

Radioiodine treatment for an over-active thyroid gland

Department of Endocrinology

What is radioiodine treatment?

Radioiodine is a form of iodine that is radioactive. It is given as a drink or capsule and is used to treat thyroid glands that are over-active or very large. Most of the radioactivity is taken up by the over-active thyroid, where it damages the gland, slowing down the production of thyroid hormone and causing it to get smaller in size. The rest of the radioiodine is passed harmlessly out of the body in the urine. Radioiodine is a permanent, painless and effective treatment for thyroid-activity which avoids the need for surgery.

The main side effect is an under active thyroid gland which happens eventually in many people.

Usually one treatment with radioiodine is enough, but some patients require two or more treatments. You will need to see your specialist at the hospital and your GP after the treatment for regular checks.

Is it safe?

Radioiodine treatment is safe and effective and has been in use for 50 years. There is in theory a small risk that it may lead to a tumour growth. However the risk is extremely low, and has never been demonstrated in practice.

It is NOT safe for pregnant or breastfeeding women to be given radioactive treatment, because the radioactive iodine would damage the baby's thyroid.

- The staff may carry out a pregnancy test with your permission if there is any possibility that you might be pregnant.
- If you are breastfeeding it may be best to delay the treatment for a while. The doctor will help you decide when you should stop breastfeeding and have the radioiodine.

Women should avoid pregnancy for 6 months following treatment.

Men should avoid fathering a child for 4 months.

Are there any risks to any one else?

Radioiodine patients give off invisible radiation, similar to x-rays. At a distance of 2 metres or more, the radiation is extremely weak. Nearer to a patient it is stronger. The radiation given off is strongest immediately after the treatment, and becomes a little weaker each day. After a period of between two and four weeks, the radiation hazard will become so small that it can be completely disregarded.

You will need to follow certain precautions for the safety of other people. Precautions will apply for between two and four weeks, depending on the size of your treatment-dose, and on your particular home and work situation.

On your first visit to the Nuclear Medicine Department, a specialist doctor will discuss your situation and advise you on precautions. You should tell the doctor if any of the following apply:

- There are children at home
- you work with children

- your partner is pregnant
- you plan to spend considerable time near to other people, for example on a train journey, at the cinema, at work, or at a social event
- you suffer from incontinence, or require help with washing or going to the toilet etc.

There will also be time to discuss any other problems or concerns you may have. If you need to make special arrangements, perhaps for childcare or taking time off work, your treatment-date can be scheduled accordingly.

How is the treatment given?

In this hospital, radioiodine is given as a capsule and the treatment is painless. You will first be seen by a specialist Nuclear Medicine doctor, and the treatment will follow at a later date.

At your consultation with the Nuclear Medicine doctor:

- If you are taking tablets to control your thyroid, the doctor may ask you to stop these a few days before the treatment, and will advise you whether you should restart them after the treatment
- the doctor will discuss the radiation-safety precautions needed for your family and other people. If this is likely to be difficult, please tell the doctor
- you will be able to discuss any concerns you may have about the treatment, or the radiation risks.

What happens on the day?

On your second visit to the Nuclear Medicine Department you will be seen by a radiation specialist:

- They will check the details of your thyroid medication
- they will check your radiation-safety precautions
- you will have time to ask questions
- they will give you a 'yellow card' with details of your treatment, and a summary of the precautions you need to follow. You should keep this card with you until the last day of the precautions, (between two and four weeks after treatment)
(NOTE: If you intend to fly, you should keep the 'yellow card' for three months, and show it at the airport security check-point. Some security equipment is extremely sensitive, and can detect the very small amount of radioiodine that remains in the thyroid several weeks after treatment.)
- lastly you will have the radioiodine capsule, after which you are free to leave.

What happens after the treatment?

The response to treatment varies from person to person. Follow-up visits with blood tests are ESSENTIAL, to ensure that your continuing care is right for your individual response. Your first follow-up visit will be about 6 weeks after the treatment.

- In some patients the treatment causes the thyroid gland to become under-active. This is very easy to treat using Thyroxine tablets. In most cases patients will need to continue taking Thyroxine for the rest of their life. However Thyroxine is a natural hormone with no side effects, and the prescription is free.
- In some patients the thyroid does not become under-active in the first few months, but may do so several months or even years later. For this reason it is important to continue having regular check-ups and blood tests, even when the treatment seems to be completely successful.
- In some patients the thyroid gland remains somewhat over-active after treatment. These people may need another dose of radioiodine about 6 months later. Meanwhile the doctor may prescribe Carbimazole or Propylthiouracil to control the over-activity of the thyroid whilst the radioiodine takes effect.
- Even after your thyroid blood tests have returned to normal, it may take up to 6 months for you to feel completely well.

What are the alternatives?

- Tablets may be tried first, for 18 months to 2 years, and if these fail to work radioactive iodine can be used.
- Radioiodine can be used as the first and only treatment of an over-active thyroid gland.
- Another possible treatment is an operation to remove part of the over-active thyroid. Surgery can also be performed once the overactive thyroid has first been brought under control by tablets.

Your doctor should discuss the reasons for recommending a particular treatment with you.

Patient self help groups and further information

British Thyroid Foundation

www.btf-thyroid.org

There is a link to a short video about radioactive iodine treatment on our website,
www.bsuh.nhs.uk/services/diabetes-and-endocrinology/

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