



Thyrotoxicosis and its treatment with radioiodine

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What is thyrotoxicosis?

This is a term used to describe a condition where the thyroid gland is overactive and producing too much thyroid hormone. If it is not treated your health will be affected.

What is radioiodine treatment?

The thyroid uses natural non radioactive iodine absorbed from your diet to produce thyroid hormone; which your body needs. This treatment uses a form of iodine that is radioactive. Radioactive iodine will concentrate in the same way as normal iodine but will cause the thyroid to produce less thyroid hormone. This is a common and well accepted form of treatment that has been given to millions of people since it was introduced in the early 1940s.

How is the treatment given?

By swallowing a small capsule (the size of an antibiotic capsule) containing the radioiodine. This will not make you feel unwell. Please tell your doctor before treatment if you have difficulty swallowing capsules. You should stay in the department for at least 10 minutes following treatment to ensure that the capsule has been properly swallowed. You may then leave the hospital. You may eat and drink normally before attending for treatment but we ask that you do not eat or drink anything for 2 hours after treatment. This will ensure that the iodine is absorbed.

What about my tablets?

It is usual for your doctor to stop your thyroid tablets for a short while prior to treatment. This is to allow the radioiodine a better chance of working. You may be advised to restart these tablets a few days following treatment. This will benefit you while the radioiodine is beginning to work.

How many treatments will I need?

One is usually sufficient. However in about 10–20% of patients one capsule proves insufficient and your doctor may advise you to take a second capsule at a later date.

Can I have 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 to breast feed. You should avoid getting pregnant for 6 months after treatment.

How quick will the radioiodine work?

The effects are gradual over a few weeks.

How long will the radioiodine stay in my body?

Only temporarily. Most of the radioiodine will be accumulated by your thyroid over the first 1–2 days. The rest will be passed from your body in urine and a tiny amount in saliva and perspiration. It is important that you drink plenty of fluids during the first 2 days to wash out any iodine not in the thyroid.

The accumulated radioiodine will then stay in your thyroid for several weeks whilst it gradually reduces your thyroids function.

If I am radioactive, does this affect others?

Anyone in contact with you will receive a small radiation exposure. This booklet contains instructions for you to follow when you leave the hospital. If you follow the instructions the exposure to any other person (other than an adult partner) will be less than 1 mSv (millisievert). This is half the average annual background radiation dose and the risk to them is very low.

How do I reduce exposure to others?

By reducing the time you spend with them and by increasing the distance between yourself and them.

What about contact with children and pregnant women?

Children and pregnant women should receive as low an exposure to radiation as possible; because of this the instructions are quite detailed and should be followed very closely.

What about my partner?

You should inform your partner that you are to receive radioiodine treatment. Because your partner will generally spend more time with you than anyone else they are likely to receive a larger exposure. If you follow the instructions in this leaflet the risk to them will be kept low. Their exposure is equivalent to between 6 months and 2 years natural background radiation.

Can we sleep together?

You should sleep alone for 14 nights. If your partner is pregnant you will need to sleep apart for 25 nights. If your partner is pregnant, the extra instructions should keep the dose to the unborn baby below the recommended limit of 1 millisievert.

Can I return to work after treatment?

Your returning to work will largely depend on what job you do, who you work with, how close you work with them and for how long each day. Please apply the instructions listed to your work situation. If you need advice or wish to discuss this further please ring the number at the end of this booklet and speak to nuclear medicine.

Female patients please note:

If you are aged 55 years or less, please bring an early morning urine sample with you as it is routine for us to do a pregnancy test prior to you receiving treatment.

Instructions to follow after treatment

You may stay in the family home after treatment providing you are able to comply with instructions 1 to 4.

1. Contact with children aged under 3 years

You should refrain from all close contact for 25 days after treatment. Keep a minimum distance of 1 metre away from the child at all times. Do not sleep with the child in the same bed. If you are the sole carer, make alternative child care arrangements.

2. Contact with children aged 3–5 years

Refrain from all close contact for 20 days after treatment. Keep a minimum distance of 1 metre away from the child at all times. Do not sleep with the child in the same bed.

3. Contact with children aged over 5 years

You should refrain from all close contact with children aged over 5 years for 14 days following treatment. Keep a minimum distance of 1 metre away from the child at all times. Do not sleep with the child in the same bed.

4. Contact at home and sleeping arrangements

Avoid prolonged contact with adults at home and sleep alone for 14 nights. This keeps their dose below the limit for a member of the public or 6 months natural background radiation.

If sleeping apart from your partner is difficult you may choose to resume normal contact and share a bed after 4 nights. However, your partner must be aware that there is a risk of them receiving a radiation dose of up to two years natural background radiation.

Remember, if your partner is pregnant you must avoid close contact and sleep apart for 25 nights.

5. Transport

On the day of treatment you should not use public transport if your journey will take longer than 3 hours.

6. Work

You may return to work the following day except in the following circumstances:

- If you work closer than 2 metres from the same person for much of the day you will need to delay your return to work.
- The time that you should stay off work for will depend upon how close you work to other persons and how much time you spend with them. For example, if you work closer than 2 metres from the same person full time, you should not return to work until 7 days after treatment. If you work even closer to the same person then you should contact Nuclear Medicine as you may have to stay off work longer.
- If you work closely with the same children for more than 15 minutes per day then you will need to delay your return to work. The length of time that you will need to stay off work will depend upon how much time you spend with the child and at what distance. If you work with children, please contact Nuclear Medicine before your therapy appointment so that we can work out your restriction time.

7. Contact with others

You should avoid contact with other people if you would be less than 1 metre from the same person for 3 or more hours, for example one-off contact in public places or when travelling. This applies on the day of treatment and the following day. Please contact Nuclear Medicine for advice if you have regular contact with anyone who is employed to care for you in some way e.g. a home help or community nurses making home visits.

What if I can't comply with the instructions?

Experience has shown that most patients can comply with the instructions at home and that doses to other persons will be less than 1 millisievert (under 6 month's natural background radiation) or 5 millisievert to an adult partner if they resume sharing a bed after 4 days.

If you cannot follow the instructions for the length of time shown above (for example if you cannot arrange alternative childcare or you need to look after a disabled relative), the times may be shortened. If you will not be able to follow the instructions, you must discuss this with your consultant and nuclear medicine staff before you have your treatment. The restriction times may only be reduced under exceptional circumstances.

If shorter times are used, the radiation doses to other persons will be more than 1 millisievert. For example, the maximum that a child would be allowed to receive is 5 millisievert, which is the same as about two years of natural background radiation. This is the most extra radiation that a child is allowed to receive in 5 years and so you would not be able to have a repeat treatment with radioactive iodine if it would give them more radiation.

Please note that a child could still have X-rays or other radiation exposures that they might need for their own treatment as those would not count towards this limit.

Can I travel abroad after my treatment?

Yes, provided you follow the instructions about contact with other people. Because you could set off radiation monitors at airports or ports, you will be given a letter to take with you to prove that you have been treated with radioactivity in a hospital.

Are there any risks in having children afterwards?

There is over sixty years of experience with radioiodine treatment. No effects have been shown in the babies of women who have been treated with radioiodine more than six months before they got pregnant. No effects on the health of these children have been shown. The treatment does not affect a woman's fertility. However we do ask that you avoid pregnancy for six months following treatment.

Breast feeding mothers must stop breast feeding immediately following treatment.

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

Are there any long term effects?

Radioiodine may result in your thyroid becoming underactive (hypothyroidism). This could happen in a few months or even years. The symptoms of hypothyroidism may be varied but typical features include: weight gain, tiredness, feeling cold, development of coarse/dry skin, hair loss, intellectual impairment, constipation and muscle weakness. Your doctor will arrange for you to have regular blood tests to detect this. It is of utmost importance that you have your thyroid function checked regularly after the initial administration of radioiodine. This will typically be at 6–8 weekly intervals in the first instance. Under activity of the thyroid is easily treated with the natural thyroid hormone thyroxin, which is very safe.

How do I avoid passing radioiodine to other people?

Some of the radioactive iodine will be passed in urine and small amounts will be in sweat and saliva. Some would be in vomit if you were sick soon after treatment. To avoid passing radioactivity to other persons follow these hygiene precautions for one week. You can reduce the chances of passing on radioactivity to your family if you follow this advice:

1. Don't share crockery, cutlery or toothbrushes
2. No open mouth kissing or sexual contact, but a peck on the cheek is fine
3. Avoid food preparation that involves a lot of handling of food e.g. making pastry, or wear some thin gloves
4. Flush the toilet twice after use
5. Gentlemen should urinate sitting down rather than standing
6. Pay extra care to hand washing after using the toilet
7. If you vomit clean it up and flush it down the toilet and wash your hands. If you vomit in a public area within 12 hours of treatment, for example within the hospital, contact us immediately.

Important note:

Some medicines and X-ray tests can stop the thyroid absorbing iodine. It is very important that you telephone us immediately if:

1. Within the six weeks prior to radioiodine treatment date you have had any X-ray tests or CT scans involving contrast media (an injection of iodine based dye used for some X-ray tests). If you're not sure, please call us and we can check.
2. You are taking or have taken a tablet called Amiodarone (commonly used for irregular heart rhythms) sometimes prescribed as CordaroneX.

Our direct dial telephone number is: 0121 371 2282



Men please urinate
sitting down



Kiss on the
cheek only



No baking



No sharing



Take extra care in
washing your hands



The Trust provides free monthly health talks on a variety of medical conditions and treatments. For more information visit www.uhb.nhs.uk/health-talks.htm or call 0121 371 4323.

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