

## **Radioactive iodine treatment**

Radioiodine is a form of iodine that is radioactive and is used to treat thyroid glands that are overactive or enlarged. It is given as a capsule or drink if required. It is safe, effective and has been in use for over 75 years. Most of the radioactivity is taken up by the thyroid, where it slows down the production of thyroid hormone and causes it to get smaller. The rest of the radioiodine is passed harmlessly out of the body, mostly in the urine.

There is in theory a small risk that any radiation may lead to tumour growth, but the risk with radioiodine treatment is extremely low (and has not been seen in clinical practice).

Radioactive iodine is not given to pregnant women, because it would also affect the baby's thyroid. When you come in for the treatment staff may carry out a pregnancy test if there is any possibility you might be pregnant. If you are breastfeeding you will be given the opportunity to discuss treatment options with the doctor (possibly delaying radioiodine treatment). Women should avoid pregnancy for 6 months after treatment, and men should avoid fathering a child for 4 months.

Before you have the treatment, you will be seen by a specialist nuclear medicine doctor. You may be asked to stop any anti-thyroid tablets 48 to 72 hours before radioiodine treatment. The doctor will also tell you about radiation safety precautions for your family, friends and others, and you can discuss any concerns you may have about the treatment or any radiation risks.

Radioiodine patients give off invisible radiation, which gets weaker with increasing distance, and becomes weaker each day. Two to four weeks after having the treatment, the radiation hazard is so small it can be completely disregarded.

In the meantime you will need to avoid prolonged close contact with others (particularly pregnant women and young children). You may need to limit journeys on public transport for a short while. Depending upon the type of work you do, you may require some time off.

On the day of your treatment, you will visit the nuclear medicine department again and be seen by a radiation specialist in our consultation room. They will check the details of your thyroid medication, explain some radiation-safety precautions, and give you a written card. This card is yellow and has details of your treatment and the precautions you need to follow. It is important and needs to be kept until the last day of the precautions. You will have time at this appointment to ask any further questions.

The precautions will be explained to you before being given the radioiodine capsule. The radiation specialist will stay in the room with you, and explain how to take the capsule. This is using a plastic straw, and swallowed with water. The photo shows the size of the capsule, which is easy to swallow (smaller than a paracetamol tablet). The capsule has no taste or smell, and there are no immediate side-effects. After taking the capsule you can go home straight away.

You should eat and drink nothing but water for two hours after taking the capsule, and drink plenty of water (particularly during the next 24 hours). There is no special equipment in the room (for example lead screens). There are also no special requirements for clothing.

After the treatment, you must attend your follow up appointments and have regular blood tests. Sometimes, the treatment makes the thyroid gland underactive: this is easy to treat with tablets. Occasionally the thyroid gland remains a little overactive (up to 10%), in which case another dose of radioiodine may be needed. It may take up to 6 months for treatment to fully work.

Radioiodine is a permanent, painless and effective treatment for thyroid activity which in most cases avoids the need for surgery.

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