Lymphatic Mapping with Sentinel Node Biopsy

This information will help you understand your lymphatic mapping with sentinel node biopsy procedure at Memorial Sloan Kettering (MSK).

You may have this procedure if you have breast cancer or melanoma so that your doctor can see if the cancer cells have spread to your lymph nodes.

About Your Lymphatic System

Your lymphatic system has 2 functions:

- It helps fight infection.
- It helps drain fluid from areas of your body.

Your lymphatic system is made up of lymph nodes, lymphatic vessels, and lymphatic fluid (see Figures 1 and 2).

- **Lymph nodes** are small bean-shaped structures located along your lymphatic vessels. Your lymph nodes filter your lymphatic fluid, taking out bacteria, viruses, cancer cells, and other waste products.

- **Lymphatic vessels** are tiny tubes, similar to blood vessels,
that carry lymphatic fluid to and from your lymph nodes.

- **Lymphatic fluid** is the clear fluid that travels through your lymphatic system. It carries cells that help fight infections and other diseases.

![Diagram of lymphatic system in the breast]

Figure 1. Your lymphatic system in the breast
Lymphatic Mapping

Lymphatic mapping is the first step in a sentinel node biopsy. It’s done to find the sentinel node. The mapping procedure will take about 1 hour, and may be done on the day before or the day of your sentinel node biopsy. During the procedure, you will need to lie still for 5 minutes at a time. If you have any pain when lying in a position for 5 minutes, ask your doctor if you can take pain medication before your procedure.

If you are breastfeeding, you will need to stop for 24 hours after your lymphatic mapping.

Check your appointment reminder for where to go for your lymphatic mapping procedure.
During your procedure
While you lie on an exam table, your doctor will inject a small amount of a radioactive fluid near the site of your cancer. During the injection, you might feel a stinging or burning sensation. The radioactive fluid will travel to the sentinel nodes so they can be seen later during your scan.

After your injection, you will either have your scan right away (if your procedure is done at MSK Westchester) or you may need to wait (if your procedure is done at any other MSK location). If you need to wait, you can either stay in the hospital or you can leave. For most people, the waiting time is less than 1 hour, but it can vary. You must return on time for your scan, so be sure to note the time you’re told to return.

When it’s time for your scan, you will lie on an exam table while your technologist takes a series of pictures. Each picture takes several minutes, and you must lie very still during this time. If you feel uncomfortable staying in any position for 5 minutes, ask the technologist to count down the time for you. The scan will take 10 to 15 minutes.

The pictures taken during your scan will show the flow of the radioactive fluid and which lymph node(s) absorbed it. They create a map of your lymphatic system and show which lymph node is the sentinel node. This information will be used by your surgeon as a guide (or map) during your sentinel node biopsy.

After your procedure
If you’re having surgery the same day as your mapping procedure, you will be brought from the scanning room to where you are having your surgery. In most other cases, you will go home after the mapping procedure.

**Breastfeeding**
Stop breastfeeding for 24 hours after your lymphatic mapping. During this time you can continue to pump milk and either throw it away or store it for 24 hours. After 24 hours, you can feed it to your baby.

You can restart breastfeeding 24 hours after your procedure. If you have any questions, speak with your nuclear medicine doctor.

**Sentinel Node Biopsy**

**Before your procedure**
The sentinel node biopsy is a surgical procedure. Many people will have a sentinel lymph node biopsy during their breast or melanoma surgery.

If you’re having this as a separate surgery, read the resource your nurse gave you called *Getting Ready for Surgery* ([www.mskcc.org/pe/getting_ready_surgery](http://www.mskcc.org/pe/getting_ready_surgery)). It explains how to prepare for the biopsy.

**During your procedure**
While you’re asleep, your surgeon will inject a small amount of a blue dye near the site of your cancer. This dye will travel through your lymphatic vessels to the sentinel node(s). It will
stain them blue so your surgeon will be able to see them.

To find the sentinel node(s), your surgeon will use a small device to measure the radioactivity from the fluid that was injected during the mapping procedure. Once the sentinel node(s) are located, your surgeon will make an incision (surgical cut) and remove them. The nodes will be sent to the Pathology Department to see if they contain cancer cells.

In some cases, if the sentinel nodes do contain cancer cells, you may need to have additional lymph nodes removed. This is called an axillary lymph node dissection. Your surgeon will discuss this with you in more detail, if needed.

**After your procedure**

You may go home that same day or you may need to stay in the hospital, depending on any additional surgeries you may have had.

Please refer to the resource *Caring for Yourself After Your Sentinel Lymph Node Biopsy* ([www.mskcc.org/pe/caring_after_sentinel_node_biopsy](http://www.mskcc.org/pe/caring_after_sentinel_node_biopsy)) for information about what you can expect after your procedure.
If you have any questions, contact a member of your healthcare team. After 5:00 PM, during the weekend, and on holidays, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.