

About Columbia Kreitchman PET Center

The Morton A. Kreitchman Positron Emission Tomography (PET) Center, led by Ronald L. Van Heertum, MD, is one of the nation's foremost clinical and research PET facilities. Advantages include:

- **Experience**—Columbia radiologists and cardiologists have over a decade of experience in performing and interpreting PET scans.
- **Expertise**—The doctors' doctors, Columbia radiologists and cardiologists often help to interpret PET findings (provide a second opinion) for other physicians.
- **Resources**—Columbia offers an all-inclusive imaging center at one of the nation's leading medical centers, with extensive expertise in oncology, neurology, cardiology, and pediatrics.
- **Training**—Physicians and technicians from around the world come to Columbia to learn about PET.
- **Clinical & Basic Research**—Columbia physicians and researchers are at the forefront of new applications for PET, including the expansion of PET imaging into new clinical areas.
- **Innovation**—In recognition of Columbia's leadership in PET innovation, the PET Center was recently awarded part of an \$11 million NYSTAR grant from New York State.

Preparing for Your PET Scan

You should fast for at least six hours before your appointment. You may drink water and continue to take any prescribed medications. If you are having a cardiac PET scan, you should also avoid beverages or medications containing caffeine for 24 hours before your test and stop smoking for six hours beforehand. If you are pregnant or if you have diabetes, you should contact the PET Center for special instructions.

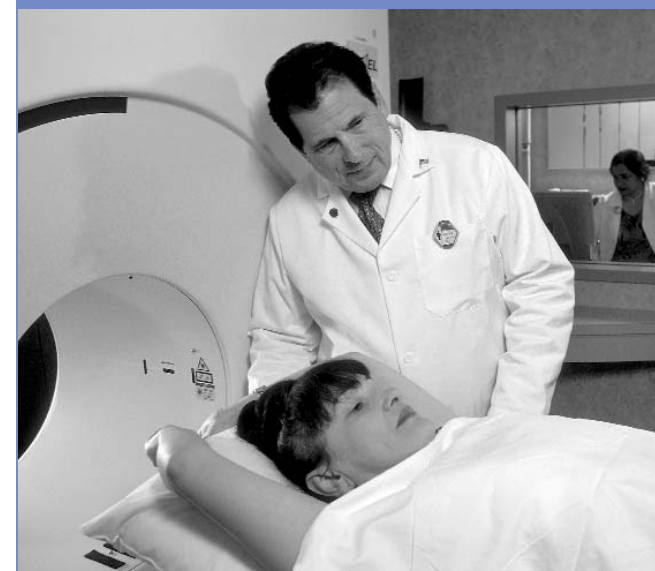
After your PET scan is complete, you should drink plenty of fluids. If you have not received sedation, you may resume normal activities immediately following the procedure.

Directions to Columbia Kreitchman PET Center

Columbia Kreitchman PET Center is located in NewYork-Presbyterian Hospital's Milstein Hospital Building on Fort Washington Avenue between 165th and 168th Streets in Manhattan. After checking in with security in the Milstein lobby, proceed to Admitting, turning right after the escalators on the first floor. PET Admitting is located in room M-109.

Free valet 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, 1, and 9 subway lines or the M2, M3, M4, M5, M100, or BX7 bus lines to 168th Street. Please call 212.923.1555 for additional transportation information.

Positron Emission Tomography (PET)



Columbia Kreitchman PET Center

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Columbia Kreitchman PET Center

COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS & SURGEONS

What is PET?

A powerful, non-invasive, diagnostic tool, positron emission tomography (PET) detects biochemical changes in body tissues. Virtually all diseases alter the body's biochemical processes. By detecting these changes, PET can provide diagnostic answers that cannot be reached using other imaging techniques. For example, CT and MRI reveal structural changes in the body. Before such structural changes take place, PET has the capability to identify the early biochemical markers of disease.

How Does PET Work?

Before undergoing a PET scan, patients receive an injection of a *tracer*, an imaging agent which the body easily absorbs and eliminates. The patient lies on a table that slides slowly through the scanner, which covers only a small portion of the body at a given time. By detecting the tracer in the patient, the PET scanner can create a color-coded image of the body's chemical function.

PET scans typically take about one half hour (cardiac cases take longer) and expose patients to a safe level of radiation. Most patients can return to their normal activities immediately following the scan. Specially-trained radiologists, such as the faculty of the Columbia Kreitchman PET Center, read the PET scans and write up detailed reports explaining their findings. The referring physician then reviews those findings with the patient.

How Does PET Technology Help?

PET helps physicians to improve the accuracy of a diagnosis, create an individualized treatment plan, and closely monitor a patient's progress, by providing:

- More detailed diagnostic information than other imaging techniques
- Shorter timeframe to reach a definitive diagnosis—resulting in fewer invasive diagnostic procedures and fewer unwarranted surgeries
- Precise staging of disease, including early identification of recurrences

ONCOLOGY

Who Should Have a PET Scan?

ONCOLOGY PATIENTS—An essential diagnostic technique for cancer patients, PET can help refine cancer findings, alter treatment plans, and sometimes help patients avoid unnecessary surgeries. Oncology PET is used to:

- *Diagnose* lung, colorectal, esophageal, head and neck cancers, as well as lymphoma
- *Stage and restage* (determine the extent of) lung, breast, colorectal, esophageal, thyroid, head and neck cancers, as well as lymphoma and melanoma
- *Detect* recurrences for breast, lung, colorectal, esophageal, thyroid, head and neck cancers, as well as lymphoma and melanoma
- *Evaluate* the response to therapy for breast, lung, colorectal, esophageal, head and neck cancers, as well as lymphoma and melanoma

PET is under investigation for kidney, pancreas, ovarian, cervical, and bone cancer. For **pediatric oncology patients**, PET particularly aids in the diagnosis of Hodgkin's disease and lymphoma.



Above: PET scan of the brain

Left: PET scan of the body. The darker regions correspond to areas with higher metabolic activity, such as the brain and bladder.

NEUROLOGY

NEUROLOGY PATIENTS—PET can reveal abnormal patterns in the brain, helping to assess patients with various disorders, including epilepsy and dementia. Neurology PET is used to:

- *Localize* areas of the brain causing epileptic seizures—determining whether surgery is an option
- *Identify* distinctive patterns that may provide important diagnostic information earlier in the evaluation process for Alzheimer's disease
- *Differentiate* among dementia disorders, including Alzheimer's disease, Parkinson's disease, and Huntington's disease

For **pediatric neurology patients**, PET particularly aids in defining the seizure focus site for epileptic seizure disorders.

CARDIOLOGY PATIENTS—PET provides the highest accuracy level of any non-invasive cardiac test, offering unparalleled insights into blood flow and heart muscle (myocardial) function. This level of specificity can create more targeted treatment plans. Cardiac PET is used to:

- *Delineate* blood-flow patterns
- *Assess* the viability of heart muscle
- *Determine* the optimal treatment path—identifying whether a patient is a candidate for coronary angioplasty, coronary artery bypass graft (CABG) surgery, or heart transplantation

Does Insurance Cover PET?

Insurance/managed-care plans, Medicare, and Medicaid reimburse for PET on a case-by-case basis, depending on the patient's diagnosis. The Columbia Kreitchman PET Center staff can work with you to verify benefits and obtain pre-authorization, if needed. The staff can also help you submit claims as needed. On the day of your PET scan, you are responsible for any costs not expected to be paid by your insurance company, such as deductibles and co-payments, unless prior arrangements have been made.