This handout explains the positron emission tomography (PET)/CT scan, how to prepare for it, how the procedure works, what to expect during the scan, and how you will get your results.

A PET/CT scan is a simple way to take pictures of your body’s cells in action. It allows a specially trained doctor (a radiologist) to check for changes in your cells. To do the test, we will inject a radioactive tracer called $^{18}$FDG. FDG stands for 2-Deoxy-2-$[^{18}$F$]$fluoro-D-Glucose. It is injected before the PET scan and allows us to see images of how your cells take up the tracer.

A PET/CT camera takes 2 types of pictures:
- The PET scan shows where the tracer has collected in your body.
- The CT scan provides pictures of your body structures.

The PET and CT scan together provide the images your doctor needs to look for changes in your cells.

What are PET/CT scans used for?

PET/CT scans are used most often to detect cancer and to show whether cancer treatments are working.

PET/CT scans of the brain are used to assess patients who have memory loss, seizure problems, or brain tumors.

How do I prepare for a PET/CT scan?

- **Do not eat or drink anything except plain water for 12 hours before your scan.** You may take your prescribed medicines (except cough syrup or chewable tablets) on the day of your exam 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.

- Stay hydrated. Drink 6 to 8 glasses of water the day before your scan and several on the day of your exam.
• Do not take any TPN or IV dextrose medicines for 12 hours before your scan.
• Do not exercise for 48 hours before 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.
• Make sure that your appointment time is convenient for you. The exact timing of this study is very important, so please arrive 15 minutes before your scheduled time.
• Wear warm, loose-fitting clothes since some scanner rooms may be cold. Do not wear jewelry or metal on your clothes on the day of your scan.
• We will provide warm blankets and offer music for you to listen to during your scan.
• Do not bring children or pregnant women with you, due to the radioactive material that will be injected.
• If a mild muscle relaxant is planned for your exam, you must have someone come with you who will drive you home.
• If you have disease in your pelvis, a bladder catheter (a tube that drains urine from your bladder) may be placed before your PET/CT scan. Please ask the nurse if you have any questions.
• Please call staff where your scan is scheduled (see page 3 for phone numbers) for more instructions if you:
  - Have diabetes
  - Are taking any granulocyte colony-stimulating factor (G-CSF) medicines (such as Neupogen or Neulasta)
  - Are taking any drugs that stimulate red blood cells (such as Epogen or Procrit)
• Your doctor may have requested a CT scan with IV contrast to be done on the PET camera after your PET/CT scan. Please see the Computed Tomography (CT or CAT scan) link for more information on this scan: 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 printed copy.

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.

• The radiotracer will circulate for about 45 minutes.

• You will then be taken to the PET/CT scan area.

• You will be asked to lie on your back, with your arms above your head, on the scanner table.

• Most scans take about 1 hour. You can expect to be in the Imaging Department for 3 to 3½ hours for your entire PET/CT scan.

**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 FDG 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, who also reviews past scans you may have brought with you. Your own doctor will give you your scan results. Your doctor should receive the results from the radiologist or nuclear medicine doctor within 3 days.

**Questions?**

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

UWMC Imaging Services: 206-598-6200

UWMC Nuclear Medicine: 206-598-4240

Seattle Cancer Care Alliance: 206-288-7200