Wrightington, Wigan and Leigh Teaching Hospitals
NHS Foundation Trust

Radioiodine Treatment for Thyrotoxicosis

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Radioiodine Treatment and Thyrotoxicosis

Patient Information

Endocrinology & Radiology Departments

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Introduction

We hope that this leaflet will answer some of the questions you may have about radioiodine treatment.

Before you have treatment with radioiodine, there are some preparations and precautions which we would like to explain to you.

What is thyrotoxicosis?

Thyrotoxicosis arises when the body produces too much thyroxine (T4) and triiodothyronine (T3), the thyroid hormones. These thyroid hormones are produced by the thyroid gland, which is situated in front of the windpipe in the neck.

When healthy, the thyroid gland is small and cannot be easily felt. When overactive it is often enlarged and is called goitre. Sometimes the goitre is generally enlarged, and this is caused by auto antibodies (Graves Disease) and may get better over time. Another cause of enlargement is the presence of one or more swellings called adenomas. This type of goitre does not improve with time and so without treatment will always be overactive.

The normal action of the thyroid hormones is to keep all bodily functions occurring at the correct rate. They affect the heart rate, bowel activity, skin, brain, and other organs. If the thyroid is overactive then the typical effect is for everything in the body to speed up. The heart goes faster, the muscles may shake, the bowels often speed up and mental activity may go faster – sometimes too fast, with the sensation of being ‘on the go’ all the time. Often the person seems to have more energy and to be doing everything at a faster rate. Of course tiredness can result from this too. The metabolism speeds up leading to excessive heat and sweating and weight loss.

What is radioiodine?

Iodine is a natural element, which is found in food. Iodine from food concentrates in your thyroid gland. Radioiodine is a special form of iodine, which gives off radiation. Radioiodine can be used in carefully controlled doses to treat the overactive thyroid gland.

Why use radioiodine?

After you have had the radioiodine, it will concentrate in the thyroid gland. The radiation given off by the radioiodine will reduce the activity of the thyroid and should prevent it becoming overactive in the future.

There are two other, alternative, treatments for an overactive thyroid gland. Each has advantages and disadvantages. Treatment with tablets such as carbimazole or propylthiouracil can be very effective but they have no permanent effect, and the dose may need to be changed to adjust to the activity of the thyroid. Also, the drugs have side effects; in particular the rare but dangerous side effect of lowering the white cell count, leading to infections, which can be serious. Surgical removal of the thyroid is another option. This is very effective but has the disadvantage of requiring a general anaesthetic and surgery. Also there is a small risk of damage to the nerve to the voice box or damage to the parathyroid glands next to the thyroid, which can lead to a problem with a low level of calcium.

Your doctor will discuss with you the benefits and disadvantages of each form of treatment.

How will it be arranged?

If you decide to have treatment with radioiodine, we will arrange a suitable appointment by phone while you are in the outpatient clinic. The treatment is usually booked a few weeks in advance. It is given in the isotope department in Wigan Infirmary on a Friday morning.

Is the treatment dangerous?

No. Over the years, this treatment has been given to thousands of patients, and has been shown to be both safe and effective.

The rest of your body will receive a smaller radiation dose than your thyroid.

Other people may be exposed to an even smaller dose if they come into close contact with you. We will help you to keep this as low as possible

Are there any aftereffects of the treatment?

Most patients notice no ill effects from the treatment and feel entirely well afterwards. Rarely, the symptoms of an overactive thyroid can occur one to two weeks after the treatment. This can be due to a mild inflammation of the thyroid which can be uncomfortable. For this reason patients are usually asked to restart carbimazole or propylthiouracil one week after the treatment. Other tablets, especially beta-blockers, may be continued.

Radioiodine often results in the thyroid gland becoming under active. This is the main side effect. **This could happen in a few months or even years so it is essential that you have regular blood tests after the treatment** This will be arranged through the outpatients initially. The most important visits are at six and twelve weeks. In the long term you should plan to have a thyroid blood test at least once a year (perhaps in your birthday month to help remember). Under activity of the thyroid is easily treated with the natural thyroid hormone thyroxine.

Some people experience weight gain after the treatment.

There is a small risk of thyroid eye disease worsening after the treatment. Therefore radioiodine is usually avoided if there are active eye problems. If it needs to be given despite the eye problems steroid tablets can be given to protect the eyes at the time. If your thyroid is still overactive six months after the radioactive iodine treatment a second dose may be appropriate. Very rarely the treatment does not work even after a second dose and then other treatments will be considered.

Are there any risks in having children after treatment?

No. Many years of experience of using radioiodine has shown no effect on children of patients who have had radioiodine. However, as an extra precaution **for the first four months** after the radioiodine treatment we advise you:

- Not to become pregnant
- Not to father a child

Is there any preparation for the treatment?

Before you have treatment with radioiodine, you will need to stop taking carbimazole or propylthiouracil for one week.

You should not be taking any iodine rich foods or supplements, such as kelp.

Plan for time off work and check your diary for any forthcoming family celebrations so that the radioiodine can be booked to fit in.

What about my tablets?

Anti-thyroid drugs (carbimazole or propylthiouracil) or thyroid hormone tablets (thyroxine) interfere with the radioiodine treatment and so **need to be stopped one week before** the treatment. Usually the tablets are restarted one week after the treatment.

Please bring with you **any other tablets and medicines** you are taking, including any you have bought from a chemist. You do not need to stop any of these treatments unless you are advised to.

Can someone accompany me when I come to the hospital?

Yes, certainly (Provided they are not under the age of 18 years or pregnant).

Should I tell anyone if I am pregnant or breast feeding?

Yes, this is very important.

- If you are between the ages of 12 and 55, you will be asked
    - Are you or could you be, pregnant?
    - You will be asked this before you have the treatment, and you may also be asked to have a pregnancy test
    - If you are pregnant, or think you might be, the treatment must be delayed
    - If you are breast feeding, you must tell us before you have the treatment and you must stop completely after the treatment

These precautions are to protect your baby.

Will the radioiodine affect other people?

Because the iodine is radioactive, you will give out radiation for a while after the treatment. Anybody who comes into close contact with you will get a small radiation dose and this is best avoided. So, you will need to observe some precautions for a while after the treatment.

What happens to the radioiodine after I swallow it?

Within a few hours, most of the radioiodine will be taken up by your thyroid gland. The treatment effect will be concentrated there. Other tissues will take up smaller amounts.

The radioiodine will gradually disappear from your body, mainly in the urine. Very small amounts will leave in saliva and faeces. Also, the amount of radioactivity naturally decreases each day until it disappears.

What are the precautions when I go home?

- After swallowing the radioiodine capsule you will be given a card to remind you of the precautions you should take
- Although the dose to other people is small, it is sensible to try to make sure that it is kept as low as possible
- You will reduce the radiation dose to other people if you follow the instructions on the card

It is important to understand the instructions and make plans so that you can take the necessary precautions. You will be given the information in advance so that you can discuss it with your family at home and at work, if necessary.

Please ask if you need any further advice or guidance.

If you look after children at home or at work, please discuss this with us.

The list which follows is longer than the list on the instruction card, but it explains a few more things. Please follow the instructions for the length of time stated after the treatment.

List of general precautions for 4 days

- Try to stay further than an arm's length away from other people, especially children, pregnant people or people who may be pregnant
- Avoid public places like shops, cinemas, public houses, and public transport
- Do not go to work
- Sleep alone (if possible)
- Avoid sexual contact
- Avoid kissing
- Rinse your own crockery and cutlery after use (it may then be washed with other peoples)
- If there is a spillage of any body fluids, wash your clothes separately
- Flush the toilet twice after use. Wash your hands thoroughly and rinse the basin thoroughly

- Make sure that no one else uses your towels or face cloths

When may I go back to work?

You may go back to work after four days.

However, please let us know

- If you care for children at home or if you work with children, for instance as a teacher or a nurse

Or

- If you think that a small amount of radiation might affect your job (for instance, if you work in an area where sensitive film is used or where there is radiation sensitive equipment). In these cases, the time before you may go back to work will be longer but is usually between 12 and 25 days after treatment

Advice about contact with children and pregnant women From Day 1 to Day 12:

- Avoid **all close contact** with children and pregnant women. Avoid cuddling and try to stay more than arm's length away from children and pregnant people

- Do not sleep in the same bed as a child or pregnant person

From Day 13 to Day 25:

- Avoid **long periods** of close contact with children, especially children under ten, unless this is essential. Do not cuddle a child for more than **15 minutes per day**
- Limit your close contact with pregnant people to 15 minutes per day
- Do not sleep in the same bed as a child or pregnant people

Bathroom hygiene is the main way of avoiding the contamination of other people.

You may:

- Continue to cook for other people
- Continue to use the telephone
- Continue to have usual contact with pets

How is the treatment given?

Having the treatment is very easy. First of all, the staff will make sure that you understand what you can and cannot do afterwards. All the treatment is contained in a single capsule, which you swallow in the isotope department of the hospital. If you have any difficulty swallowing capsules, please tell your doctor beforehand.

How may I travel home?

You may travel home alone, driving or walking. You may travel by private car or taxi, as the only back-seat passenger, provided you are not travelling with children or pregnant people.

If you travel to the hospital by public transport, we will tell you whether it is all right to go home the same way or not.

If you are travelling overseas, please note that airport radiation alarms may be triggered for up to 12 weeks after receiving your therapy dose. You are advised to take your radiation advice certificate with you.

When you are due to have the treatment go to:

Isotope Department Radiology Department

Level 1

Royal Albert Edward Infirmary

Wigan

WN1 2NN

If you have any questions, or if there is anything about the treatment you do not understand, please **ask, either:**

- When you are seen at the clinic
- By telephoning The Isotope Department on 0300 707 2421

- By telephoning Dr Pearce's Secretary 0300 707 2341



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