Procedures/Diagnostic Tests

Positron emission tomography scan (diagnostic)

Patient name

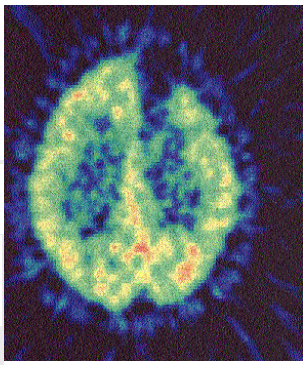
Test date

Time of injection

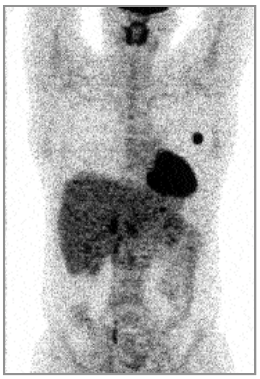
Time you should be at the Nuclear Medicine/PET Departments

This time is reserved only for you, so please arrive promptly. You might want to allow time for parking and taking the elevator.

Location: 1st floor check-in desk at the Nuclear Medicine/PET Departments, Building 10 Room 1C401



PET scan of the brain



PET scan of the whole body

You are scheduled for a diagnostic PET (positron emission tomography) scan. A PET scan uses small amounts of radioactivity to take detailed pictures of different areas inside the body. Diagnostic PET scans use one type of radioactive compound: fluorinated deoxyglucose (F18-FDG). They can help your health care team do one of the following:

- diagnose and treat cancer
- locate parts of the brain causing epileptic seizures
- check the brain for recurrent cancer or damage from radiation therapy.

What does PET mean?

The letters “PE” stand for positron emission. This is the scientific term for the type of radioactivity attached to the compound you will be given. “T” stands for tomography. Tomography means that the radioactivity can be detected at many angles as you move through the scanner. By using many angles, the scanner can make detailed pictures of sections of your body.

How does PET differ from other scans, like CT?

Computerized tomography (CT) shows the shape and structure of your body’s organs and tissues; PET shows how they work. Because of this, PET scans can often find changes in the body’s tissues before changes can be seen in their structure.

Will the scan hurt?

The scan, itself, is painless. But you may feel sore after lying still for the time needed to complete the scan. You may also feel discomfort as a soft tube or small needle is placed into your vein (usually in the arm). The compound will be given to you through this tube or needle.

What if I can't stay still for the scan?

If you are concerned about lying still for a long time, or if you have claustrophobia, you may need a sedative before the scan. The sedative may be given to you as a tablet. If you need sedation, make sure someone can drive you home.

Preparation

- Be on time for your scan.
  The dose of compound you get is made precisely for the time of your injection.
- Do not eat for 4 to 6 hours before your appointment.
  For diagnostic brain scans:
  Do not eat for 4 hours before your appointment.
  For diagnostic whole body scans:
  Do not eat for at least 6 hours before your appointment.
  However, you are encouraged to drink water and take your prescribed medications.
  Please note: You may drink water only. No gum, mints, or sugarless foods may be eaten.
- If you have diabetes, follow your daily routine by eating small, normal meals. Take your insulin or oral medications as usual. Your blood sugar should be between 100 and 200 mg/dLbefore the scan. You may be asked to have your blood drawn in phlebotomy to measure your blood sugar level.
- If you are a woman of childbearing age, you will be asked to give a urine or blood sample to test for pregnancy. You will also be asked to sign a card in the Nuclear Medicine Department stating that you are not pregnant or breastfeeding a child.

Procedure

- A soft, flexible tube (intravenous, or I.V.) or needle will be placed into one of your veins. You will receive the compound through this tube.
- After the compound is given, you will be asked to rest in a reclining chair in a quiet, darkened room. If you are having a brain scan, you will rest for 30 minutes; if you are having a body scan, you will rest for 50 minutes. This time allows your body to absorb the compound.
- To prevent the compound from going to your tongue and vocal cords, you may be asked not to speak. To help you pass the time, a CD player will be available to you. You are also welcome to bring CDs of your favorite music or audio books.

- When it is time for your scan, you will be asked to lie on your back on a table. This table slides into the PET scanner, a donut-shaped machine that looks like a CT scanner. Because scanning is almost noiseless, the room will stay quiet.
- For part of the scan, you may be asked to keep your arms raised above your head. This may be uncomfortable for some people, especially those with arthritis. Please be assured that every effort will be made to keep you comfortable. Pillows or cushions may be used to help you stay positioned.
- You will be asked to lie as still as possible so that the scanner can take clear pictures. Depending on which part of your body is being scanned, the test will last from 30 to 90 minutes.

After the procedure

- If you were not sedated, you may resume your usual routine. If you were sedated, do not drive yourself home–have someone else drive you. Even if you plan to take a taxi or other public transportation, please arrange for someone to go with you.
- Continue to drink plenty of fluids for the next 4 hours. You may drink any kind of liquid after the scan–you are not limited to water.

Special instructions

If you have more questions about your PET scan, feel free to ask:
Barbara A. Galen, MSN, CRNP, CNMT
Coordinator, Diagnostic PET Service
Nuclear Medicine/PETDepartments, NIH Clinical Center
301-496-5675 or have her paged at 301-496-1211

If Ms. Galen is unavailable, call the Nuclear Medicine Department and ask to speak to the physician on call.

National Institutes of Health Clinical Center
Bethesda, MD 20892

Questions about the Clinical Center?
http://www.cc.nih.gov/comments.shtml
10/2000