

Radioactive iodine therapy

Purpose of the therapy

You will receive radioiodine therapy to treat hyperthyroidism. Radioactive iodine accumulates in the thyroid gland, and the radiation emitted by iodine helps control the overactivity of the thyroid gland.

Preparations

- Thyroid medication should be discontinued before the treatment as instructed by your doctor.
- Follow a low-iodine diet for two weeks prior to the radioiodine therapy until the day after the treatment. The instructions for a low-iodine diet are provided at the end of this document.
- Additionally, you should refrain from eating for two hours before and after receiving the treatment dose.
- X-ray contrast agents (including various imaging studies) may interfere with the treatment for several months. Inform the isotope department as soon as possible before receiving the treatment capsule if you have had any X-ray examinations involving contrast agents.
- Pregnancy or breastfeeding prevents the administration of the treatment. A iodine allergy is not a barrier to receiving iodine therapy, but please inform the department upon arrival.

Therapy protocol

The treating physician will provide instructions regarding thyroid medication. If you visit a doctor before the radioiodine therapy, please show them this instruction sheet. The radioisotope capsule will be given with water. Allow approximately half an hour for the administration of the treatment.

The iodine capsule does not cause nausea. However, if you vomit within two hours of receiving the capsule, immediately rinse the contaminated areas with plenty of running water. The cleaning cloths used should also be rinsed with plenty of water and then placed in a plastic bag in the trash. Inform the Department of Clinical Physiology and Nuclear Medicine immediately, as some of the medication may have been lost due to vomiting.

To reduce radiation exposure to the intestines, you will be provided with a laxative. Follow the instructions for taking the medication for one week (starting from the evening after the iodine capsule is administered) if your bowels do not function daily without medication.

Precautions

The iodine used in the treatment emits radiation into the environment. Excess iodine is excreted from the body through sweat, urine, and feces. Therefore, your excretions will also be radioactive for a while after the treatment. You must follow the instructions provided below to limit the radiation dose to others.

- Breastfeeding must be discontinued.
- Pregnancy should be avoided for six months. In such cases, it is advisable to consult with the treating physician.
- Personal hygiene must be carefully maintained during the week following the treatment.
 - After using the toilet, flush it at least twice, and wash your hands thoroughly.
 - It is recommended to take a shower at least once a day, but avoid using saunas.
- You must sleep alone in your own room for approximately 1-2 weeks.
- Avoid prolonged close contact with other individuals for 1-2 weeks, especially children (including unborn children).
- If your work involves close and prolonged contact with others, you must take sick leave after receiving the capsule. Treating physician will determine the duration of the sick leave.
- If you plan to travel abroad within a couple of months after the treatment, you can request a certificate of radioisotope therapy from the isotope laboratory. Radiation detectors are present at border crossings, which can detect the radiation emitted by radioactive iodine for several weeks after the treatment.
- When traveling to Russia, note the dose rate limit of 3 $\mu\text{Sv/h}$ at a distance of one meter from any part of the body (as of 11/2006). These patients may be individually measured if there is reason to suspect that the dose rate limit is exceeded (the patient should be measured in the Department of Clinical Physiology and Nuclear Medicine).

These instructions may be modified based on your individual circumstances. In such cases, follow the oral instructions provided.

Low-iodine diet

Why is a low-iodine diet recommended?

In radioiodine treatment, radioactive iodine accumulates in the remaining thyroid tissue and cancerous tissue and destroys them. Radioiodine treatment is a targeted radiation therapy because the radiation from radioiodine only destroys the cells that have absorbed iodine. Dietary iodine competes with radioiodine for absorption into thyroid tissue. A low-iodine diet improves the effectiveness of the treatment.

When is a low-iodine diet used?

A low-iodine diet is started two weeks before radioiodine treatment. The diet continues during the radioiodine treatment on the ward and ends when you are discharged.

What does a low-iodine diet consist of?

During the low-iodine diet, avoid foods rich in iodine, as well as dietary supplements containing iodine (e.g., seaweed products), natural products, vitamin supplements, and medications (e.g., iodine-containing cough medicines), as well as antiseptic agents (such as Betadine). Food packaging labels usually indicate if iodized salt has been used in the product. Iodized salt should not be used. You can use non-iodized salt (labeled as "salt" on the packaging) during the diet. The following provides more detailed information on foods suitable for a low-iodine diet and foods to avoid during the diet.

Food group	Suitable for low-iodine diet	Avoid these
Grain product	Flours, hulled grain, flakes, pasta. Bread, crispbread, muesli, porridge and gruel, made without the use of iodized salt.	Breads and other grain products made with iodized salt.
Vegetables, potatoes	Fresh, cooked, frozen	Vegetable and potato dishes (for example French fries) made with iodized salt.
Fruits and berries	Fresh, cooked, frozen. Jams, marmalades, fruit and berry soups and kissel.	
Dairy product	Small amount of milk with coffee	Liquid dairy products (for example milk, soured milk, yogurt, viili, quark, cream). Cheeses (also cheese spread)
Egg	Egg whites	Egg yolk
Meat products	Unmarinated meat, broiler, turkey. Cold cuts, sausages made without the use of iodized salt.	Salted and smoked meats. Cold cuts and sausages made with iodized salt.
Fats	Vegetable oils, margarine	Valio ValSa®-products
Salt	non-iodized salt	Iodized salt. Products made using iodized salt.
Others	To replace dairy products, you can use various plant-based drinks, yogurts, puddings, and curds. Some products may contain iodized salt, so please check the package labels when selecting products.	Seaweed. Vitamin supplements and cough medicine, which contains iodine. Other salted products (potato chips, salted nuts, spice mixtures etc.) made using iodized salt.

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