

UW Medicine



PET/CT FDG Brain Scan

Positron emission tomography

This handout explains a PET/CT brain scan, how to prepare for it, how it works, what to expect during the scan, and how to get your results.

What is a PET/CT FDG brain scan?

A PET/CT scan is a way to take pictures of your body's cells. It allows a specially trained doctor (*radiologist*) to check for changes in your cells. PET stands for *positron emission tomography*. CT stands for *computed tomography*.

A PET/CT brain scan takes pictures of your brain as it works. It is often done to check for tumors that may be causing memory problems or seizures.

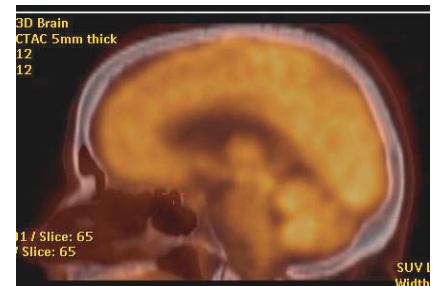
Before we start your scan, we will inject a *radioactive tracer* called *18 FDG*. FDG stands for *2-Deoxy-2-[¹⁸F] fluoro-D-Glucose*.

Some cancer cells and inflamed cells use more energy than healthy cells. The tracer helps us see how much energy your brain cells are using. We measure this with a PET/CT FDG scan.

The PET/CT camera will take 2 types of pictures of your brain:

- The PET scan shows where the tracer has collected.
- The CT scan provides detailed pictures of tissues and structures.

Together, the PET and CT images help your doctor fully assess your brain.



A PET/CT FDG image of the brain.

If You Will Have a CT Scan with IV Contrast

If your doctor has asked for an extra CT scan with IV contrast to be done after your PET/CT scan, please read about it on the Radiology and Imaging Services website:

- Visit <http://uwmedicine.washington.edu/Patient-Care/Our-Services/Medical-Services/Radiology-Imaging-Services/Pages/ArticleView.aspx?subID=320>.
- Click on "Head CT Scan."
- If you do not have access to the Internet, please ask for a printed copy.

How do I prepare?

72 Hours Before Your Scan

- Do **not** use marijuana for 72 hours before your scan.

48 Hours Before Your Scan

- Make sure that your appointment time is convenient for you.
- Please call staff where your scan is scheduled (see phone numbers in the “Questions” box on page 3) for more instructions if you:
 - Have diabetes
 - Are taking any *granulocyte colony-stimulating factor* (G-CSF) medicines (such as Neupogen or Neulasta)
- Stay hydrated. Drink 6 to 8 glasses of plain water the day before your scan.

On the Day of Your Scan

6 Hours Before

- **Do not eat or drink anything except plain water.** Do **not** chew gum, eat candy or mints, or take vitamins.
- Drink several glasses of water to stay hydrated.
- **Starting 12 hours before your scan, do not** take any dextrose medicines by *total parenteral nutrition* (TPN) or *intravenous* (IV) line.
- You may take your other prescribed medicines (except cough syrup or chewable tablets) if you can take them on an empty stomach. If you are told not to take your medicines, do not take them.
- If possible, bring your most recent imaging films. These include PET, CT, or MRI scans. They may be on films or CD-ROM. Our doctors will compare them to your new PET/CT scan.
- Arrive 15 minutes before your scheduled time. The exact timing of this scan is very important.
- Do **not** wear jewelry or metal in your ears or on your head.
- If you feel uneasy in enclosed spaces, you may need a mild muscle relaxant for your scan. If you receive this medicine to help you relax, you must have a responsible adult with you who will drive you home.
- Do not bring children or pregnant women with you, due to the radioactive material that will be injected.
- For your comfort:
 - Wear warm, loose-fitting clothes. Scanner rooms may be cold.
 - We will provide warm blankets.

What should I expect when I arrive?

- A nuclear medicine technologist, nurse, or both, will help you get ready.
- An *intravenous* (IV) line (a thin tube used to give you medicine and fluids) will be inserted into a vein.
- We will check your blood sugar.
- The technologist will inject the FDG tracer through your IV.
- You will relax for about 45 minutes while the tracer moves through your body.
- You will then be taken to the PET/CT scan area.
- You will be asked to lie on your back on the scanner table.
- Most scans take about 20 minutes. You can expect to be in the Imaging Services Department for 3 to 5 hours for your entire PET/CT scan, depending on what your doctor is looking for.
- If your doctor is looking for a tumor in your brain, you will need to have more brain images taken 3 to 4 hours after the tracer is injected. These pictures will take another 20 minutes. You cannot eat anything until these extra images are done.

What will I feel during the test?

- You may feel some discomfort when the IV line is placed.
- During the PET/CT scan, you must relax and not move.
- You will not feel anything from the tracer being in your body. The radioactivity is gone within a day.

What happens after the scan?

- After the scan, drink plenty of fluids. This will help flush the rest of the tracer out of your system.

Who reads the PET/CT scan and how will I get the results?

Your PET/CT scan will be read by a radiologist or nuclear medicine doctor. This doctor will also review past scans you may have brought with you. Your own provider will give you your PET/CT scan results. Your provider should receive the results from the radiologist or nuclear medicine doctor within 3 days.

You may also read your results on your eCare Results page. If you need copies of your images on disc, call 206.598.6206.

You and your provider will decide the next step, such as treatment for a problem, as needed.

Questions?

Your questions are important. Call your doctor or health care provider if you have questions or concerns.

- University of Washington Medical Center
Imaging Services: 206.598.6200
Nuclear Medicine: 206.598.4240
- Seattle Cancer Care Alliance: 206.288.7200
- Harborview Medical Center PET: 206.744.0113