

What is Thyrotoxicosis?

This is a general term for diseases of the thyroid gland in which the thyroid produces too much thyroid hormone.

Thyroid hormone is needed for many body processes, however excess of this hormone means the processes tend to run too fast. This can produce many symptoms including rapid heart rate, muscle tremor, bowel upsets, undue sensitivity to heat and dry, sore eyes. Commonly the condition results in weight loss and exhaustion.

What are the treatment options?

There are three main options:

- Surgery, where part of or all of the thyroid is removed
- Drugs that block the effects of the excess hormone
- Treatment with radioiodine

What is radioiodine?

Iodine is found in many foodstuffs and is an essential part of our diet. The thyroid extracts iodine from the blood and uses it as raw material to make thyroid hormones.

Radioiodine is a short lived radioactive form of iodine, and is chemically the same as dietary iodine. This means radioiodine is extracted into the thyroid in the same way, with up to 80% of the radioiodine concentrated in the thyroid within a few hours.

How does radioiodine work?

Radiation from the radioiodine prevents some of the thyroid cells from functioning correctly. A fraction of the cells eventually die off, which reduces the production of thyroid hormone. This can correct your Thyrotoxicosis.

Like surgery, radioiodine treatment is a permanent fix. Unlike surgery it is quick and painless, usually only requiring a single outpatient visit.

Is radioiodine suitable for me?

Allergies to iodine are not a barrier to treatment. The amount given is so small, it is not enough to produce an allergic reaction. If you have had, or currently taking any

of the following they may affect your treatment, and need to be discussed with your doctor:

- Thyroid medication
- Some types of health food, particularly kelp tablets and some dietary supplements
- Some types of X-ray contrast dyes
- Some types of heart and blood pressure medication

Please bring a list your medication with you when you come for treatment.

I am or am trying to get pregnant

Can I take radioiodine? If there is any possibility that you are pregnant it is unlikely that we will give you radioiodine treatment. This is because the baby's thyroid would also receive radioiodine at the same time as yours. This could affect the baby's thyroid function. If you are not sure whether you are pregnant, or are trying to get pregnant or trying to father a child, please tell your doctor or a Nuclear Medicine staff member before treatment.

This therapy does not effect fertility.

In most cases we advise avoiding pregnancy for six months after radioiodine therapy. Men wishing to father a child should wait for a period of four months.

I am breastfeeding. Can I take radioiodine?

Once you have taken radioiodine a small amount will be present in your breast milk and could affect the function of your baby's thyroid. Also, while you are lactating the breasts will concentrate large amounts of the iodine. For these reasons you will either have to defer your treatment, or stop breast feeding for 4-6 weeks before any therapy. You may not resume breastfeeding for that child. Nursing may be resumed with the birth of another child.

Does radioiodine have any side-effects?

- The doctor who requested the radioiodine will arrange for you to have a blood test at a later date to assess the effectiveness of treatment.
- Your thyroid gland might stop functioning entirely following treatment. If this is the case it is likely you may be required to begin taking a tablet call

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Thyroxine on a daily basis to supplement your hormone level.

- You may notice a dry mouth or mildly tender thyroid for a time after treatment but this will disappear in a few days.
- Thyroid disease can affect your eyes, and radioiodine treatment has been known to worsen this effect for a short time. Your doctor may prescribe drugs to prevent this.
- If you already have symptoms from your thyroid disease these may be worsened for a short period after treatment. Your doctor may advise some additional medication during this time.

Are there other risks I need to consider?

The risks of using radioiodine are similar to the risks for ordinary x-rays. As some of the radiation escapes from your thyroid, there is a slight risk to people close to you if you do not take precautions for a few days after treatment. However the risk is very low. This treatment has been used for over 50 years, and no measurable ill-effects from the radiation have been reported.

The radioactivity clears quite quickly and most has disappeared in a few days but it takes much longer for it to have an effect on your thyroid cell numbers.

This is not an instant cure; the process will take many weeks so you should see a slow but steady improvement.

We do take particular care to avoid exposing young children or anyone who is pregnant. This is because children and babies are more sensitive than adults to radiation, so we adapt a more cautious approach.

Can I expose other people to radiation after my treatment?

1. Some of the radiation from the radioiodine shines from your body-just like x-rays

If you are close to other people they will be exposed to this radiation. In practical terms, if people are more than one or two metres away, the intensity is so low that it can be ignored.

2. Your thyroid uses only part of the radioiodine, the rest is eliminated from your body

Most of the excess radioiodine is eliminated in the first few days through your urine and a very small amount is eliminated through sweating and nasal secretions.

The radiation dies away naturally so while you may need to take some precautions to avoid exposing others, this is usually only for a few days after treatment

What precautions do I need to take following radioiodine treatment?

As everyone is different, the precautions you need to take should fit your circumstances. These will be discussed with you before your treatment however there are some general things you need to consider.

Time away from work

You may need to take a few days off work after the treatment. It is difficult to say exactly how long since it depends on the nature of your work and the amount of radioiodine your doctor has prescribed for you, but most people will need somewhere between three and six days off work. This time can be reduced if you work on your own.

Our usual day for administering radioiodine therapies is Thursday afternoon, so for most cases you will be able to return to work on the following Monday or Wednesday.

Care of Children

If you are taking care of very young children at home, or someone in your household is pregnant then you may need to make arrangements to reduce their exposure to radiation. If this applies to you please discuss this with your doctor prior to your treatment.

Sleeping Arrangements

You should sleep apart from partners (e.g. sleep in a spare room or on a temporary bed) to minimize the amount of radiation they receive. This can be from 2 to 7 days after treatment, depending on the amount of radioiodine that has been prescribed for you. Avoid children sleeping in your bed.

Attending public functions

You should not be attending any public meetings, going to movies or shows or taking long (more than five hours) trips on public transport for a few days after treatment since you could find yourself close to others for a long time.

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Shopping

You will be able to go shopping and make short trips on public transport since these will not involve extended periods close to others.

Pets

There are no risks to pets from the radioiodine, so you do not need to make special arrangements for their care.

Food and drink

We would advise you to drink a little more fluid than usual for the first two days after treatment. This helps to clear any excess radioiodine from your body. Other than this you can eat and drink normally after treatment, and alcohol will not affect your treatment

Hygiene

A small amount of radioiodine comes out in your perspiration and nasal secretions over the first few days after treatment. Some will get on your clothes (particularly underclothes), sheets, towels and handkerchiefs.

To eliminate any possible risk to others for the first three days after treatment:

- Make sure no-one else uses your towels and wash your towels, sheets, underclothes and handkerchiefs separately from other laundry
- Do not handle food that other people may be eating
- Do not share cutlery and dishes with other people

Toilet arrangements

Any radioiodine not used by your thyroid is cleared by your kidneys as body waste. This means your urine is slightly radioactive for two to three days after your treatment. You will not notice this, but it can be a potential risk to others.

Ensure that any urine spills are promptly wiped up, men should urinate sitting down to minimise possible spills or splashing. After using the toilet, flush at least twice. If there are urine spills, clean up with toilet paper and dispose of this in the toilet, then wash your hands.

Existing health problems

If you have other health problems, particularly problems with urinary incontinence, or suffer from frequent nausea and vomiting please discuss this with your doctor. We may need to make some special arrangements for your treatment

What happens afterwards?

You will be sent an appointment to have a blood test about four weeks after treatment, and an appointment to see the endocrine doctor. If you do not receive these please contact the appropriate endocrine unit.

Sometimes your doctor will prescribe further treatment to bring your thyroid fully under control. In this case you may be need a further dose of radioiodine

In the long term your thyroid may become under-active after treatment. This will make you feel rather sluggish and sleepy. If this does happen your doctor will probably advise taking additional thyroid hormone in tablet form to top up your level.

Who do I contact for more information?

The best source of information is your own doctor.

If you need additional advice you may contact:

Wellington Endocrine Unit on 04 806 2140

or

Hutt Endocrine Unit on 04 566 6999 extension 8299

Contact us

Phone: (04) 806 2193

Hours: 8am-4pm, Monday to Friday

Email: radiology.admin@ccdhb.org.nz