



UW Medicine
UNIVERSITY OF WASHINGTON
MEDICAL CENTER



PET/CT FDG（去氧葡萄糖正子電腦斷層）掃描

正電子發射斷層攝影

本手冊解釋 PET（正子放射斷層）/CT（電腦斷層）掃描、如果為這種掃描做準備、這種掃描如何起作用、掃描的預期步驟，以及你將如何獲得你的掃描結果。

PET/CT 掃描是一種拍攝你體內活動細胞圖像的簡單方法。它讓受過專門訓練的醫生（放射科醫生）能夠檢查細胞中的改變。要獲得最佳效果，我們將注射一種放射性示蹤劑，稱為 *18 FDG*。FDG，代表 2-去氧-2-[¹⁸F]氟-D-葡萄糖。示蹤劑是在進行 PET 掃描前注射的，以便讓我們看到你的細胞如何吸收示蹤劑的圖像。

PET/CT 攝影機拍攝兩種類型的圖像：

- PET（正子）掃描顯示放射性示蹤劑聚集在你身體的哪些部位。
- CT 掃描提供人體組織結構的詳細圖像。

PET 和 CT 掃描一起使用時，可為醫生提供檢查細胞中各種變化所需的圖像。

PET/CT 掃描的用途是什麼？

PET/CT 掃描最常用於檢測癌症，以及顯示癌症治療是否有效。

腦部 PET/CT 掃描用於對患有失憶症、癲癇或腦腫瘤的病人進行評估。



這張 PET 掃描圖像中的陰暗區域顯示示蹤劑在此患者體內聚集的部位。

如何為 PET/CT 掃描做準備？

- 掃描前 12 個小時內切勿進食任何東西或飲用任何液體，清水除外。在檢查當天，你可以服用處方藥（但止咳糖漿或口嚼片除外），如果你可以空肚服用這些藥物的話。如果醫生告訴你不要服用你的藥物，切勿服用。切勿嚼口香糖、薄荷糖、吃糖果，或服食維生素。
- 保持身體的水份。掃描前一天喝 6 至 8 杯水，檢查那天喝幾杯水。

- 掃描前 12 小時，切勿服用任何三磷酸吡啶核苷酸 (TPN) 或靜脈注射葡萄糖藥物。
- 掃描前 48 小時內切勿運動。
- 如有可能，帶上你最近的造影膠片。這些造影包括 PET、CT 或 MRI 掃描。它們可以在膠片上或在光碟上。我們的醫生要將它們與你新的 PET/CT 掃描進行比較。
- 確保你的約診時間方便你。此項研究的確切時間安排非常重要，所以請在計劃時間前 15 分鐘到達。
- 穿上溫暖寬鬆的衣服，因為有些掃描室可能較冷。掃描那天不要佩戴珠寶首飾，不要穿著有金屬的衣服。
- 在掃描過程中，我們將提供溫暖的毯子並播放音樂給你聽。
- 切勿攜帶兒童或孕婦，因為需要為你注射放射性物質。
- 如果計劃用不強烈的肌肉鬆弛劑對你進行檢查，你必須有人陪同並開車送你回家。
- 如果你的骨盆有疾病，在做 PET/CT 掃描前，會為你放置一條膀胱導管（用來從你的膀胱排出尿液的管子）。若有任何疑問，請詢問護士。
- 如果你有以下情況，請致電為你安排掃描的部門的醫護人員（參看第 3 頁上的電話號碼），向他們查詢詳情：
 - 患有糖尿病
 - 正在服用任何粒細胞集落刺激因數 (G-CSF) 藥物（例如 Neupogen 或 Neulasta）
 - 正在服用任何會刺激紅血球的藥物（例如 Epogen 或 Procrit）
- PET/CT 掃描完成後，你的醫生可能會要求在 PET 相機上用靜脈注射示蹤劑來做 CT 掃描。請進入以下電腦斷層掃描 (CT 或 CAT 掃描) 鏈接，瞭解有關這種掃描的更多資訊：<http://uwmedicine.washington.edu/Patient-Care/Our-Services/Medical-Services/Radiology-Imaging-Services/Pages/ArticleView.aspx?subID=320>
如果你沒有使用互聯網，請索取一份列印件。

抵達後的預期步驟？

一位核子醫學科放射師或護士，或他們兩人同時幫助你為掃描造準備。

- 首先將一根靜脈 (IV) 導管（一根用來給你注入藥物和液體的細長導管）插入你的靜脈中。
- 將檢查你的血糖。
- 放射師將透過靜脈導管注入 FDG（氟去氧葡萄糖）放射性示蹤劑。
- 讓放射性示蹤劑在體內循環約 45 分鐘。
- 然後，你被帶到 PET/CT 掃描室。
- 將會要求你仰臥在掃描機檢查臺上，手臂放在頭上。
- 大部分掃描需時約 1 小時。你可以預計要在造影部逗留 3 至 3 個半小時才能完成整個 PET/CT 掃描。

在檢查過程中我會有什麼感覺？

插入 IV 導管時，你可能會感到有些不適。在 PET/CT 掃描過程中，你必須放鬆，不能移動。

你將感覺不到你體內有放射性示蹤劑。放射性物質會在一天內消失。

掃描完成後，醫生不會給你特別指示，但會叫你喝大量的液體。這樣有助於沖洗掉你身體系統內剩餘的 FDG。

誰負責解釋 PET/CT 掃描，以及我怎樣獲取掃描結果？

你的 PET/CT 掃描將由一名放射師或核子醫學醫生審閱和解釋，該放射師或醫生還將審閱你可能會帶來的以前的掃描。你的家庭醫生會將你的掃描結果給你。你的醫生應該在 3 天內收到放射科醫生或核子醫學醫生寄來的掃描結果。

注釋

有問題嗎？

你的問題很重要。如果你有任何問題或疑慮，請致電你的醫生或保健服務提供者。

UWMC 成像服務熱線：
206-598-6200

UWMC 核子醫學部：
206-598-4240

西雅圖癌症照護聯盟：
206-288-7200

PET/CT FDG Scan

Positron emission tomography

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-[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.

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.



The dark areas in this PET scan show where the tracer has collected in this person's body.

- 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

Notes
