



UW Medicine



糖尿病患者的氟去氧葡萄糖PET/CT 掃描

本手冊為將在華盛頓大學醫學中心、Harborview 醫療中心或西雅圖癌症照護聯盟做氟去氧葡萄糖 PET/CT 掃描的糖尿病患者給出特別指示。請參看第 4 頁上這些醫療機構的電話號碼。

你的醫生已經為你預約了稱為氟去氧葡萄糖 PET/CT 掃描的檢查。如果你仍然沒有“氟去氧葡萄糖 PET/CT 掃描”的說明資料，請向其索取一份。

PET 的意思是正電子發射斷層攝影。PET/CT 攝影機拍攝兩種類型的圖像：

- PET 掃描顯示放射性示蹤劑在人體內聚集的部位。
- 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。

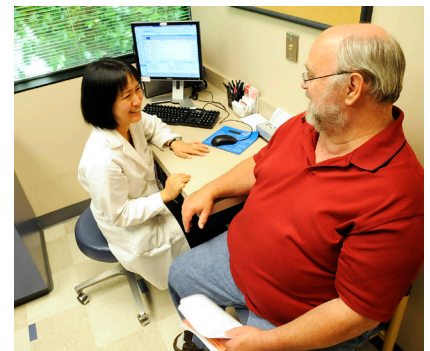
FDG，代表 2-去氧-2-[¹⁸F]氟-D-葡萄糖。這種造影使用氟-18 去氧葡萄糖，這是一種放射性示蹤劑，其作用如人體內的葡萄糖一樣。

糖尿病患者很難分解體內的葡萄糖。這意味著你需要遵循氟-18 去氧葡萄糖 PET/CT 掃描的特別指示。

請認真仔細地遵循本手冊中的所有指示。將血糖控制住才能從這項檢查中獲得最準確的掃描結果。

指示

1. **掃描前 2 周**，致電負責管理你的糖尿病的醫生，向其諮詢為此項掃描做準備的最佳方法。與該醫生一起閱讀本手冊中的指示。
2. 約診前 12 小時，需要開始禁食。氟去氧葡萄糖 PET/CT 掃描一般安排在早上進行，以便減少需要禁食的時間。如果你的預約時間不是安排在早上，請致電負責安排你這次掃描的放射/核子醫學部職員。（參看第 4 頁上的電話號碼。）



掃描前 2 周，向負責管理你的糖尿病的醫生諮詢。

3. 掃描當天早上 8 點前，即在你通宵禁食了 12 個小時之後，確保你的血液葡萄糖（血糖）能夠保持在 80 到 150 mg/dL 之間。如果你不能確定你可以這樣做，在你的約診前 3 天嘗試“練習跑步”（參見第 2 頁和第 3 頁）。如果你在禁食後早上血糖不能達到 80 到 150 mg/dL 之間的水平，請致電告訴安排你做這次掃描的放射/核子醫學部職員。（參看第 4 頁上的電話號碼。）
4. 如果在掃描當天你的血糖水平高於 150 mg/dL，我們可能需要重新安排你的掃描時間。
5. 在為氟去氧葡萄糖 PET/CT 掃描進行禁食時，如果你的血糖水平低於 70 mg/dL 或出現血糖過低（低血糖）症狀，請按照你通常所用方法治療你的低血糖。然後致電我們以重新安排你的掃描時間。
切勿讓你的血糖繼續這樣低，這樣對你會有危險！
6. 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。
7. 掃描預約前 48 小時，切勿做運動。

如何進行“練習禁食”

在氟去氧葡萄糖PET/CT 掃描約診前至少 3 天，檢查你的血糖水平。

1. 通宵禁食前的晚餐：
 - 如果你服用胰島素，應隨晚餐服用你平常服用的晚上胰島素劑量。
 - 如果你服用口服糖尿病藥物或注射胰島素之外的糖尿病藥劑（品牌名稱爲 Victoza 或 Byetta），在練習跑步前的晚上服用或注射這些藥物。
 - 通宵禁食 12 個小時。
 - 禁食期間，只能喝白開水。禁止吃口香糖或薄荷糖。
2. 禁食 12 個小時後的早上，檢查你的血糖水平。
3. 請致電安排你做這次掃描的放射/核子醫學部職員，告訴他們你在 12 個小時禁食並練習跑步後的血糖水平。（參看第 4 頁上的電話號碼。）
4. 如果你練習跑步後早上的血糖水平高過 150 mg/dL，我們需要在你掃描那天獲知此事，以便我們能夠請示你的糖尿病保健提供者。

對於氟去氧葡萄糖 PET/CT 掃描檢查，早上血糖水平在 80 至 150 mg/dL 之間屬於安全範圍。

- 練習禁食後的早上，你可以恢復你正常的日常飲食和服藥，直到進行掃描前的晚上。

掃描當天

- 掃描前通宵禁食 12 個小時。參看第 3 頁和第 4 頁上有關服用胰島素、口服糖尿病藥，以及其他胰島素之外的糖尿病注射藥劑的指示。
 - 在禁食期間，只能喝大量白開水 - 不能喝其他飲料。
 - 不能吃口香糖、薄荷糖或糖果。
 - 切勿服食任何維生素、咀嚼片或糖漿類藥物，例如止咳糖漿。
- 在做檢查的當天早上，可以服用**非糖尿病藥物**，可以用開水送服，如果你無需用食物送藥的話。
- 禁食 12 個小時後的早上，檢查你的血糖水平。如果你的血糖是：
 - 80 至 150 mg/dL，請按時赴診。
 - 低於 70 mg/dL 或出現低血糖症狀，用你通常所用方法治療你的低血糖。**切勿讓低血糖繼續這樣低而不予治療。**致電醫院以重新安排你的掃描時間（參看第 4 頁上的電話號碼）。
 - 高於 150 mg/dL，請致電我們。我們可能需要重新安排你的掃描時間。
- 約診當天，必須禁食，直到做完掃描為止，除非你的血糖水平低於 70 mg/dL 或出現低血糖症狀。掃描時間將持續約 3 個小時。

服用糖尿病藥物的指示

如果你目前在服用糖尿病藥物（胰島素、口服糖尿病藥，或胰島素之外的糖尿病注射藥劑），請遵循以下和第 4 頁上的指示。

口服糖尿病藥物或胰島素之外的糖尿病注射藥劑

<p>PET/CT 掃描前一天</p>	<p>服用你平常服用的口服糖尿病藥物，或注射胰島素之外的糖尿病藥劑（品牌名稱爲 Victoza 或 Byetta）。PET/CT 掃描前一天，可按平常那樣進食三餐。</p> <p>掃描前通宵禁食 12 個小時。</p> <p>切勿在禁食期間嚼口香糖、吃薄荷糖或糖果，或服食維生素。</p>
<p>PET/CT 掃描當天早上</p>	<p>切勿服用你的早上口服糖尿病藥物。</p> <p>切勿注射 Victoza 或 Byetta。</p>

<p>PET/CT 掃描後</p>	<p>對於 Metformin（即二甲胍藥物，其中一些品牌有：<i>Glucophage</i>、<i>Glucophage XR</i>、<i>Fortamet</i>、<i>Glumetza</i>、<i>Riomet</i>）：</p> <ul style="list-style-type: none"> 如果你做完使用顯影劑的 CT 掃描，醫生會指示你在做完腎功能檢查且結果為正常之前不要恢復服用任何含有 Metformin 類藥物。你將在掃描當天獲得有關這方面的指示。 <p>對於非 Metformin 的口服糖尿病藥（參看上面的 Metformin 藥物品牌名稱）：</p> <ul style="list-style-type: none"> 午餐：服用你平常在早上服用的口服糖尿病藥。注射你平常注射的 Victoza 或 Byetta。這之後，恢復回你平常的劑量。 <p>如果你有任何問題，請諮詢你的糖尿病醫生。</p>
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胰島素

<p>PET/CT 掃描前一天</p>	<p>PET/CT 掃描前一天，可隨平常三餐服用你平常服用的胰島素劑量。如果服用胰島素睡前劑量，應遵醫囑服用，但在進行禁食的 12 個小時之前，要確保吃一餐高蛋白質食物。</p> <p>約診前要禁食 12 個小時。</p>
<p>PET/CT 掃描當天早上</p>	<p>不能在掃描當天早上注射胰島素。如果平常是在早上注射 Lantus 或 Levemir 等長效（基礎）胰島素，你可能需要在掃描前一天晚上注射。在你做掃描前，負責管理你糖尿病的醫生將幫助你調整你使用胰島素的時間表。</p> <p>切記：掃描前 2 周，諮詢你的糖尿病醫生有關早上的胰島素劑量。告訴該醫生你不能在掃描當天早上注射胰島素。（使用胰島素泵的患者可以例外。）</p> <p>你將要禁食總共約 15 個小時，包括掃描時間。</p> <p>如果你有任何問題，請致電安排你掃描的放射/核子醫學部的職員。（參看左邊“有任何問題嗎？”方框中的電話號碼。）</p>
<p>PET/CT 掃描後</p>	<p>掃描完成後，如果你對恢復你的胰島素有任何問題，請諮詢你的醫生。</p>

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。

- 華盛頓大學醫學中心造影服務部：
206-598-6200
- Harborview 造影服務熱線：206-744-3105
- 西雅圖癌症照護聯盟：206-288-7200

UW Medicine

PET/CT FDG Scan for Patients with Diabetes



This handout gives special instructions for patients with diabetes who are having a PET/CT FDG scan at University of Washington Medical Center, Harborview Medical Center, or Seattle Cancer Care Alliance. Please see phone numbers for each facility on page 4.

Your doctor has ordered an exam for you called a *PET/CT FDG scan*. Please ask for the handout called “PET/CT FDG Scan” if you do not already have it.

PET stands for *positron emission tomography*. A PET/CT camera takes 2 types of pictures:

- The PET scan shows where the radioactive 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.

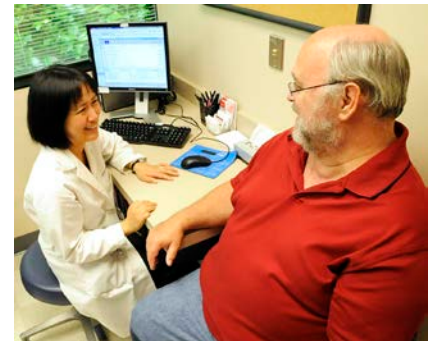
FDG stands for *2-Deoxy-2-[¹⁸F]fluoro-D-Glucose*. This type of imaging uses Fluorine-18 FDG, a radioactive tracer that acts like glucose in the body.

People with diabetes have trouble processing glucose. This means you need to follow special instructions for your PET/CT FDG.

Carefully follow all instructions in this handout. Keeping your blood sugars under control provides the best information possible from this exam.

Instructions

1. Call your health care provider who manages your diabetes **2 weeks before your scan** to talk about the best way to prepare for your scan. Review the instructions in this handout with this provider.
2. You will need to start your fast 12 hours before your appointment time. Your PET/CT FDG scan will be early in the morning to reduce the amount of time you will need to fast.



Talk with your health care provider who manages your diabetes 2 weeks before your scan.

If your appointment is not set for early morning, please call the Radiology/Nuclear Medicine staff where your scan is scheduled. (See phone numbers on page 4.)

3. Make sure your blood glucose (blood sugar) can be between 80 and 150 mg/dL by 8 a.m. on the morning of your scan, after your 12-hour overnight fast. If you are not sure you can do this, try a “practice run” 3 days before your appointment (see pages 2 and 3). Call the Radiology/Nuclear Medicine staff where your scan is scheduled if you have any problems reaching a blood glucose level between 80 and 150 mg/dL in the morning after your fast. (See phone numbers on page 4.)
4. If your blood glucose level is above 150 mg/dL on the day of your scan, we may need to reschedule your scan.
5. If you have a blood glucose level lower than 70 mg/dL or symptoms of *hypoglycemia* (low blood glucose) while fasting for the PET/CT FDG scan, treat your low blood sugar in your usual way. Then call us to reschedule your scan. **Do not let your blood sugars go so low that you are unsafe!**
6. Do **not** take any TPN or IV dextrose medicines for 12 hours before your scan.
7. Do **not** exercise for 48 hours before your scan appointment.

How to Do a “Practice Run”

Check your blood glucose levels for at least 3 days before your PET/CT FDG scan appointment.

1. Evening meal before your overnight fast:
 - If you take insulin, take your usual evening insulin dose with your evening meal.
 - If you take oral diabetes medicine or a diabetes medicine *besides* insulin that you inject (with brand names Victoza or Byetta), take your usual dose of these the evening before your practice run.
 - Fast for 12 hours overnight.
 - During your fast you may drink plain water only. No gum or mints.
2. Check your blood glucose level in the morning after your 12-hour fast.
3. Call the Radiology/Nuclear Medicine staff where your scan is scheduled to let them know what your blood glucose level was after your 12-hour practice-run fast. (See phone numbers on page 4.)
4. If your morning blood glucose level after your practice run was higher than 150 mg/dL, we need to know this well before the day of your scan so we can ask your diabetes care provider for instructions.

A morning blood glucose level between 80 and 150 mg/dL is a safe range for your PET/CT FDG scan appointment.

5. In the morning after your practice run, you may return to your normal routines of eating and taking medicine until the evening before your scan.

On the Day of Your Scan

1. Fast overnight for 12 hours before your scan. **See the instructions on pages 3 and 4 for taking insulin, oral diabetes drugs, and other diabetes drugs besides insulin that are injected.**
 - You may drink plain water only during your fast – **no other drinks.**
 - You may **not** have gum, mints, or candy.
 - **Do not** take any vitamins, chewable tablets, or syrup-based medicines such as cough syrup.
2. You may take your **non-diabetes medicines** with water on the morning of your exam if you do not need to take them with food.
3. Check your blood glucose level in the morning after your 12-hour fast. If your blood glucose is:
 - 80 to 150 mg/dL, go to your appointment as scheduled.
 - Below 70 mg/dL or you have symptoms of hypoglycemia, treat your low blood glucose in your usual way. **Do not let low blood glucose go untreated.** Call the facility to reschedule your scan (see phone numbers on page 4).
 - Above 150 mg/dL, call us. We may need to reschedule your scan.
4. On the day of your appointment, you will have to keep fasting until your scan is over, unless you have a blood glucose level lower than 70 mg/dL or symptoms of hypoglycemia. Your scan will last about 3 hours.

Instructions for Diabetes Medicines

If you are taking diabetes medicines (insulin, oral drugs, or diabetes drugs besides insulin that you inject), follow the instructions below and on page 4.

Oral or Diabetes Drugs *Besides* Insulin That You Inject

<p>The day before your PET/CT scan</p>	<p>Take your usual oral diabetes drugs or diabetes drugs besides insulin that you inject (with brand names Victoza or Byetta). Eat regular meals the day and evening before your PET/CT scan.</p> <p>Fast for 12 hours overnight before your scan.</p> <p>Do not chew gum, eat mints or candy, or take vitamins during your fast.</p>
<p>On the morning of your PET/CT scan</p>	<p>Do not take your morning oral diabetes drugs.</p> <p>Do not inject Victoza or Byetta.</p>

<p>After your PET/CT scan</p>	<p>For Metformin (example brand names: <i>Glucophage, Glucophage XR, Fortamet, Glumetza, Riomet</i>):</p> <ul style="list-style-type: none"> • If you have a contrast CT scan done, you may be instructed not to resume any drugs that contain Metformin until your kidney function is tested and is normal. You will receive instructions about this on the day of your scan. <p>For oral diabetes drugs other than Metformin (see above for Metformin brand names):</p> <ul style="list-style-type: none"> • At lunch: Take your usual morning oral diabetes drug. Inject your usual Victoza or Byetta. After this, return to your usual doses. <p>Check with your health care provider you see for your diabetes if you have any questions.</p>
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Insulin

<p>The day before your PET/CT scan</p>	<p>Take your usual insulin doses with your usual meals the day before your PET/CT scan. If you take a bedtime dose of insulin, you may take this as ordered, but please be sure to have a high protein snack before your 12-hour fast.</p> <p>Fast for 12 hours before your appointment.</p>
<p>On the morning of your PET/CT scan</p>	<p>You cannot inject insulin on the morning of your scan. If you normally inject long-acting (basal) insulin such as Lantus or Levemir in the morning, you may need to take it the evening before your scan. Your health care provider who manages your diabetes will help you adjust your insulin schedule before your scan.</p> <p>Remember: Ask your diabetes health care provider about your morning insulin doses 2 weeks before your scan. Tell this provider you cannot inject insulin the morning of your scan. (Exceptions may be made for patients on an insulin pump.)</p> <p>You will be fasting for a total of about 15 hours, including scan time.</p> <p>If you have any questions, please call the Radiology/ Nuclear Medicine staff where your scan is scheduled. (See phone numbers in the “Questions?” box on the left.)</p>
<p>After your PET/CT scan</p>	<p>Check with your health care provider you see for your diabetes if you have any questions about resuming your insulin after your scan.</p>

Questions?

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

- University of Washington Medical Center Imaging Services: 206-598-6200
- Harborview Imaging Services: 206-744-3105
- Seattle Cancer Care Alliance: 206-288-7200