



PATIENT & CAREGIVER EDUCATION

About Your PET-CT with FDG Tracer

This information will help you get ready for your positron emission tomography (PET) computed tomography (CT) scan with fluorodeoxyglucose (FDG) tracer at Memorial Sloan Kettering (MSK).

About Your PET-CT

A PET-CT scan is an imaging procedure that's used to:

- See how the tissues and organs in your body are working.
- Find and diagnose many disorders, such as cancer.
- Plan radiation therapy.
- See how treatment is working.

Most PET scans are done to study your body's use of glucose (a type of sugar). This is because cancer cells take in glucose faster than normal tissue. Because you get glucose from food and drinks, it's important that you follow the dietary guidelines listed in the "The Day of Your PET-CT" section.

You'll have a low dose CT scan done at the same time as your

PET. CT scans take a fast series of x-ray pictures. The x-ray pictures are combined with your PET scan to create pictures of the soft tissues and bones in the area that was scanned.

You may also be scheduled for a diagnostic CT at the same time as your PET-CT. If you're also having a diagnostic CT scan, ask your nurse for the resource *Computed Tomography (CT) Scan* (www.mskcc.org/pe/ct_scan).

Tracer

Before your PET-CT, you'll get a radioactive medication with glucose called a tracer through an intravenous (IV) line in your arm. This is done to show differences between healthy tissue and diseased tissue. Your PET-CT will use FDG as the tracer. FDG is taken up by your cells and doesn't stay in your body long.

Contrast

You may need to have contrast before your scan. Contrast is a special dye used to make it easier for your doctor to see differences in your internal organs.

There are different types of contrast used for imaging studies. The contrast used for PET-CTs is an iodinated contrast (contrast that has iodine). Iodinated contrast is usually given in 2 ways: orally (by mouth) and through an intravenous (IV) catheter (thin, flexible tube) in your arm or central venous catheter (CVC).

Oral contrast

If your doctor has ordered a PET-CT with oral contrast, you'll be asked if you're allergic to iodinated contrast when you check in for your appointment. Depending on whether you have these allergies, you'll get one of the oral contrast solutions listed below. Both work the same way, are used for the same purpose, and are safe even if you have diabetes.

- Iodinated contrast
- Diluted barium sweetened with saccharin, if you're allergic to iodinated contrast

You'll start drinking the oral contrast 45 to 60 minutes before your PET-CT. This will give the contrast solution time to move into your bowels (intestines).

IV contrast

If you're also getting a diagnostic CT scan, you may get IV contrast. If your doctor ordered a CT scan with IV contrast, the contrast material will be injected into one of your veins or in your CVC, if you have one.

Reactions to contrast

Some people can have an allergic reaction to contrast. Be sure to tell your doctor or nurse about any allergies you have or if you've had a reaction to iodinated contrast (CT contrast) in the past. If your doctor feels that they need to give you medication(s) to

reduce your risk of having a reaction, you'll get a resource called *Preventing An Allergic Reaction to Contrast Dye* (www.mskcc.org/pe/allergic_reaction_contrast).

Before Your PET-CT

Breastfeeding and pregnancy

Tell your healthcare provider if you're pregnant or breastfeeding.

Diabetes care

If you have diabetes, talk to your doctor who ordered your test to see how you should manage your medication before your PET-CT.

Remove devices from your skin

If you wear any of the following devices on your skin, the manufacturer recommends you remove it before your scan or procedure:

- Continuous glucose monitor (CGM)
- Insulin pump

Talk with your healthcare provider about scheduling your appointment closer to the date you need to change your device. Make sure you have an extra device with you to put on after your scan or procedure.

If you're not sure how to manage your glucose while your device is off, talk with the healthcare provider who manages your

diabetes care before your appointment.

The Day Before Your PET-CT

Avoid strenuous and repetitive activities

For 24 hours before your scan, avoid strenuous activity and repetitive motions such as running, jogging, or cycling. These activities can lower the quality of the images that we get from your PET-CT.

Stay warm

It's important that you stay warm the day before and the day of your scan. If you get cold, a special type of fat becomes active. This can make it hard for your radiologist to read your PET-CT. Staying warm will keep the fat from becoming active and make the pictures from your scan more clear.

Follow these instructions:

- Avoid areas where you may become chilled.
- Keep your hands and feet warm at all times.
- In the winter, dress extra warmly. Wear hats, scarves, gloves, and extra layers.
- In the summer, avoid turning on your air conditioner to very high.
- Bring a sweater with you to your appointment.

For People Receiving Anesthesia

If your healthcare provider told you that you would receive anesthesia (medication to make you sleepy) while you have your PET-CT, you must follow the additional instructions below.

Before Your PET-CT

Arrange for someone to take you home

You must have a responsible care partner take you home after your procedure. Make sure to plan this before the day of your procedure.

If you don't have someone to take you home, call one of the agencies below. They will send someone to go home with you. There's usually a charge for this service, and you will need to provide transportation.

Agencies in New York:

Partners in Care: 888-735-8913

Caring People: 877-227-4649

Agencies in New Jersey:

Caring People: 877-227-4649

Instructions for eating and drinking before your procedure

- Do not eat anything after midnight the night before your PET-CT. This includes hard candy and gum.
- Between midnight and up until 2 hours before your scheduled arrival time, you may drink a total of 12 ounces of water (see figure).
- Starting 2 hours before your scheduled arrival time, do not eat or drink anything. This includes water.



The Day of Your PET-CT

If you aren't receiving anesthesia, you must follow the instructions below. You may not be able to have your PET-CT done if you don't follow these instructions before your procedure.

For 6 hours before you arrive for your scan:

- Don't eat anything.
- Don't chew gum or suck on hard candy, mints, or cough drops.
- You may drink only water.
- If you take medications, take them with water only.

What to expect when you arrive

- Once you're in the department:
 - You'll fill out a brief questionnaire.

- Your finger will be pricked or blood will be drawn from your arm to measure your blood glucose level.
 - Your blood sugar level needs to be between 70 milligrams/deciliter (mg/dL) and 199 mg/dL.
 - If your level is 200 mg/dL or above, you may need to get insulin, or your procedure may need to be rescheduled. Your nurse will speak with you about this.
 - If your blood sugar level is below 70, you may need to be rescheduled.
- The tracer will be injected into your vein. You may get contrast to drink at this time.
- You'll wait at least 60 minutes (usually 60 to 90 minutes) for your body to absorb the tracer. How long this takes will depend on the area of your body being scanned.
- Try to relax and limit your movement during this time. Ask for a blanket if you feel cold while you're waiting. You can sleep, read, listen to music, or watch videos in the area provided for you.
- If you're having a brain PET-CT, don't read or listen to music. These activities stimulate certain areas of your brain and may interfere with the results of your scan.
- You'll be asked to urinate (pee) just before your scan.

During Your PET-CT

When it's time for your scan, your technologist will bring you to the scanning room and will help you onto the scanning table. The machine looks like a large doughnut, with a hole in the middle. This is the scanning ring.

Once you're on the scanning table, the table will move slowly through the scanning ring. You must lie very still in the scanning ring until your scan is done. This can take 30 to 45 minutes, depending on the type of scan you're having.

If you're scheduled for a diagnostic CT scan, you'll get the injection of contrast in your IV or CVC after your technologist takes the first series of pictures. For more information, ask your nurse for the resource *Computed Tomography (CT) Scan* (www.mskcc.org/pe/ct_scan).

After Your PET-CT

- You may leave as soon as your scan is done, unless you have other tests or procedures scheduled.
- You'll get a card stating that you had a test done with a radioactive tracer. Keep this card with you because some security equipment can detect radioactivity.
- Limit close contact with infants or pregnant women for 12 hours after your scan.

- If you're breastfeeding, stop for 12 hours after your scan. During this time, you can continue to pump milk and either throw it away or store it for 12 hours. After 24 hours, you can feed it to your baby. You can restart breastfeeding 12 hours after your scan.
- Drink a lot of liquids to help remove the tracer from your body.
- You can resume your usual diet right away, unless you're given other instructions.

Your Results

- If your PET-CT was done for diagnostic reasons, a radiologist will read your scan. The results are usually ready for your doctor in 2 business days.
- If your PET-CT was done to help with planning your treatment, you won't get results of this scan. Your doctor will use your pictures to plan your care.

Contact Information

If you have any questions or concerns, call the Molecular Imaging and Therapy Service (MITS), which is sometimes called the Nuclear Medicine service at 212-639-6652. You can reach a staff member Monday through Friday from 9:00 AM to 5:00 PM. After 5:00 PM, during the weekend, and on holidays, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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