

## Hypothyroidism and Pregnancy

Adapted from the Hormone Health Network of the Endocrine Society

Pregnancy causes major changes in the levels of hormones made by the thyroid gland, which is located in the front of the neck. For that reason, thyroid problems sometimes can start or get worse during pregnancy or after childbirth.

The thyroid makes the hormones T3 and T4, which control metabolism—how your body uses and stores energy. When the thyroid does not make enough thyroid hormone, this is called under active thyroid or hypothyroidism.

Hypothyroidism during pregnancy is not common. However, the symptoms can be overlooked because some mimic the hormonal changes of a normal pregnancy, such as tiredness and weight gain.

If left untreated, maternal hypothyroidism poses a risk for both the pregnant person and the baby. A pregnant person's thyroid hormones are vital not only for them but also for the development of their baby. Pregnant people with uncontrolled hypothyroidism can get high blood pressure, anemia (low red blood cell count), and muscle pain and weakness. There is also an increased risk of miscarriage, premature birth (before 37 weeks of pregnancy), or even stillbirth.

### Hypothyroidism Risk Factors

People are at increased risk of an under active thyroid during or after pregnancy if they are over age 30 or have:

- Past infertility or preterm delivery
- A family history of thyroid or autoimmune disease
- Type 1 diabetes or other autoimmune disease
- Prior radiation treatment of the head or neck
- Past thyroid surgery
- Thyroid antibodies, mainly thyroid peroxidase (TPO) antibodies, which are often present in Hashimoto's disease
- A goiter (enlargement of the thyroid gland)
- Current treatment with levothyroxine, a thyroid hormone drug, unless the dose is adjusted before or soon after conception

## **What causes maternal hypothyroidism?**

A common cause of under active thyroid in pregnant people is Hashimoto disease, sometimes called Hashimoto thyroiditis. This autoimmune disease occurs when your immune system forms antibodies (immune proteins) that attack the thyroid. This, in turn, causes the gland to make too little thyroid hormone. People with this disease may have symptoms of hypothyroidism (see the next section), or they may notice no effects.

Other causes of hypothyroidism include iodine deficiency, prior treatment for hyperthyroidism (when the thyroid makes too much thyroid hormone) and surgery to remove thyroid tumors.

The thyroid also can become under active after childbirth. About 7% of people get postpartum thyroiditis (inflammation of the thyroid) in the first year after giving birth. This problem starts with hyperthyroidism, which most often clears up without treatment in a few weeks or months. But sometimes the inflammation leads to hypothyroidism. In most cases, the hypothyroidism goes away on its own. In countries where there is not enough iodine in the diet, iodine deficiency is a chief cause of hypothyroidism. The thyroid gland needs iodine to make thyroid hormones. In Canada, iodine is not lacking in the diet because of the use of iodized salt. However, people who are pregnant or breast-feeding need more iodine than usual and should increase their intake of this important mineral.

## **What are the symptoms of hypothyroidism?**

Symptoms of hypothyroidism may include:

- Tiredness
- Depression
- Weight gain
- Feeling cold
- Dry skin and hair
- Constipation
- Irregular menses
- Hoarse voice
- Swelling of the face
- Brittle nails
- Carpal tunnel syndrome (hand tingling or pain)
- Shortness of breath with activity
- Muscle cramps, weakness, joint pain
- Trouble concentrating

These symptoms are not unique to hypothyroidism. In fact, some of them are common in pregnant people. A blood test can determine whether the symptoms are due to an underactive thyroid.

Some people with mild or early hypothyroidism may have no symptoms.

### **How is hypothyroidism found?**

To detect hypothyroidism, your doctor does a physical exam and orders blood tests to measure your thyroid hormone levels.

Thyroid stimulating hormone, or TSH, is a hormone that spurs the thyroid to make T3 and T4 (also called thyroxine). High TSH levels plus low levels of T4 indicate hypothyroidism. This occurs when too little T4 in the blood causes excess TSH to be produced as the body tries to raise T4 levels. High TSH levels but normal levels of T4 are signs of subclinical (early or mild) hypothyroidism.

If you are hypothyroid, you may need an antibody test to check for TPO antibodies. These abnormal antibodies will be in the blood if the cause of the hypothyroidism is Hashimoto disease.

### **Should pregnant people be screened for hypothyroidism?**

Pregnant people at high risk of thyroid problems should have a thyroid function test even if they do not have symptoms of an under active thyroid. Ideally, this screening blood test should take place by the ninth week of pregnancy or at the first prenatal visit.

Because of the dangers of untreated thyroid disease, some experts advise screening all newly pregnant people for abnormal thyroid function. You should ask your health care provider early in your pregnancy whether you need thyroid function blood tests.

People who have known high levels of TPO antibodies need extra thyroid function screening. They are at increased risk of hypothyroidism and pregnancy problems such as miscarriage. Therefore, they should get a TSH blood test before they try to become pregnant, and again during the first and second trimesters of pregnancy (first six months).

### **What is the treatment for maternal hypothyroidism?**

The treatment for hypothyroidism is thyroid hormone replacement with a form of T4 called levothyroxine. This drug is the same as the T4 your body makes and is safe for pregnant people.

#### *Before pregnancy*

It is important that thyroid hormone levels are normal both before and during pregnancy. If you are already receiving levothyroxine to treat hypothyroidism, you should have your thyroid hormone levels checked before you try to conceive. If your TSH levels are too high, you may need an increase in your dose of levothyroxine. You should delay pregnancy until your disease is well controlled.

### *During pregnancy*

Once a hypothyroid person becomes pregnant, the levothyroxine dose often must increase. Possibly the dose must go up by as much as 30% or more in the first 4 to 6 weeks of pregnancy. Contact your care provider soon after you know you are pregnant, so you can get a thyroid function blood test and discuss your treatment plan.

If you receive a new diagnosis of hypothyroidism during pregnancy, you will need your T4 levels brought to normal as quickly as possible. Your doctor may give you increasing doses of levothyroxine until your T4 levels become normal. About 30 to 40 days after you start treatment, you should have your thyroid function retested.

Also, your thyroid testing should be done often during pregnancy, usually every 4 to 6 weeks until delivery.

The Endocrine Society's expert panel recommends that expectant people with sub clinical hypothyroidism also receive levothyroxine treatment. Some studies show that thyroid hormone replacement improves pregnancy outcomes in these individuals.

### *After pregnancy*

After delivery, most hypothyroid people need to decrease the levothyroxine dose they received during pregnancy.

### **What can you do to help have a healthy baby?**

You can help ensure your baby's health and your own health. Work with your pregnancy care provider to receive proper medical care before, during, and after pregnancy. Take your medication as prescribed and tell your doctor about any side effects.

To make sure you get enough iodine, take daily prenatal vitamins that include 150 to 250 micrograms (mcg) of potassium iodide or iodate. Breast-feeding parents should supplement with 250 mcg per day of iodine, to make sure their breast milk provides the iodine that their nursing babies need.

Do not take thyroid medicine at the same time as prenatal vitamins or supplements containing calcium and iron. These nutrients can interfere with the absorption of thyroid hormone. Take these vitamins at least 2 or 3 hours before or after taking your levothyroxine.