Hormone Health NETWORK

Detecting and Treating Thyroid Nodules and Cancer Before, During, and After Pregnancy

A PATIENT'S GUIDE

Thyroid nodules are very common. They are lumps in the thyroid gland, which is located in the front of your neck. These lumps can be solid growths of thyroid tissue or fluid-filled cysts. Thyroid nodules occur more often in women than men, and the chance of getting one or more nodules increases as you age.

Most nodules do not cause problems during pregnancy. Yet, pregnancy does cause major changes in the levels of hormones made in the thyroid gland. For this reason, thyroid dysfunction (changes in how well your thyroid gland works) can start during or after pregnancy in women who never had thyroid problems before.

Some thyroid nodules can trigger *hyperthyroidism* (when the thyroid makes too much thyroid hormone). Thyroid nodules also may occur in people with *hypothyroidism* (too little thyroid hormone). These thyroid problems can affect the health of a pregnant woman and her baby. It is important to know if you have either problem, so you can receive treatment. Doctors also are concerned about thyroid nodules because some can be *malignant* (cancerous). Most, though, are *benign* (not cancerous).

This guide for patients comes from The Endocrine Society's 2012 practice guidelines for physicians about the detection and treatment of thyroid dysfunction in women during pregnancy and after birth.

What causes thyroid nodules and thyroid cancer?

The cause of most thyroid nodules is unclear. They tend to occur more often in

- Women
- Older adults
- Those with a family history of nodules
- Those whose diet lacks iodine (which the thyroid uses to make thyroid hormones), a rare problem in the United States

Less than 10 percent of thyroid nodules are cancerous. The exact cause of thyroid cancer is not known. There are different types of thyroid cancer, and genes seem to play a role in some forms of the disease.

Who is at higher risk of thyroid cancer?

Certain risk factors make people more likely than others to get thyroid cancer. Having a risk factor, however, does not mean you will get thyroid cancer, and it is still possible to get this cancer if you have no risk factors.

Risk factors include past radiation treatments (but not tests like X-rays) to the head, neck, or chest, mainly as an infant or child. Other risk factors are similar to those for thyroid nodules: age over 40 and low iodine intake. Some types of thyroid cancer have their own risk factors. For instance, "medullary" thyroid cancer (an uncommon type) can run in families.

A nodule is more likely to be cancerous if it is large or growing quickly.

There is no proof that pregnancy causes thyroid cancer to recur (come back) in women who had successful treatment for thyroid cancer before becoming pregnant.

What are the symptoms of thyroid nodules?

Most thyroid nodules cause no symptoms. You may not even know you have one unless it starts to grow. A large nodule may sometimes cause these symptoms:

- Lump in the front of the neck
- Pain
- Hoarseness
- Trouble swallowing
- Breathing problems

How are thyroid nodules found?

Many thyroid nodules that cause no symptoms are found during a routine physical exam, when your health care provider feels your neck. Others may be found during an imaging test done for another reason, or you may find a nodule yourself.

Even though most thyroid nodules are benign, the possibility of cancer is concerning to a woman expecting a baby. To know if you have cancer or to rule it out, you will need more tests. For pregnant women, diagnosis and decision-making about the treatment of thyroid nodules relies mainly on the results of thyroid ultrasound imaging and *fine-needle aspiration biopsy*. A *biopsy* is the removal of a small sample of the nodule for further testing.

Thyroid ultrasound uses the same safe technique of high-frequency sound waves that gives you a picture of the baby in your womb. To get a picture of the thyroid, the ultrasound wand scans your neck. Though ultrasound alone cannot tell if a nodule is cancerous, it can show its size and whether it is solid, filled with fluid, or both (called *complex nodules*). This helps your doctor know whether to biopsy the nodule.

Fine-needle aspiration biopsy involves inserting a thin needle into the nodule to remove cells and/or fluid from it, for inspection under a microscope. This test is highly accurate for detecting cancerous nodules or "suspicious" ones that might be cancerous. Ultrasound often is used to guide the needle, especially when the nodules are very small.

According to the new guidelines from The Endocrine Society, pregnant women should have a fine-needle aspiration biopsy when their thyroid nodules are one of the following:

- Mostly solid and larger than 1 centimeter (about half an inch)
- 5 millimeters (about 0.2 inch) to 1 centimeter in size and either the nodule looks suspicious on an ultrasound or the woman is at high risk of thyroid cancer
- Complex and a size of 1.5 to 2 centimeters (0.6 to 0.8 inch)

Nodules that do not fall into one of these groups are unlikely to be cancerous and thus do not usually need a biopsy. When a nodule needing biopsy is found during your last months of pregnancy, you may choose to wait until after you deliver the baby to have the biopsy.

If the biopsy results show cancer, the pathologist (a medical expert who examines the cells under the microscope) will decide what type of thyroid cancer it is. The types, in order from most common to least common, are papillary, follicular, medullary, and anaplastic. (See the Hormone Health Network's *Thyroid Cancer* fact sheet for more information.) Treatment depends on the type of cancer.

What is the treatment for thyroid nodules and cancer?

Treatment depends on the type of nodule and whether it is cancerous. Surgery to remove part or all of the thyroid gland (called a *thyroidectomy*) may be recommended for nodules that

- Are cancerous or look highly suspicious on biopsy
- Grow quickly
- Occur with enlarged lymph nodes in the neck (a possible sign of spread of cancer)

If you need surgery, you should have it late in the second trimester (pregnancy months 4–6), when it is safest for the baby.

Women who are hesitant to have surgery during pregnancy can postpone it until after delivery if their thyroid cancer is slow growing (papillary or follicular cancer) and not advanced. Most thyroid cancers are slow growing. Thus, in most cases, waiting to have surgery until soon after childbirth will not affect your prospects of living cancer free.

After giving birth, some women with thyroid cancer may need more treatment. This can include radioactive iodine therapy (to destroy thyroid tissue not removed by surgery or to treat advanced cancer), external radiation (mainly for advanced cancer), or chemotherapy (mainly for anaplastic thyroid cancer). Pregnant and breast-feeding women cannot have these treatments because of the risk to the baby.

People who had their whole thyroid removed will need to take thyroid medication for the rest of their lives.

What can you do to help have a healthy baby?

You can help ensure the health of your baby and your own health. Work with your pregnancy care provider and your endocrinologist, a specialist who treats hormone-related conditions, to receive proper medical care. If your doctor recommends thyroid surgery, discuss when to have the operation.

Any woman who had radioactive iodine treatment before or after pregnancy should wait 6 to 12 months before trying to become pregnant again.

To make sure you get enough iodine while pregnant, take daily prenatal vitamins that include 150 to 250 micrograms (mcg) of potassium iodide or iodate. Breast-feeding mothers need to supplement with 250 mcg per day of iodine.

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Note to health care professionals: This patient guide is based on, and is intended to be used in conjunction with, the Endocrine Society's clinical practice guidelines (available at www.endocrine.org/guidelines/index.cfm).