

# Thyrogen® Stimulated Nuclear Medicine Scan and PET CT Scan

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## What is a Thyrogen® stimulated scan and PET CT scan?

We have scheduled you for a Thyrogen® stimulated scan and PET CT scan. Depending on the results of your Thyrogen® scan, you may or may not have to get the PET CT scan as well. This scan process happens over 4 days.

Thyrogen® scans check your body for any thyroid cancer after you received radioactive iodine therapy. The scans work best when you have high **TSH** (Thyroid-Stimulating Hormone) levels. You will receive Thyrogen® injections (shots) to increase your TSH levels. If you are getting Thyrogen® stimulated scans, you do not have to stop taking your thyroid medication while you are having scans done to check for thyroid cancer.

## How do I prepare for these scans?

- Continue taking your thyroid medicine, even during the days of your scans.
- You must eat a low iodine diet for 2 weeks before, and during the week of, your Thyrogen® scans. The low iodine diet will remove any iodine from any remaining thyroid tissue, so that the Thyrogen® medication and radioactive iodine dose we give you to do your scans will work.
  - If you do not follow the diet, your body may not be able to use the medication and radioactive iodine properly to give us a reliable scan.
  - On your low iodine diet, we want to make sure you are still getting enough sodium. For this reason, we ask you to switch from iodized or sea salt to kosher salt while you prepare for your scan.

- Avoid having any extra iodine put into your body. This includes avoiding x-rays or CT scans that are done with iodine injections for 4-6 weeks before your scan.
- Remember to stay well hydrated by drinking plenty of water. It is important to increase your fluid intake (drink more) for several days before, during, and after your scan appointments.
- You must stop eating solid food and stop drinking anything but water for 6 hours before your PET CT appointment time on Day 4 of the scanning process.
- If you have diabetes or if you take diabetic medications, you will receive special instructions in your online patient portal at [MyUofMHealth.org](http://MyUofMHealth.org). If you have not received these instructions the week before your scan appointments, please call us at (734) 232-6072.
- You should not engage in any strenuous activity (activity that increases your heart rate and makes you breathe hard) for 48 hours before your scan appointments.
- Try to keep your body temperature warm during the scan. Dress in warm clothes and ask us for a blanket if you need one while you wait to go into the scanner.

## **What happens on Day 1?**

Before coming to the Nuclear Medicine department, you will need to stop at the lab in the hospital for extra blood and urine tests.

- The blood tests will measure your thyroid levels.
- The urine (pee) sample will check for iodine to make sure that your low iodine diet was successful.
- If you are old enough to have children, we will ask you to take a pregnancy test.

Once you arrive at the Nuclear Medicine department, we will give you your first Thyrogen® injection (usually into the muscle of your butt or arm). You can leave immediately after receiving your injection.

### **What happens on Day 2?**

Once you arrive at the Nuclear Medicine department, we will give you your second Thyrogen® injection into your muscle. You can leave immediately after receiving your injection.

### **What happens on Day 3?**

We will give you a small dose of liquid **radioactive iodine (RAI)** to prepare you for your Thyrogen® stimulated scan on Day 4. You will drink your RAI dose through a straw. This dose has no taste. The RAI dose is small enough that you will not have to take any radiation exposure precautions (meaning that you will not have to do anything special to prevent the radiation in your body from affecting others around you). You can leave immediately after drinking your RAI dose.

### **What happens on Day 4?**

- You will have your Thyrogen® stimulated scan to check for thyroid cancer. The doctor will review the images from the scan and decide if you need to have a PET CT scan as well.
- If you need to have a PET CT scan:
  - We will have you drink oral contrast (fluid that helps highlight certain areas for the scan) and then wait about 30 minutes.
  - 30 minutes after drinking the oral contrast, we will inject a small amount of a radioactive sugar into a vein in your arm. You need to wait for an hour to allow this injection to circulate (spread) through your body.

- An hour after your injection, we will position you on a table inside a special machine called a PET scanner to take images of different parts of your body. The images will take about 30 minutes to complete. The radiologist may decide to also have you injected with IV contrast.
- You will also need to stop at the lab in the hospital before leaving for one last blood test. This is a time-sensitive test for stimulated thyroid blood, called **thyroglobulin**, which helps us see if you have any remaining thyroid tissue. It is possible that the PET CT technologists can draw this lab while placing your IV.

### **What happens after my scans?**

You will meet with the doctor to talk about your results after your scans, usually on Day 4. If your scan results show that you have some remaining thyroid cancer, the doctor will talk with you about a treatment plan. Please note that you will not be treated for thyroid cancer that same day.

### **Who do I call if I have questions?**

If you have any questions, please call the University of Michigan Health System Nuclear Medicine Department at **(734) 232-6072**.

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Authors: Meghan Doyle, RN BSN, Margherita Vicari, FNP-BC, Ka Kit Wong, MBBS, Pete Siekierski, CNMT, Joseph Finch, CNMT  
Edited by: Brittany Batell, MPH MSW CHES®

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