PET/CT FDG Brain Scan

Positron emission tomography

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

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

A PET/CT brain scan takes pictures of your brain in action. It is often used to check for tumors and to find the reason for memory problems.

To do the test, we will inject a radioactive tracer called 18 FDG. FDG stands for 2-Deoxy-2-[18F] fluoro-D-Glucose. It is injected before the PET scan and allows us to see images of how your cells take up the tracer.

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

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

The PET and CT scans together will provide the images your doctor needs to fully assess your brain.

What is a PET/CT brain scan used for?

A PET/CT scan of the brain can be used to find out why someone has memory loss, seizures, or brain tumors. The scan will let your doctors see disease or injury in your brain.

How do I prepare for a PET/CT brain scan?

72 Hours Before
- Do not use marijuana for 72 hours before your appointment.

48 Hours Before
- Make sure that your appointment time is convenient for you.
• Please call staff where your scan is scheduled (see phone numbers 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)

**The Day Before**

• Stay hydrated. Drink 6 to 8 glasses of plain water the day before your scan and several on the day of your scan.

**6 Hours Before**

• **Do not eat or drink anything except plain water.** Drink several glasses of water to stay hydrated.

• You may take your 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.

• Do **not** chew gum, mints, eat candy, or take vitamins.

**On the Day of Your Scan**

• 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 on your clothes.

• 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. Some 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 for your scan.

• An intravenous (IV) line (a thin tube used to give you medicine and fluids) will be inserted into a vein.
- Your blood sugar will be checked.
- The technologist will inject the FDG radioactive tracer, also called a radiotracer, through the IV.
- You will relax for about 45 minutes while the radiotracer circulates.
- You will then be taken to the PET/CT scan area.
- You will be asked to lie on your back on the scanner table.
- Your doctor may have requested a computed tomography (CT) scan with IV contrast to be done on the PET/CT camera after your PET scan.
  - To learn more about this scan, click on “Head CT Scan” on the Radiology and Imaging Services website:
    http://uwmedicine.washington.edu/Patient-Care/Our-Services/Medical-Services/Radiology-Imaging-Services/Pages/ArticleView.aspx?subID=320
    If you do not have access to the Internet, please ask for a copy.
- 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 radiotracer is injected. These pictures will take another 20 minutes. You will need to keep fasting until these 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 radiotracer being in your body. The radioactivity is gone within a day.
- After the scan, there are no special instructions except to drink plenty of fluids. This will help flush the remaining radiotracer 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 doctor will give you your PET/CT scan results. Your doctor should receive the results from the radiologist or nuclear medicine doctor within 3 days.