

Pregnancy and hypothyroidism

Departments of Endocrinology & Obstetrics

What is hypothyroidism?

Hypothyroidism means an underactive thyroid gland, which does not make enough thyroid hormone. The thyroid is a gland in the front of the neck which makes thyroid hormones. Hormones are chemical messengers produced by your glands and carried in the blood. Thyroid hormone controls the body's metabolism (how your body uses and stores energy).

What are the causes of hypothyroidism?

Hypothyroidism is usually caused by the immune system targeting the thyroid gland, causing it to make too little thyroid hormone. Sometimes this is called 'Hashimoto's disease' or 'Hashimoto's thyroiditis'. The body's immune system helps to fight infections, but in patients with 'autoimmune' diseases, it can damage the body's own tissues.

More rarely, people who have had treatment for an overactive thyroid gland or a thyroid tumour with surgery or radioiodine therapy may develop hypothyroidism.

How is hypothyroidism treated?

Hypothyroidism is treated with thyroxine (also called levothyroxine), which is a synthetic (man-made) form of the natural 'T4' hormone produced by the thyroid gland. Thyroxine is safe to take whilst pregnant and whilst breast-feeding. Thyroxine should be taken on an empty stomach, at a different time to any vitamin or mineral supplements which you may be taking (including any recommended supplements containing calcium or iron).

How is treatment of hypothyroidism monitored?

'Thyroid function tests' can be measured in a standard non-fasted blood test. These include measurements of the T4 level and the thyroid stimulating hormone (TSH). The results are used to adjust the dose of thyroxine if necessary. The normal results for thyroid function tests change a little as a pregnancy progresses. Your doctor will be aware of this and can contact the laboratory for advice about the normal ranges in pregnancy if necessary.

Are there any possible complications if hypothyroidism is not carefully treated during pregnancy?

A pregnant woman's thyroid hormones are vital for her and for the development of her baby. They are particularly important in pregnancy for the development of the baby's nervous system (brain). There is an increased risk of complications in pregnancy if hypothyroidism is not carefully treated.

What happens before pregnancy?

Ideally, your thyroid blood tests should be checked before you start trying for a baby, so that your thyroxine dose can be adjusted if necessary. Your GP can arrange this for you. Rarely, some patients with hypothyroidism are treated with a combination therapy of thyroxine (T4) and triiodothyronine (T3). T3 does not cross the placenta, so treatment should be converted to thyroxine alone before pregnancy or as soon as possible after a pregnancy is confirmed.

What happens once a pregnancy is confirmed?

As soon as a pregnancy is confirmed with a positive pregnancy test, your thyroid blood tests should be checked by your GP. Often the dose of thyroxine needs increasing early in pregnancy, for example by 25 microgrammes per day. You should not delay getting your thyroid blood tests checked. After these immediate tests and dose adjustments, your GP may refer you to the antenatal clinic at the hospital for further monitoring and dose adjustments during your pregnancy.

What happens in pregnancy?

After the initial assessment and increased dose of thyroxine (if necessary), your thyroid blood tests should be checked again about 4-6 weeks later. Your dose of thyroxine can then be adjusted once more if necessary. The usual thyroxine dose increase required in pregnancy is 25-50 microgrammes. Your thyroid blood tests should be checked about every 6-8 weeks. In the last third of pregnancy, the thyroxine dose usually stabilises and checks may not be needed so often. Your thyroid status or treatment will not affect how you give birth to your baby. A midwife will explain the options you have around your labour and birth choices.

What should I do if I have morning sickness?

If you have morning sickness, thyroxine can be taken last thing at night. If you are unable to take your thyroxine on one day, you should take twice the dose the following day. Thyroxine has a long duration of action, so the dose will average out over the week, but ideally you should take it daily, at the same time of day if possible. If your morning sickness is severe, you should see your doctor or midwife for assessment and advice.

What happens after pregnancy?

As soon as your baby has been born, your thyroxine dose requirements return to normal, so most women resume their pre-pregnancy dose immediately. Sometimes your doctors may feel that your pre-pregnancy thyroxine dose was not quite right, and will advise you to take a different dose after the pregnancy. Your thyroid blood tests will usually be checked by your GP about 6-8 weeks after your baby has been born so that the thyroxine dose can be adjusted if necessary. Thyroxine is safe to take whilst breast-feeding.

Will the baby have hypothyroidism?

It is very unlikely that the baby will have hypothyroidism. Some people with hypothyroidism know of other family members with an over or under-active thyroid gland. A tendency to develop autoimmune diseases (including thyroid problems) can run in families. This does not mean that everyone in the family is affected. Autoimmune thyroid diseases usually develop in middle-age, and are more common in women than in men. Rarely, babies are born without a functioning thyroid gland. This is screened for using the blood from the 'heel prick test', which all new born babies have early on. This is a different condition to autoimmune hypothyroidism, and not related to it in any way.

What about women previously treated for Graves' disease?

Graves' disease is an autoimmune thyroid disease that causes an overactive thyroid gland. If you have been treated for Graves' disease with radioiodine or surgery, you may now have an underactive thyroid gland. However, you may still be making the antibodies which originally caused the Graves' disease. They cannot affect your thyroid, but may rarely affect the baby in the womb or the newborn baby, causing an overactive thyroid gland in the baby. This happens to 1-5% (1-5 per 100 women) of women previously treated for Graves' disease. A blood test for thyroid receptor antibodies is done when the mother is about 6-7 months pregnant, so that the baby can be monitored and treated if necessary. If the baby does develop an overactive thyroid gland, this can be treated with medicine. Once the baby has cleared the mother's antibodies from its blood stream, the overactive thyroid gets better by itself and the medicine can be stopped. This does not mean that the baby has inherited the Graves' disease.

Who do I contact if I have any questions?

If you have any questions, you should discuss them with your GP or your midwife. They can advise you, or contact the hospital on your behalf.

Patient support groups and further information:

British Thyroid Foundation

www.btf-thyroid.org

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