologist - an expert in thyroid conditions - will refer you for this procedure. Alternatively you may be seen by an oncologist - an expert in treating patients using radiation. Usually, during the same clinic, you will also see a medical physicist - a radiation safety specialist - who will explain the radiation protection issues surrounding the treatment. You can then book your treatment appointment (from at least one week later). You attend the department and the medical physicist will give you the radioiodine capsule and other instructions.

What about my tablets?

If you are taking CARBIMAZOLE or PROPYLTHYOURACIL (PTU) or NEOMERCAZOLE tablets, these MUST be stopped one week before the radio-iodine treatment. The doctor will tell you when to restart the tablets and at what dosage. You can only have radioiodine treatment after 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 which contain iodine or kelp.)

Some other medication may affect the iodine uptake – please let us know if you have had an X-ray, CT or MRI which may have used contrast agent prior to your treatment.

How is the radioiodine given?

The radioiodine is given as a capsule, which is swallowed with a drink of water.

How long does the radioiodine take to work?

As the capsule is taken by mouth, it will dissolve over the next few hours. It can take between a few weeks and several months for the treatment to fully take effect. Most people with hyperthyroidism (80–90% of people) are cured by a single dose of radioiodine. If the treatment has not worked within six months, it can be repeated.

Is radioiodine treatment dangerous?

No, its safety record is excellent. Radioiodine treatment has been given to millions of people since it was introduced in the early 1940s. There is a small risk associated with any ionising radiation, however this treatment has been carefully justified by the medical practitioner, and the benefit to you in treating your condition significantly outweighs any risk.

Where else in the body does radioiodine go?

Most of the radioiodine goes to the thyroid gland within a few hours. Most of the remainder will pass out of your body in your urine during the first few days after treatment. How long this will take depends on how much you are given.

Can I have the treatment if I am pregnant or breast feeding?

No. Radioiodine can harm unborn babies and babies that are being breast fed. You will not be given radioiodine treatment if you are pregnant or wish to continue breastfeeding. You should avoid getting pregnant for at least six months or ideally, one year after your treatment.

Are there any risks in having children afterwards?

Women should be careful not to get pregnant for six months after radioiodine treatment. No effects on the unborn babies of women who have been treated with radioiodine more than six months before they got pregnant, or on the health of those children, have been shown in over sixty years of experience in using radioiodine treatment. The treatment does not affect a woman's fertility.

Can I father children after radioiodine treatment?

Men should be careful not to father children for four months after radioiodine treatment. The treatment does not affect a man's fertility.

Will there be any danger to my family or friends?

After your radioiodine treatment, your body will contain some radioactivity, which will decrease every day. If you follow the advice you are given, other people may receive only an insignificant radiation dose from you. You will be able to continue shopping, cooking and doing other day-to-day household activities as normal. However, you will need to take some simple precautions for some time after your treatment to stop your family, friends and other people coming into contact with too much of the radiation.

How long you will need to do these things will depend on the amount of radioiodine you have been given. Your medical physics specialist will give you advice on the precautions at least a week before your treatment.

You can travel home by public transport as long as you do not spend more than one hour sitting next to the same person on the bus, train or tube. You can drive yourself home. If someone else is driving you home, you should sit on the back seat, as far away from them as possible.

Hygiene

The following advice should be followed for at least three days:

- Most of the radioiodine leaves your body in your urine and sweat during the first few days after your treatment. Drinking plenty of fluids and going to the toilet a lot will speed up this process.
- Men should urinate (pass water) sitting down on the toilet to avoid getting radioiodine on the edge of the toilet.
- After going to the toilet you should flush it twice.
- Bathe daily and ensure that you wash your hands well after going to the toilet.
- Make sure that no one else uses your towels, face cloths or toothbrush.
- Wash all your crockery and cutlery separately.
- Wash bed linen and clothes separately for three days.
- Do not prepare food for others that requires prolonged handling with bare hands.

Other precautions

Your specialist will advise you about the following activities at least a week before your treatment is given. How long these precautions will apply for will depend on the amount of radioiodine you receive. Different precautions may apply for different lengths of time, but some may be for up to two to four weeks.

For the time advised:

- Limit your contact with children, especially children under 3 years of age. If you have your own children or have a job where you have contact with children, it is important to talk to the medical physics specialist about this before your treatment date.
- Stay more than an arm's length away from other people.
- Sleep alone.
- Take a few days off work if your job brings you into close contact with other people.
- Avoid going to places like cinemas, theatres, pubs and restaurants, where you may be in close contact with other people.
- Avoid travelling on public transport; if this is likely to cause difficulties please discuss it with your specialist.

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

Yes, you will need to see either the doctor you saw at the clinic or your family doctor. You will have to have regular blood tests to monitor how the treatment is affecting your thyroid gland.

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), usually five to ten days after the treatment. For this reason, your doctor may tell 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.

Your thyroid gland may become underactive at a time ranging from a few months after treatment to many years later, causing 'hypothyroidism'. In a small number of people, this happens quite soon after radioiodine treatment. The 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. The tablets are very safe and contain a man-made version of the natural thyroxine that your body is unable to produce enough of. It may take a little time to find the right dose of thyroxine for you. You will not have to pay prescription charges for thyroxine tablets.

Thyroid eye disease (which can develop in Graves' disease) may get worse after the treatment. The doctor will discuss this with you before you have the treatment and may suggest that you take a steroid called prednisolone for a month or two after the treatment.

Carry the card

Your specialist will give you a card/letter with the details of your treatment. You should carry this with you for three months, even though your restrictions will be complete.

Travel via ports and airports

If you are intending to travel through ports or airports it is important that you discuss this with your specialist, as some security devices at these locations are so sensitive that they may detect extremely low levels of radioiodine, even after the restriction dates.

More information

You can get more information about radioiodine treatment and thyroid disease from:

The British Thyroid Foundation Phone or fax: 01423 709707 or 01423 709448
PO Box 97, Clifford, Wetherby
West Yorkshire LS23 6XD Website: www.btf-thyroid.org

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 you attend to have the capsule. Tel: 0118 322 7355.

Additional information for patients prescribed standard dose I-131 [500MBq (14mCi)]

At your consultation the radiation specialist will explain that you will need to avoid close contact with people for set times following treatment. Close contact is defined as contact less than 1m or approximately an arm's length. The length of time we would like you to stay at least 1m away from people will vary depending on their age and, for women, whether they are pregnant. During your restriction period, you should try to avoid these people as much as possible; however, very brief close contact will not be hazardous. We recommend that close contact is kept to less than 30 minutes in a day.

For a prescribed dose of 500MBq (14mCi) I-131 the length of your restrictions are summarised below:

- Stay at least 1m from children <3yrs, and pregnant women for 23 days
- Stay at least 1m from children, 3 – 5 yrs for 18 days
- Stay at least 1m from adults and children >5 yrs for 13 days

These restriction times relate particularly to people you are likely to have contact with every day, for example, family members, close friends and work colleagues.

At your consultation you will have the chance to discuss with the radiation specialist how these restrictions will affect your own particular circumstances, for example, home and work situation, child care, travel etc.

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

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