

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 UW Medical Center, Harborview Medical Center, or Seattle Cancer Care Alliance.

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*. CT stands for *computed tomography*. FDG stands for *2-Deoxy-2-[¹⁸F]fluoro-D-Glucose*.

This exam uses Fluorine-18 FDG, a *radioactive tracer* that acts like glucose in the body. The tracer helps us see how much energy your cells are using. We measure this with a FDG PET/CT scan.

A PET/CT camera takes 2 types of pictures:

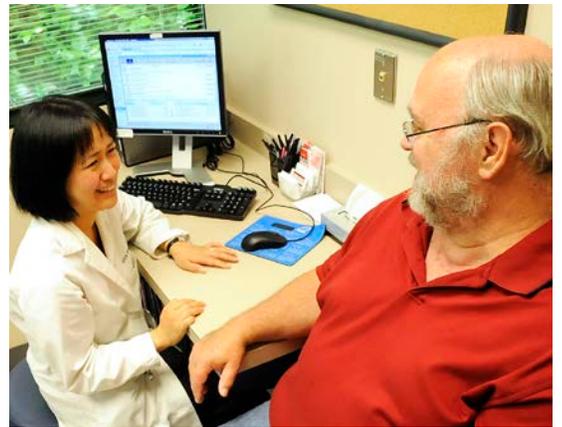
- The PET scan shows where the tracer has collected in your body.
- The CT scan provides pictures of your body structures.

Together, the PET and CT images help your doctor see changes in your cells.

How to Prepare

People with diabetes have trouble processing glucose. This means you need to follow special instructions for your scan.

Closely follow all instructions in this handout. This will help keep your blood sugar under control and give us the clearest results from this scan.



Talk with your diabetes care provider 2 weeks before your scan.

- Call your diabetes care provider **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.

- **Do not exercise for 24 hours** before your scan appointment.
- **Drink plenty of water** so that you stay hydrated.
- **Starting 12 hours before your scan**, do **not** take any dextrose medicines by *total parenteral nutrition* (TPN) or *intravenous* (IV) line.
- **Starting 12 hours before your appointment time, you cannot eat or drink.** You may only drink plain water during this 12-hour fast. Your scan will be early in the morning to reduce the amount of time you need to fast.
 - 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 5.)
- By 8 a.m. on the morning of your scan, after your 12-hour overnight fast, your blood glucose (blood sugar) must be **below 175 mg/dL**.
 - 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 below 175 mg/dL in the morning after your practice run. (See phone numbers in the “Questions” box on page 5.)
- If your blood glucose level is above 175 mg/dL on the day of your scan, we may need to reschedule your scan.
- If you have a blood glucose level lower than 70 mg/dL or symptoms of *hypoglycemia* (low blood glucose) while fasting for the scan:
 - Treat your low blood sugar in your usual way. **Do not let your blood sugar go so low that you are unsafe!**
 - After your blood sugar is stable, call us to reschedule your scan.

How to Do a “Practice Run”

Check your blood glucose levels for at least 3 days before your scan.

- 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 (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 **only** plain water. Do not chew gum, eat mints or candy, or take vitamins.

- Check your blood glucose level in the morning after your 12-hour fast.
- 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 5.)
- If your morning blood glucose level after your practice run was higher than 175 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 below 175 mg/dL is a safe range for your PET/CT FDG scan appointment.

- 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

- Fast overnight for 12 hours before your scan. See the instructions on pages 4 and 5 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.
- 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.
- Check your blood glucose level in the morning after your 12-hour fast. If your blood glucose is:
 - **Below 175 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 to reschedule your scan. (See phone numbers on page 5.)
 - **Above 175 mg/dL**, call us. We may need to reschedule your scan.
- On the day of your scan, 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

Oral or Diabetes Drugs *Besides* Insulin That You Inject

If you are taking diabetes medicines (insulin, oral drugs, or diabetes drugs besides insulin that you inject), follow these instructions:

The day before your scan	<ul style="list-style-type: none">• 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 scan.• Fast for 12 hours overnight before your scan.• Do not chew gum, eat mints or candy, or take vitamins during your fast.
On the morning of your scan	<ul style="list-style-type: none">• Do not take your morning oral diabetes drugs.• Do not inject Victoza or Byetta.
After your scan	<p>For metformin (example brand names: <i>Fortamet, Glucophage, Glucophage XR, Glumetza, Riomet</i>):</p> <ul style="list-style-type: none">• If you have a contrast CT scan done, you may be told 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>Talk with your diabetes care provider if you have any questions.</p>

Insulin

If you are taking insulin, follow these instructions:

The day before your scan	<ul style="list-style-type: none">• Take your usual insulin doses with your usual meals the day before your 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.• Fast for 12 hours before your appointment.
On the morning of your scan	<ul style="list-style-type: none">• 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 diabetes care provider will help you adjust your insulin schedule before your scan.• Remember: Ask your diabetes 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 if you are on an insulin pump.)• You will be fasting for a total of about 15 hours, including scan time.• 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.)
After your scan	<ul style="list-style-type: none">• Check with your diabetes care provider if you have any questions about resuming your insulin after your scan.

Questions?

Your questions are important. Call your doctor or diabetes 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: 206.606.7200