

**Michigan State University Cardio-Metabolic Center**

**Division of Endocrinology, Diabetes and Metabolism**

**Patient Education**

This information will inform you and your family about a diagnostic procedure called a fine needle aspiration thyroid biopsy. It will explain the nature of this procedure and what to expect when you are scheduled for a fine needle aspiration thyroid biopsy.

**What is a fine needle aspiration thyroid biopsy?**

A fine needle aspiration thyroid biopsy is a procedure that helps your doctor diagnose and treat your thyroid nodule. This needles will be inserted into a nodule to extract cells that will be examined under a microscope.

Fine needle aspiration biopsies are very safe, minor surgical procedures. Often, a major surgical biopsy can be avoided by preforming a needle aspiration biopsy instead.

**Why would I need a fine needle aspiration thyroid biopsy?**

This type of biopsy is performed for one of two reasons:

1. A biopsy is performed on a nodule when its nature is in question.
2. For known nodules, this biopsy is preformed to assess the effect of treatment.

Your doctor will discuss why you need a biopsy as well as the risks and benefits of this procedure. All biopsies involve some risks, but they are requested because their potential benefits outweigh their risks. A fine needle aspiration thyroid biopsy is safer and less traumatic to your body than an open surgical biopsy.

**Who will perform the biopsy?**

The biopsy will be performed by a physician with special training in preforming biopsies under ultrasound guidance. Another staff member, called a cytopathologist, will also be present. This person has expertise in identifying normal and abnormal cells.

**How will the biopsy be performed?**

During this procedure, a very thin needle will be used to remove cells or other material from the nodule in your thyroid. These cells will then be given to the cytopathologist. It will take several days for the cytopathologist to make a diagnosis, and one will not be given at the end of the biopsy.

There may be times when a diagnosis cannot be made; not all cells removed during a fine needle aspiration thyroid biopsy can be identified with certainty.

**What happens before a fine needle aspiration thyroid biopsy?**

Several preparations are necessary before this procedure.

1. Do not take any blood thinning or anticoagulation medications for 1 week before the procedure unless your doctor instructs you otherwise. You may take Tylenol.
2. Some routine blood work (blood counts, clotting profile) must be completed 3-5 days before the biopsy.
3. Bleeding disorders will be managed before the procedure

After arriving at the Endocrinology check-in desk, you will be guided to the area where the biopsy will be performed. Please arrive 10 to 15 minutes before your scheduled time. Because many people must work together during the procedure, your promptness is important. We will also do our best to perform the biopsy at the scheduled time.

**Patient checklist: Before the biopsy, have you…..**

* Arranged for transportation?
* Had all the necessary blood work?
* Stopped all blood thinning medications 7 days prior?
* Received instructions from prescribing provider if on anticoagulation medication?
* Resolved any questions about the reasons for and the procedure for your biopsy?
* Read this information about the biopsy procedure?
* Arranged for a translator or legal guardian to be present, if necessary?

**What happens during the biopsy?**

Shortly after you check in to the Endocrinology department, you will meet the physician who will perform the biopsy. The physician will tell you about the procedure and will answer any questions you may have. You will then be asked to sign an informed consent form.

**Preparation**

After you change into a gown, vital signs (pulse, blood pressure) will be taken. You will be awake and aware during this biopsy. It is important that you are able to respond when asked to not swallow or to assume certain positions.

**Positioning**

You will be positioned (usually lying on your back) so that the physician has easy access to the area for the biopsy. The skin in this area will be swabbed with a cool antiseptic solution and draped with sterile towels. After the antiseptic has been applied, do not tough the area. The skin, underlying fat, and muscle will then be numbed with a local anesthetic of Lidocaine.

**Needle placement**

The physician will choose an ultrasound technique to locate the nodule for biopsy. Needles will be passed into the nodule. These needles may look alarming because they are long. However, they are very thin, and usually the whole length of the needle is not inserted. You will notice that the needles may be inserted and withdrawn several times. There are reasons for this:

* Sometimes, several passes may be needed to obtain enough cells for the cytopathologist to be able to accurately make a diagnosis.
* When the nodule is small, several passes may be necessary to position the needle tip properly.
* When the nodule is very large, several passes may be necessary to get all areas of the nodule to be sure an accurate representation of the nodule is made.

You should expect about 4 to 6 needle passes per nodule during the biopsy. After the needles are placed into the mass, cells will be withdrawn and given to the cytopathologist. When the cytopathologist has enough cells to work with, the biopsy will usually end. Your vital signs will be taken again, and you will remain in the procedure room for several minutes to recover.

If you go home after the test, you must be driven home. Depending on the site of your biopsy, you should not plan on flying the same day. If you must fly immediately, please discuss this with you doctor.

**After the biopsy**

**Complications**

As with any surgical procedure, complications are possible. Fortunately, major complications due to thin needle aspiration biopsies are fairly uncommon, and when complications do occur, they are generally mild.

**Pain**

Biopsies cause some pain. While the perception of pain is subjective and varies from person to person, most patients feel that the biopsies hurt a bit, but they are tolerable.

To help ease any pain during the procure, a local anesthetic of Lidocaine will be given. Please tell the physician if you feel pain during the procedure, and adjustments in the medication can be made. Often, just remaining Calm and taking slow, deep breaths will make the discomfort more bearable.

After the procedure, mild painkillers such as Tylenol will control pain quite well. Aspirin or aspirin substitutes (Motrin, Naprosyn) should not be taken for 24 hours after the procedure (unless instructed otherwise by the doctor).

**Infection**

Since sterility is maintained throughout the procedure, infection is rare, but should an infection occur, it will be treated with antibiotics.

**Bleeding**

Bleeding is the most common complication of this procedure. A slight bruise may also appear. During the observation period after the procedure, bleeding should decrease over time. If more bleeding occurs, this will be monitored until it subsides. Rarely, major surgery will be necessary to stop the bleeding.

The health care staff who will be working with you has extensive experience with this type of biopsy. The staff at the Endocrinology Department hopes that this information helps you and your family understand what will happen during your fine needle aspiration thyroid biopsy.

If you still have unanswered questions, do not hesitate to call on your doctor, nurse, or the staff at the Endocrinology Department (517) 353-4960.

See next page for post biopsy checklist.

**Patient checklist: After the biopsy…**

After the procedure, you may feel some mild discomfort or throbbing and see some bruising. This is normal, and should not cause you undue concern. Please observe the following guidelines:

* Keep ice pack on site for 30 minutes
* Wash neck off with soap and water once home
* Refrain from excessive physical activity for 24 hours after the biopsy.
* Call your clinic doctor who performed the procedure if you have any of these problems:
* A lot of bleeding from the biopsy site
* Faintness, light-headedness, passing out
* Heart pain, chest pain, palpitations
* Progressive swelling or formation of a mass that you can feel near the biopsy site
* Increasing pain which is not relieved by Tylenol
* Breathing problems