

ColumbiaDoctors Radiology is committed to providing the highest standard of care, participating in both clinical and research imaging.

We offer Clinical PET/CT imaging for:

Cancers utilizing: F-18 FDG, 18-F NaF, 18-F fluciclovine, and Ga-68 dotatate

Cardiology utilizing: F-18 FDG and 13-N ammonia

Brain disorders utilizing: F-18 FDG, 18F-florbetapir, 18F-flutemetamol, 18F-florbetaben

Clinical research projects apply PET imaging for monitoring therapeutic responses in cancer patients. Our research is collaborative and is conducted across Columbia University departments, Institutes, and Industry.

We have 3 state of the art Siemens BioGraph mCT Flow PET/CT scanners with FlowMotion Technology equipped with 64 slice diagnostic CT scanners.

Some of the features include:

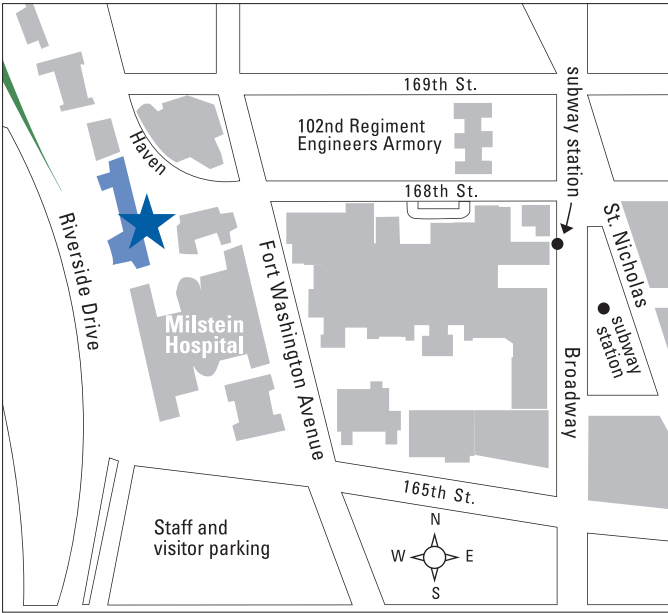
- The ability to provide the finest detail for every organ in every scan with FlowMotion, which improves accuracy
- Innovative solutions that allow the lowest dose to be administered, while still scanning patients faster than ever before. And by reducing dose and increasing speed, patient safety is improved.
- A large 78 cm bore, short tunnel and a 227 kg (500 lb) table capacity to improve patient comfort and accessibility.



Directions to ColumbiaDoctors Radiology - PET Center Facility

Our PET Center facility is conveniently located at 722 W168th Street (Mailman School of Public Health) on the R1 floor. Parking is available at the Milstein entrance or you may park at the hospital lot on Fort Washington Avenue between 164th and 165th Streets. For public transportation, you can take the A, C, or 1 subway lines or the M2, M3, M4, M5, M100, or BX7 bus lines to W168th Street.

Handicap Access is located to the left of the stairs at the front of the building.



ColumbiaDoctors | Radiology

PET Center
722 West 168th Street • R1 Floor
(Mailman School of Public Health)
New York, NY 10032
Appointment Scheduling: 212-326-8518
columbiaradiology.org



columbiaradiology.org

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About Your PET-CT Exam
A Guide for Adult & Pediatric Patients

Appointment Date: _____

Appointment Time: _____

On the day of your appointment, if you are running late or unable to make your appointment, please call us at 212-342-2899 option #4.



What is a PET scan?

A positron emission tomography (PET) scan is an imaging test that helps reveal how your tissues and organs are functioning. A PET scan uses a radioactive drug (tracer) to show this activity.

The tracer may be injected or inhaled, depending on which organ or tissue is being studied by the PET scan. The tracer collects in areas of your body that have higher levels of chemical activity, which often correspond to areas of disease. On a PET scan, these areas show up as bright spots. The pictures from a PET scan provide information different from that uncovered by other types of scans, such as computerized tomography (CT) or magnetic resonance imaging (MRI). A PET scan or a combined PET/CT scan enables your doctor to better diagnose your condition.

A PET scan is useful in revealing or evaluating several conditions, including some cancers, heart disease and brain disorders.



Cancer

Cancer cells show up as bright spots on PET scans because they have a higher metabolic rate than do normal cells. PET scans may be useful in:

- Detecting cancer
- Revealing whether your cancer has spread
- Checking whether a cancer treatment is working
- Finding a cancer recurrence

Heart disease

PET scans can reveal areas of decreased blood flow in the heart. This information can help you and your doctor decide, for example, whether you might benefit from a procedure to open clogged heart arteries (angioplasty) or coronary artery bypass surgery.

Brain disorders

PET scans can be used to evaluate certain brain disorders, such as tumors, Alzheimer's disease, and seizures.

What does the equipment look like?

A PET/CT scanner is a large machine with a round, doughnut shaped hole in the middle, similar to a CT or MRI unit.

The computer workstation that processes the imaging information is located in a separate control room, where the technologist operates the scanner and monitors your examination in direct visual contact and the ability to hear and talk to you with the use of a speaker and microphone.

What happens during a PET scan?

- Depending on your type of scan, your finger may be pricked or blood will be drawn from your arm to measure your blood sugar level. Your blood sugar level needs to be between 60 mg/dL and 199 mg/dL. If your level is 200 mg/dL or above, your procedure may need to be rescheduled. Your nurse will speak with you about this.
- You will be given a radioactive medication called a tracer through an intravenous (IV) line in your arm. Some tracers require you to wait in a room for 40-60 minutes.
- You may need to drink contrast for your scan. You will start drinking the oral contrast 45 to 60 minutes

before your scan. This will allow time for the solution to move into your bowels (intestines).

- Please relax and limit your movement during this time and stay warm. You can sleep, listen to music, or watch videos in the area provided for you. However, if you are receiving a brain PET scan, do not watch videos or listen to music. These activities stimulate certain areas of your brain and may interfere with the results of your scan.
- When you are ready, you'll lie on a narrow, padded table that slides into the scanner. During the scan you'll need to lie very still so that the images aren't blurred because movement could affect the results of the PET scan. The scan will take 20 to 40 minutes.
- The entire process will take about 2 hours.

What happens after the PET scan?

After your PET scan, a very small amount of radioactive sugar will remain in your body. So, be sure to drink plenty of water to help flush it out your system. You don't need to follow any special dietary restrictions or guidelines after your PET scan.

A radiologist or other physician who has specialized training in nuclear medicine will interpret the images and forward a report to your referring physician. Your doctor will receive your PET scan results afterwards, and will share them at your next appointment.

What are the Benefits vs. Risks?

Benefits

- PET/CT examinations provide unique information—including details on both function and anatomic structure of the body that is often unattainable using other imaging procedures.
- By identifying changes in the body at the cellular level, PET imaging may detect the early onset of disease before it is evident on other imaging tests such as CT or MRI.
- Greater convenience for the patient who undergoes two exams (CT & PET) at one sitting, rather than at two different times.

Risks

Because the doses of radiotracer administered are small, diagnostic PET/CT procedures result in relatively low radiation exposure to the patient, acceptable for diagnostic exams. Thus, the radiation risk is very low

compared with the potential benefits. But the tracer might:

- Cause an allergic reaction, in rare instances
- Expose your unborn baby to radiation if you are pregnant
- Expose your child to radiation if you are breast-feeding

Follow your specific PET scan preparation below for best results:

For scans that use 18F-FDG:

- Do not eat anything for 6 hours before you arrive for your scan. **You may drink only water.**
- **Do not chew gum or suck on hard candy, mints, or cough drops.**
- You may drink **only water**, preferably 32-64 oz. 2 hours prior to your appointment
- If you take medications, take them with **water only**.

Your last meal before the scan should include high protein foods and plenty of water. Avoid carbohydrates and foods with sugar. Because PET scans read your sugar metabolism, eating sugar/carbohydrates could affect the results of your scan.

Stay warm - It is important that you stay warm the day before and the day of your scan. This prevents a special type of fat from becoming active, which can make it hard for the physician to read your PET scan.

- 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. You should not feel cold, or have cold hands or feet.

It's also important that you don't exercise for 24 hours before your PET scan. That's because exercise affects the radiotracer's reading and could cause the results to be inaccurate.

Diabetic Patients:

Insulin can affect the results of your scan. Please follow the guidelines below.

- **Type II diabetes mellitus (controlled by oral medication)**
 - o The study should preferably be performed in the late morning.
 - o Continue to take oral medication to control your blood sugar.

- **Type I diabetes mellitus and insulin-dependent type II diabetes mellitus**

- o The study should preferably be performed late morning or midday:
 - 6 hours after injection of **rapid-acting** insulin (Humalog, Novolog, and Apidra) or **short acting** insulin (regular, novolin, or velosulin).
 - 12 hours after the subcutaneous injection of **intermediate-acting (NPH) and/or long-acting insulin**, such as Lantus, Toujeo, Basaglar, Levemir, and Tresiba.
 - The study is not recommended on the same day after injection of intermediate-acting (NPH) and/or long-acting insulin
- o For rapid and short acting insulin: Eat a normal breakfast 6 hours before your appointment and inject the normal amount of insulin. Do not consume any more food or fluids, apart from the prescribed amount of water.
- **Patients on continuous insulin infusion**
 - o The study should be scheduled for early in the morning.
 - o The insulin pump should be switched off for at least 4 h prior to the appointment.
 - o You can have breakfast after the study and switch on continuous insulin infusion.

For scans with 18-F NaF, F-18 beta amyloid imaging (18F-florbetapir, 18F-flutemetamol, 18F-florbetaben):

- Please drink water, preferably 32-64 oz. 2 hours prior to your appointment.
- No other preparation is required.

For scans 18-F fluciclovine:

- Do not eat anything for 4 hours before you arrive for your scan. You may drink only water.
- Please drink water, preferably 32-64 oz. 2 hours prior to your appointment.
- No other preparation is required

For scans that use Ga-68 dotatate:

- Please consult with your physician if you are receiving octreotide therapy.
- Please drink water, preferably 32-64 oz. 2 hours prior to your appointment.
- No other preparation is required.