

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*.

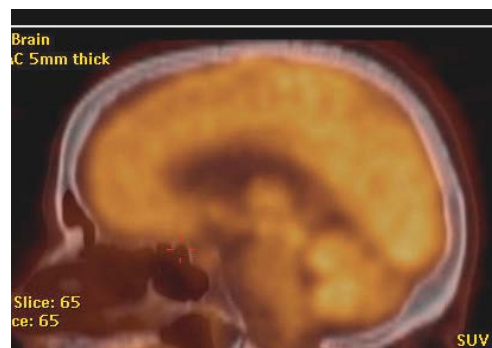
A PET/CT brain scan takes pictures of your brain as it works. It is often done to find brain tumors or seizure sites. It may also be used to help diagnose memory problems.

Before your scan, we will inject a *radioactive tracer* called *18 FDG*. FDG stands for *2-Deoxy-2-[¹⁸F] fluoro-D-Glucose*. The tracer helps us see how much energy your brain cells are using.

Some cancer cells and inflamed cells use more energy than healthy cells. This extra energy use will show up on a PET/CT FDG scan.

The PET/CT camera takes 2 types of pictures:

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



A PET/CT FDG brain scan.

Together, the PET and CT images help your doctor assess your 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 our Radiology and Imaging Services website. Visit www.uwmedicine.org/health-library/pages/head-ct-scan.aspx.

If you do not have access to the internet, please ask us for a printed copy of the handout "CT: Head Scan."

How do I prepare?

At Your Clinic Visit

Please tell your doctor if you:

- Are afraid of small spaces (*claustrophobic*)
- Cannot lie still for 20 minutes
- Cannot lie on your back any reason

If needed, you may bring a mild *sedative* (medicine to make you relax) for this scan. This medicine may be Ativan (lorazepam) or Valium (diazepam).

You will need to fill the prescription and bring the medicine with you on the day of your scan. Do **not** take it at home. The technologist will tell you when to take it.

72 Hours Before Your Scan

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

48 Hours Before Your Scan

- Make sure that you can keep your appointment and arrive on time.
- If you have diabetes, call staff where your scan is scheduled for more instructions (see phone numbers in the “Questions” box on page 4).
- If you are having sedation, make sure you have filled the prescription so that you can bring the medicine with you on scan day.

Day Before Your Scan

- Stay hydrated. Drink 6 to 8 glasses of plain water during the day.

Scan Day

- **Starting 6 hours before your scan:**
 - **Do not eat or drink anything except plain water.** Do not chew gum, eat candy or mints, take vitamins, chewable tablets, herbal supplements, or cough syrup.
 - Do **not** take any dextrose medicines by *total parenteral nutrition* (TPN) or *intravenous* (IV) line.
 - If you were told **not** to take your medicines on scan day, do **not** take them.
 - If you were told to take your medicines on scan day, take them **only** if you can take them on an empty stomach.
- Drink several glasses of water to stay hydrated.

- Wear warm, loose-fitting clothes. The scanner room may be cold.
- Do **not** wear jewelry or metal in your ears or on your head.
- **Arrive 15 minutes before your appointment time.** It is very important that we start your scan exactly on time.

What to Bring

- If you can, bring your most recent imaging films. These include PET, CT, or MRI scans. They may be on films or CD. Our doctors will compare them to your new PET/CT scan.
- If you are having sedation for the scan:
 - Remember to bring the medicine with you to the hospital.
 - You **must** bring a responsible adult with you who will take you home. **You cannot drive yourself or take a bus or taxi by yourself.**
- Do **not** bring children or pregnant women with you, since radioactive material will be used for the scan.

What should I expect when I arrive?

- A nuclear medicine technologist, nurse, or both, will help you get ready. We will provide a blanket to keep you warm.
- An *intravenous* (IV) line will be inserted into your vein. This thin tube will be used to give you medicine and fluids.
- 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.
- We will ask you to lie on your back on the scanner table.
- Most brain scans take about 20 minutes. But, if your scan will be used:
 - To assess dementia or epilepsy, plan to be in the Nuclear Medicine department for 2½ to 3 hours.
 - To find a tumor in your brain, plan to be in the Nuclear Medicine department for about 5 hours. You will need to have more brain images taken 3 to 4 hours after the tracer is injected. These pictures will take about 20 minutes. You may not eat anything until these extra images are done.

What will I feel during the scan?

- You may feel some discomfort when the IV line is placed.
- During the scan, you must relax and not move.
- You will not feel anything from the tracer being in your body.

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. The radioactivity is gone within a day.

Who reads the scan and how will I get the results?

A radiologist or nuclear medicine doctor will read your scan. They 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 then decide the next step, such as treatment for a problem, as needed.

Questions?

Your questions are important. Call your doctor or healthcare 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