Iodine-131

This sheet is about exposure to iodine-131 in pregnancy and while breastfeeding. This sheet will not cover environmental exposures that might occur due to accidents in nuclear plants or inappropriate handling of radioactive iodine-131. This information is based on published research studies. It should not take the place of medical care and advice from your healthcare providers.

What is iodine-131?

Iodine-131 (also known as I-131) is a radioisotope of iodine. Radioisotopes release radiation. Iodine-131 concentrates in the thyroid gland, and has been used in medical diagnostic procedures, to treat thyroid cancer, and to remove the thyroid in people with hyperthyroidism (a condition in which the body makes too much thyroid hormone). Some people refer to this as radioactive iodine therapy or radioiodine treatment.

The product label for iodine-131 recommends women who are pregnant or breastfeeding not use this medication.

Some people who receive iodine-131 treatment can have high levels of radiation for a short time after receiving treatment. Talk with your healthcare team about safety precautions to help reduce radiation exposure to other people, such as women who are pregnant and children. The length of time that you will need to follow these precautions will depend on your dose of I-131, among other factors. In general, people might need to follow safety precautions from 3 days to 2 weeks. The American Thyroid Association has an information sheet that includes this information at: https://www.thyroid.org/wp-content/uploads/patients/brochures/Radioactive_iodine_brochure.pdf.

I received iodine-131. How long does the drug stay in my body?

The time it takes the body to metabolize (to process) medication is not the same for everyone. In healthy adults, it takes up to 48 days, on average, for most of the iodine-131 to be gone from the body. However, the American Thyroid Association has recommended postponing pregnancy for at least 6 to 12 months after receiving iodine-131. Having your thyroid hormone levels in the appropriate range is important for fertility (ability to get pregnant) and for a healthy pregnancy.

I received iodine-131. Can it make it harder for me to get pregnant?

Some women who had radioiodine therapy reported having menstrual cycle irregularities after treatment. Women with menstrual cycle irregularities might have a harder time getting pregnant.

Does receiving iodine-131 increase the chance for miscarriage in future pregnancies?

Miscarriage is common and can occur in any pregnancy for many different reasons. One study reported a higher chance of miscarriage in pregnancies that were conceived during the 12 months after treatment with iodine-131. There does not appear to be an increased chance for miscarriage among women who were treated with I-131 at least 12 months before a pregnancy.

Does receiving iodine-131 increase the chance of having a baby with a birth defect?

Birth defects can happen in any pregnancy for different reasons. Out of all babies born each year, about 3 out of 100 (3%) will have a birth defect. We look at research studies to try to understand if an exposure, like iodine-131, might increase the chance of birth defects in a pregnancy.

Most reports on women who received iodine-131 prior to a pregnancy showed no increase in the chance of birth defects.

It has been recommended to avoid iodine-131 during pregnancy, when possible. The fetus can absorb radioactive iodine into their thyroid starting at about 10 weeks of pregnancy, and this can result in severe thyroid gland damage and thyroid hormone deficiency in the fetus. Thyroid hormones are very important for fetal development.

Could iodine-131 cause other pregnancy complications?

Most studies do not show an increase in pregnancy complications such as preterm delivery (birth before week 37) or

low birth weight (weighing less than 5 pounds, 8 ounces [2500 grams] at birth) if the iodine-131 is received prior to the pregnancy. Use of iodine-131 during pregnancy is avoided when possible.

Does taking iodine-131 in pregnancy cause long-term problems in behavior or learning for the baby?

It is not known if medical iodine-131 tests and treatments can increase the chance for behavior or learning issues for the child. Iodine-131 is avoided during pregnancy when possible because iodine-131 can affect the baby's thyroid and thyroid hormone levels. Babies with thyroid hormones that are too low have an increased risk for developmental delays.

Can I breastfeed while taking iodine-131?

The product label for iodine-131 recommends women who are pregnant or breastfeeding not use this medication. In addition, the American Thyroid Association (ATA) does not recommend breastfeeding while being treated with I-131 to protect the baby from exposure in breastmilk. Additionally, the ATA recommends stopping breastfeeding 6 weeks before starting I-131 treatment, to reduce the chance of radiation affecting breast tissue. Your healthcare providers can talk with you about what treatment is best for you.

A breastfed child who is exposed to iodine-131 through milk could develop thyroid problems such as poor thyroid function, damage to the thyroid gland, and an increased chance of thyroid carcinoma.

When possible, iodine-131 treatments and tests should wait until after the baby is weaned. In some cases, where only small amounts of radioiodine are used, it may be possible to resume breastfeeding when radioactivity counts return to base level. However, this may be several weeks. Be sure to talk to your healthcare providers about all your breastfeeding questions.

If a man received iodine-131, could it affect his fertility or increase the chance of birth defects?

Receiving iodine-131 can cause temporary fertility issues (ability to make healthy sperm) in males for up to 2 years after receiving treatment. No increase in birth defects has been found in children whose fathers were treated with iodine-131. In general, exposures that men have are unlikely to increase the risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/.

Some people who receive iodine-131 treatment can release radiation for a short time after receiving treatment. Talk with your healthcare team about safety precautions for how you can reduce radiation exposure to other people, such as women who are pregnant and children. The length of time that you will need to follow these precautions will depend on your dose of I-131 among other factors. In general, people might need to follow safety precautions from 3 days to 2 weeks. The American Thyroid Association has an information sheet that includes this information at: https://www.thyroid.org/wp-content/uploads/patients/brochures/Radioactive_iodine_brochure.pdf.

Please click here for references.

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