

UW Medicine



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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 Fred Hutchinson Cancer Center.

Your provider 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.

What is a PET/CT FDG scan?

- 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 (sugar) 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:

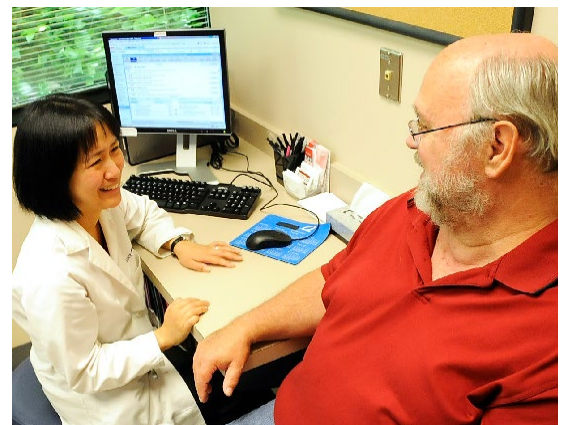
- The **PET scan** shows where the tracer has collected in your body.
- The **CT scan** provides pictures of your body structures.

Together, the PET and CT images will 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.
- You will fast for 6 hours before your scan.
- The last meal before your 6-hour fast must be high-protein and have NO carbohydrates.
- **Drink plenty of water** so that you stay hydrated.
- Starting 6 hours before your appointment time:
 - Do **not** take any dextrose medicines by *total parenteral nutrition* (TPN) or *intravenous* (IV) line.
- **Do NOT eat or drink liquids other than water** during this 6-hour fast.
- Your scan will be scheduled mid-day to reduce the amount of time you need to fast.
- After your 6-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 page 4).
 - If you have any problems reaching a blood glucose level **below** 175 mg/dL in the morning after your practice run, call the Radiology/Nuclear Medicine clinic where your scan is scheduled (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.

Food and Drink Before Your Scan

For this scan, you **must** strictly follow the instructions on page 3. If you do not or cannot follow these instructions, we will need to reschedule your scan.

Instructions



In the meal **BEFORE**
your 6-hour fast

- You **MUST** eat only proteins.
- Do **NOT** eat any carbohydrate foods.

Eat **ONLY**:

- Plain meat (beef, steak, pork, chicken, or lamb), fish, and eggs. You may cook the meat in oil, if you wish. **NO** bacon, deli meats, or other processed meats.
- **VEGANS**: Eat **ONLY** plain tofu that has been cooked in oil (added fat is needed).

“Plain” means NO sauces, seasonings, dressings, or breading.

Drink **ONLY**:

- Water

Medicines:

- **NO** chewable, liquid, or lollipop medicines. Take all other medicines with water.

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Starting 6 **HOURS**
BEFORE your scan

- **FAST**. This means do **NOT** eat anything.
- You may drink water.
- Do **NOT** take any chewable, liquid, or lollipop medicines. Take all other medicines with water only.

If you have diabetes:

- Starting 6 hours before the study, do **NOT** take insulin or other diabetes medicines.



IMPORTANT!

- You **MUST** eat **ONLY** proteins in your last meal before your 6-hour fast.

Instructions for Diabetes Medicines

Review the chart below for instructions about stopping medications before your PET. Call your clinic if you have any questions.

Diabetes Medications	To Be Stopped Before PET
Rapid or short-acting insulin: Injectable regular insulin, Lispro (Humalog), Novolog	Take on the day of your test, 6 hours before appointment, with a meal.
Intermediate & Long-acting insulin (such as Lantus, insulin glargine)	Take the night before. Do not take on the day of your test.
Metformin	Can be taken day of test. If you know that you have chronic kidney disease, then stop taking for 48 hours before your test.
Victoza or Byetta injectable	Take the night before. Do not take on the day of your test.
Insulin pump	Can run continuously.

How to Do a “Practice Run”

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

- Preparing for your 6 hour fast:
 - **If you take a rapid-acting or short-acting insulin**, you can eat breakfast at 6:00 a.m. and take your insulin. Only drink water until you have checked your glucose after the 6-hour fast.
 - **If you take long-acting or intermediate-acting insulin**, switch to taking your medication in the evening the week before your PET scan. Talk to your primary care provider about this if you usually take this medication in the morning. Eat breakfast at 6:00 a.m. on the day of your scan. **Do not** take your long-acting insulin in the morning. Only drink water until you have checked your glucose after the 6-hour fast.
 - **If you take oral diabetes medicine or a diabetes medicine besides insulin that you inject** (brand names Victoza or Byetta), take your usual dose the evening before your practice run.

- Fast for 6 hours. Do not eat during this time.
- During your fast, you may **only** drink plain water. Do **not** chew gum, eat mints or candy, or take vitamins.
- Check your blood glucose level after your 6-hour fast, before eating again.
- Call the Radiology/Nuclear Medicine location where your scan is scheduled to let them know what your blood glucose level was after your 6-hour practice-run fast (see phone numbers on page 5).
- If your blood glucose level after your practice run was higher than 175 mg/dL, **we need to know this at least 24 hours before your scan.** This is so we can ask your diabetes care provider for instructions. A blood glucose level **below** 175 mg/dL is a safe range for your PET/CT FDG scan appointment.

The Day Before and Day of Your Scan

- Fast overnight for 6 hours before your scan. See the instructions on page 4 for diabetes medication instructions.
 - You may drink **only** plain water 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 day of your exam. If you need to take your medicines with food, take them with your last meal before the fast, or after the scan is complete.
- Check your blood glucose level after your 6-hour fast. If your blood glucose is:
 - **Below 175mg/dL:** Go to your appointment as scheduled.
 - **Below 70mg/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 in the "Questions?" box on the left).
 - **Above 175 mg/dL:** Call us. We may need to reschedule your scan.
- On the day of your scan, you **must** 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 2 hours.

Questions?

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

- ☐ UWMC - Montlake Imaging Services: 206.598.6200
- ☐ Fred Hutch Cancer Center: 206.606.1434