



Thank you for choosing Emory Radiology for your PET/CT scan. On behalf of our team, I welcome you to our facility. As you will read in this guide, Emory Radiology's PET/CT Division provides you and your physician with specialized expertise, the latest in imaging

technology and a multidisciplinary approach to diagnosis and care. At any time, please feel free to ask questions of any member of our team.

Sincerely,

David Schuster, MD  
Director, Nuclear Medicine & Molecular Imaging  
Emory Radiology



### About PET/CT

Positron emission tomography (PET) is a noninvasive, diagnostic nuclear medicine technology that uses special radiological pharmaceuticals to create images that illustrate biological functions within specific areas of the body. CT (computed tomography) uses a computer to analyze data from a series of X-rays to produce cross-sectional images of structures within the body. When combined into a single PET/CT imaging tool, the CT scan shows the anatomical location of the biological functions illustrated by the PET scan. The end result provides a dynamic and comprehensive image of the targeted area.

### Why Is PET/CT Used?

PET/CT provides unique diagnostic information that enhances our ability to:

- Diagnose disease in the earliest stages, often before it is detectable using other imaging techniques

- Monitor treatment and medication response inside the body
- Replace multiple diagnostic procedures with a single exam
- Help predict whether or not a surgical procedure will be beneficial

A primary use of PET/CT is for cancer imaging. PET/CT can detect cancer in its earliest form, pinpoint its exact location or locations, distinguish between benign and malignant tumors, and determine the best way to treat the disease.

Other uses of PET/CT include detecting and diagnosing brain disorders, such as Alzheimer's disease and epilepsy, quantifying the extent of heart disease and determining whether a patient would benefit from heart surgery.

### How Does PET/CT Work?

During a PET/CT scan, a technician injects a radiopharmaceutical tracer into the bloodstream. The tracer is tagged with a particle that mimics a natural substance, such as sugar (glucose). The tracer travels through the body sending out signals, and it quickly collects in the organ(s) targeted for examination. A PET/CT scanner is then used to detect these signals and create a picture of the chemical functions of the targeted area. A series of X-rays is also taken to help determine the specific location of the abnormality within the body.



### Emory – Dedication to Advanced Technology

Because Emory Radiology is part of a world-class, university-based, health-care system, we have access to some of the most advanced PET/CT technology available. In addition, we work closely with the equipment manufacturers in the development of new nuclear medicine imaging systems, the advancement of imaging technology and the discovery of better ways to diagnose disease at the earliest possible stages.

## Our Team

At Emory, state-of-the-art equipment is only part of the story. While you may only have direct contact with the technologist who performs your exam, it is important to know there is a multidisciplinary team of specialized physicians and scientists responsible for making sure your test is performed to the highest possible standards. This team interprets your test results to develop an accurate diagnosis and works closely with your doctor to develop the most appropriate treatment plan for you.

Our radiologists also teach at Emory University School of Medicine and participate in cutting-edge, university-based research. As a result, they are uniquely qualified to provide the best, most up-to-date treatments and techniques with skill and confidence. And because they work within particular specialties – and even subspecialties – their training and exposure to specific diseases and conditions are unmatched in the community. This level of skill translates into more accurate results and fewer re-tests, saving valuable time and resources for everyone involved.

## Is PET/CT Safe?

The radiation dose you receive during a PET/CT scan is low – considerably lower than most diagnostic CT exams. Other nuclear medicine procedures have been in use for more than half a century, during which time no long-term adverse effects have been seen.<sup>1</sup> In addition, the benefits of the information obtained during the scan offset any slight risk from the small amount of radiation administered.

Most people are candidates for PET/CT. However, pregnant women and nursing mothers cannot usually have PET/CT scans unless the potential benefits far outweigh the risk associated with such scans.

## Preparing for Your PET/CT Scan

PET/CT procedures generally are covered by insurance plans, but you or your physician may be required to obtain authorization from your insurance provider prior to your exam.

You should call Fast Track Admissions prior to your exam date to pre-register. You may call up to 30 days in advance.

- For exams scheduled at Emory University Hospital, call 404-686-5270 or 1-800-640-9293.
- For exams scheduled at Emory University Hospital Midtown, call 404-686-1573.

- Fast Track Admissions may also be required for exams scheduled at The Emory Clinic. Please call 404-778-XRAY or ask your scheduler at the time you make your appointment.

Leading up to your exam:

- Do not eat or drink liquids other than water six hours prior to your scan. Take any medications with water only.
- If you are diabetic, please call 404-712-4453 prior to your appointment for special instructions.
- If you are breastfeeding at the time of your procedure, it may be prudent to pre-pump milk for use until the tracer is safely out of your body (usually up to 24 hours). Please discuss this with your ordering physician as well as our staff beforehand to receive specific instructions.
- If available, bring any previous X-ray, CT, PET and MRI (magnetic resonance imaging) results and images with you to our facility.
- Metal objects, such as jewelry and hairpins, may interfere with the CT scan and should be left at home.

The actual scan generally takes about one hour to complete, but you should expect to be at our facility for two to three hours.



## The Day of Your PET/CT Scan

Plan to arrive 30 minutes before your appointment. Once at our facility, we will ask you about:

- Your medical history
- Any medications you take
- Any medication allergies you have
- Whether you are pregnant, breastfeeding or trying to get pregnant (if you are unsure if you are pregnant, we may give you a pregnancy test)

We will ask you to remove any metal-containing items, such as jewelry (including earrings and body piercings), hairpins, hearing aids, glasses, wigs with metal clips and some nonpermanent dentures. We will also ask you to remove all objects from your pockets.

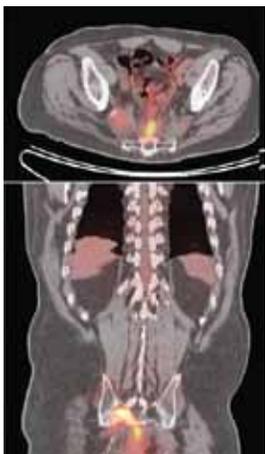
### The PET/CT Procedure

1. To begin the procedure, we will inject a small amount of radioactive tracer into the bloodstream. We may also ask you to drink a small amount of oral contrast to aid in the CT portion of the scan.
2. Following the injection, we will ask you to rest quietly and avoid talking for approximately one hour while the tracer is distributed throughout your body.
3. We then will ask you to lie still on a table that passes slowly through the scanner.
4. When the exam is complete, we will take you out of the scanner. Occasionally, we may require additional images.

### Following Your PET/CT Scan

Following your exam, you should feel fine because there are generally no side effects from the injected tracer. You may immediately return to your normal activities unless the technologist or your physician tells you otherwise.

There is no danger to you or those around you following the exam as a result of the radioactive tracer injection. However, we may advise you to flush twice following urination and to wash your hands thoroughly for a period of time following the exam. Drinking plenty of water may help flush the tracer from your body.



If you are breastfeeding, you should wait at least 24 hours following the exam before breastfeeding again. Follow any specific instructions regarding breastfeeding you receive from your doctor or the PET Center staff.

It is essential for you to monitor your condition after you leave our facility. If we gave you intravenous contrast dye for a diagnostic CT scan as part of your PET/CT exam, call your doctor immediately if any of the following occur:

- Hives or any other rash
- Itching
- Nausea
- Swollen or itchy eyes
- Tightness in the throat
- Trouble breathing

These reactions are rare and would usually occur at the time of contrast dye injection.

Your referring doctor will contact you once the results of your PET/CT are available and ready for review. Your physician should have your results within four business days.

### Contact Us

PET/CT is available at Emory University Hospital, Emory University Hospital Midtown and The Emory Clinic on the Clifton Road campus. For more information, visit [www.emoryhealthcare.org/radiology](http://www.emoryhealthcare.org/radiology) or call 404-778-7777. For additional information about radiology exams in both English and Spanish, visit [www.radiologyinfo.org](http://www.radiologyinfo.org).

### Reference

1. Radiological Society of North America (RSNA). Positron Emission Tomography – Computed Tomography (PET/CT) Scanning. September 16, 2008.