

Patient Information for Radioactive Iodine Therapy for Benign Thyroid Conditions

What is Iodine treatment?

Iodine treatment, also known as radioactive iodine therapy, radioiodine or I-131 treatment, is a form of iodine. It is used in the treatment of overactive thyroid conditions and some forms of thyroid cancer. Iodine is required for the normal function of the thyroid gland. The thyroid controls the body's metabolism; the speed at which the body works: for example, the rate of breathing or the heart rate.

Like ordinary iodine, radioiodine is taken up by the thyroid cells and the radiation destroys these cells. The principle of this treatment is that the thyroid tissue takes up radioiodine selectively; the cells are destroyed by radiation over a 10–12-week period. The excess radioiodine is eliminated from your body over the first two weeks post-treatment.

Radioactive iodine has been used for over 70 years to treat hyperthyroidism (thyroid overactivity). The thyroid gland is the only tissue in the body that incorporates iodine, the I-131 that is not taken up by thyroid cells is eliminated from your body, primarily in urine. It is therefore a safe and effective way to treat your thyroid condition.

The radioiodine (I-131) is given in the form of a small capsule (or in some cases a liquid), which you will swallow with a glass of water. The therapy will be administered by the nuclear medicine staff and by a Nuclear Medicine Specialist in conjunction with your referring doctor.

How long will the procedure take?



You may need a consultation with a Nuclear Medicine Specialist prior to the radioiodine (I-131) treatment. The consultation may be performed prior to or on the day of your treatment and takes approximately 30 to 60 minutes.

The I-131 therapy itself takes approximately 15 to 30 minutes.

Is there any special preparation required?

Before you attend the Nuclear Medicine centre for your consultation and I-131 therapy, your doctor will organise a blood test to check your thyroid levels. Please bring any relevant blood tests results or previous thyroid scans with you to the consultation appointment.

Please list or bring all of your prescribed medications, including those medications that you buy over the counter, such as herbal remedies and supplements. The Nuclear Medicine Specialist will discuss all the preparation and precautions for the treatment with you. It is essential that you inform the Nuclear Medicine Specialist if you have any allergies, take thyroid medication, have difficulty swallowing capsules or are pregnant or breastfeeding. An appointment for I-131 therapy administration will be made for you by the nuclear medicine staff after your consultation with the Nuclear Medicine Specialist.

You must not have radioactive iodine (I-131) if you are breastfeeding, pregnant or if there is any chance you might be pregnant because the radioactive iodine can affect the unborn baby. If you are of childbearing age, you may be required to have a urine test or a blood test to make sure you are not pregnant. A pregnancy test, if required, must be performed as requested by the Nuclear Medicine Specialist. If additional bloods tests are required, you will be given a pathology slip at the time of consultation.

If you are currently taking thyroid medication, you will be required to stop taking this for a period of time before you have the I-131 therapy. The Nuclear Medicine Specialist will tell you when to stop taking the medication. It is vital that you do stop taking it when our specialist doctor tells you to.

A recent nuclear medicine thyroid scan is usually required prior to this I-131 therapy. This scan will check that your thyroid can take up enough radioactive iodine (I-131) for the therapy to be effective.

What do I need to do on the day of the therapy?

On the day of the I-131 therapy you will be asked to fast (not eat or drink) for 2 hours before being given the Radioactive Iodine (I-131) capsule (small sips of water are okay). If you are diabetic, you may be advised to take half your normal medication.

On the day of your I-131 therapy appointment, please ensure you bring:

- Your Request (if you have it)
- Medicare and healthcare cards (e.g. DVA card or concession card)
- List of all medications

What happens during the procedure?

Following review of bloods tests and confirmation of avoidance of iodinated contrast and iodine-rich medications, the nuclear medicine staff will advise of the radiation precautions applicable to your situation.

There will be a period of time in which you will be advised to avoid close contact with pregnant women and children and possibly your workplace to minimise their exposure to radiation associated with your treatment.

If there is anything you are not sure about, you should take the opportunity to ask any questions and raise any concerns you may have.

Once these discussions are concluded to the satisfaction of all involved, you will be given the I-131 capsule/liquid to swallow with a glass of water.

Are there any side effects from the treatment?

Generally, radioiodine treatment is very well tolerated. It is very important that fluids are kept up for the first 48 hours post treatment to reduce potential damage to the salivary glands.

It is common for patients to experience mild soreness in the neck 3 – 5 days post-treatment; simple pain-relief can be taken. If the pain persists or there are problems swallowing, please call the Lumus Imaging centre for further advice.

Occasionally, there may be an increase in symptoms of thyroid overactivity 7–10 days post-treatment.

The efficacy of the treatment is not instant. It will take weeks to months before the full effect of the treatment is known. There is a treatment failure rate of approximately 10%, therefore it is possible that further doses of radioiodine may be required.

The treatment is very likely to result in permanent decrease in thyroid function requiring lifelong thyroxine replacement therapy. This change from an overactive to an underactive thyroid may take months to years and will be monitored through thyroid blood tests.

What happens after the procedure?

You will need to fast for a further 1 hour after having the I-131 therapy.

If you are an out-patient, you will be able to go home after having the I-131 therapy.

You can drive yourself home if you are otherwise medically fit to do so.

Depending on your dose of I-131, you may be required to alter your living and work arrangements for a period of time (may be up to 12 days) to allow for minimal contact with other people. This is because your thyroid gland will contain concentrated levels of radioactivity from the capsule and other people in close proximity to you can be exposed to this radiation.

Our staff will provide you with clear written instructions on ways to look after yourself following the therapy. This includes recommendations to protect those around you from radiation, when to arrange a follow-up appointment with your referring doctor for re-evaluation of your hyperthyroidism, and when to recommence thyroid medication.

What are the benefits?

The aim of radioiodine therapy is to treat the underlying cause of the overactive thyroid. This usually results in fewer side effects and results in a better quality of life.

Are there any risks?

There is a risk of damage to the salivary glands that may result in dry mouth and altered sense of taste. Keeping well hydrated with water is very important in reducing this complication.

There is a risk of treatment failure of approximately 10%. This may necessitate further treatments.

There is a risk of long-term hypothyroidism (underactive thyroid gland) requiring lifelong thyroxine treatment.

There have been concerns about the risks of developing cancer in the future due to the radiation exposure. After careful evaluation of hundreds of thousands of patients over several decades, radioactive iodine has been found to be safe. The evaluations did not show any increase in cancer in the patients, nor in birth defects in the offspring of the patients who received radioactive iodine.

When do I get the results?

The Nuclear Medicine Specialist will send a report outlining the details of the I-131 therapy to your referring doctor. It is important that you make a follow-up appointment with your referring doctor within 6 weeks after the I-131 therapy so they can monitor your thyroid function. Due to the likelihood of an underactive thyroid, regular blood tests and follow-up with your doctor are essential to allow for any medical treatment if necessary.

I still have questions; who can I ask?

Medical information can be complex, and you may receive information that you do not fully understand. It is important for you to consider the risks and outcomes of the radioactive iodine (I-131) therapy as well as your personal needs before making a decision to undergo the I-131 therapy.

If you have read this online information and are still unsure if this is the correct procedure for you; before making a booking, you should discuss your questions or concerns with your referring doctor in the first instance. Your regular GP and/or your family may also be a useful resource. Your referring doctor can answer questions about the risks and benefits of not having the procedure and other options for treatment.

If you have questions before your appointment about what is involved on the day, our staff would be happy to assist. Please contact the imaging centre where you have made your appointment.