

**Patient
Information**

Radioactive Iodine Therapy (RAI) Outpatient treatment for Thyrotoxicosis

Introduction

Your doctor has recommended that you consider having Radioactive Iodine Therapy (RAI) for treatment of your overactive thyroid gland. This leaflet gives you some background information about the treatment. When you attend the department for the treatment, you will be given a more detailed explanation and answers to any other questions that you may have.

Why do I need the treatment?

If you have thyrotoxicosis (an over active gland), RAI is a good treatment option. Other possible treatments are to be prescribed tablets or to have an operation.

What is RAI?

RAI is a version of iodine which is radioactive. Radioactivity releases high energy gamma rays which can prevent cells from working. RAI is given as a drink which has no taste.

How does RAI work?

The thyroid gland normally soaks up iodine from the circulation. By using RAI, it allows us to target the correct area. When we give you RAI, the radioactivity enters the thyroid gland: the effect is to reduce the activity of some of the cells within the gland. Attaching the radio activity to the iodine means we can deliver it directly to the thyroid.

How well will my thyroid work afterwards?

In the majority of cases, the aim of the treatment is to reduce the action of the thyroid from overactive to underactive. We find this is the best way to ensure that your thyroid is never overactive again. If your thyroid becomes underactive, you will need to take thyroxine for life. Treatment with thyroxine is simple - it is a hormone with no side effects, and is monitored by taking a blood test which can be arranged by your GP

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without the need for hospital visits. A small number of patients find that RAI leaves them with a normal thyroid hormone level. There is still the possibility that your thyroid will become underactive in later life or even become overactive again. For this reason, we suggest you have an annual thyroid blood test check.

How long does the treatment take to work?

RAI slowly deteriorates over a period of several weeks. It has usually had most of its effect after 3 months.

Will I need to have RAI more than once?

For most patients a single treatment is sufficient. We usually wait at least 6 months for the first dose to work before considering a second treatment

Is it safe?

It is a very safe treatment. However, you are receiving a radioactive dose. It has been used since the early 1940s. Long term follow up has shown that people treated with RAI are no more likely than people who have never been treated to develop serious illness such as cancer.

Are there any special precautions?

Yes - because the treatment involves radioactivity, there are some special precautions you need to take. The exact timings will depend on the dose of RAI.

In general terms they typically involve:

- Staying at least 1 metre away from adults for up to 16 days
- Staying away from children for 22 days
- Staying away from infants (aged less than 3 years of age) and pregnant women for 27 days.

If you usually sleep with someone, you ideally need to sleep separately for up to 16 days. A partner who continues to sleep beside you will be exposed to radioactivity; the dose would be equivalent to 1 years' worth of background radiation or similar to a CT head scan.

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Such exposure is well within safety limits provided your partner understands the situation and specifically indicates they understand and are happy with the arrangements.

A separate consent form will also need to be signed by your partner.

There is usually no need to take time off work, although this advice will depend on the exact nature of your work for example, a nursery nurse may need to have 3 weeks off, but an office worker may not. This will be discussed in more detail at the consultation appointment.

Are there some people who cannot have RAI?

RAI is **not** suitable for:

- Women who are pregnant or breast feeding
- Women who are planning pregnancy in the next 6 months
- Men who are planning to father a child in the next 6 months.

It is not an appropriate treatment for anyone who is incontinent of urine as RAI is excreted in the urine.

Are there any side effects?

The main effect of RAI is to reduce your thyroid gland's production of thyroxine. There are no other adverse effects from the treatment.

Treatment

If you and your endocrinologist agree the treatment is a good idea, you will be referred to the specialist at Cheltenham General Hospital. At that appointment the treatment and precautions will be discussed in more detail. You will be asked to sign the consent form to confirm that you understand the treatment and are happy to go ahead. The Nuclear Medicine department will contact you with a suitable date for treatment and the radio iodine dose will be ordered for you.

You will need to stop certain thyroid medications a few days before treatment.

You may need to modify your diet 48 hours beforehand (for example avoid: fish, seafood, milk and food colouring E127) to reduce the amount of iodine in your diet as this may reduce the uptake/effectiveness of the radioactive iodine.

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Iodine is a mineral and therefore it is impossible to completely remove it from the diet but these foodstuffs contain the highest concentrations.

The treatment appointment takes place in the Oncology centre at Cheltenham General Hospital.

What does the treatment involve?

First, the radiographer will make sure you understand all the radiation protection and instructions. You will be given a small capsule taken with a drink of water or tasteless drink which is taken through a straw (it may be either depending on supply) then you will be asked to wait in a segregated waiting area for 1 hour. During this period you should not eat or drink anything. After this you can travel home. You may drive yourself home or as the sole passenger in a car driven by someone else. Please tell the radiographer if you intend to use public transport or a taxi service before you come for treatment.

After the treatment

You will have been advised whether you need to restart your anti thyroid tablets. In some cases this may not be necessary. You will need a blood test to check your thyroxine levels 6 to 8 weeks after the treatment to see what effect the treatment has had. You will continue to have regular thyroid blood tests and start thyroxine if your thyroid becomes underactive. You should have a thyroid blood test annually life long at your GP practice.

Contact information

Nuclear Medicine Department
Cheltenham General Hospital
03004 224036

Further information

British Thyroid Foundation (patient support group)
Website: <http://www.btf-thyroid.org/>

British Thyroid Association
Website: <http://www.british-thyroid-association.org/>