

Imaging the heart: What you need to know.

Positron Emission Tomography combined with Computed Tomography (PET/CT) is changing the way many doctors are managing cardiac patients nationwide. PET/CT is a non-invasive procedure that can accurately identify areas of abnormal myocardial perfusion, determine the functional capacity of your heart muscle, separate viable (living) from non-viable (irreversibly damaged) tissue and pinpoint exactly where a defect is located. This enables physicians to determine the severity of heart disease as well as what follow-up therapy or intervention is needed.

**PET/CT is an important diagnostic tool.
It enhances patient treatment through:**

- Early detection of disease
- Accurate assessment of myocardial perfusion, function and viability
- High sensitivity and specificity for the diagnosis of coronary artery disease

Your cardiac PET/CT scan is scheduled for:

Date: _____

Time: _____

Place: _____



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Cardiac Viability PET Scan



Imaging the heart

DETAIL

DEMONSTRATING EXCELLENCE THROUGH
ADVANCED IMAGING LEARNING



What is a PET/CT scan?

- PET/CT is one of the most advanced medical imaging techniques available today, combining Positron Emission Tomography with Computed Tomography.
- PET/CT combines CT's fine anatomical detail with PET's ability to detect biochemical abnormalities in the cell. This combination allows for earlier and more accurate detection of heart disease than either CT or PET alone.
- A PET/CT scan helps your physician diagnose a problem, determine the best approach to treatment and monitor your progress.

How does PET/CT work?

- Living and growing cells use glucose as a primary source of energy.
- A form of glucose called FDG, which emits particles called positrons, is injected before a PET/CT study is performed.
- More FDG molecules are consumed in living cardiac cells than in abnormal cells, resulting in a lack of concentrations of FDG, and positrons, in areas of decreased or absent blood flow.
- A PET/CT scanner detects where positrons are being emitted from within a patient and provides images that map the locations.
- PET FDG mapping is combined with a CT image's structural detail in order to identify both the presence of disease and its precise location.

Preparing for your PET/CT scan

Because FDG is based on glucose distribution, it is important to restrict your food intake prior to the scan. Please review and follow the preparation steps below.

- For six hours before your test, do not eat or drink (except water). Do not chew gum.
- Discuss your medications with your doctor to determine when to discontinue use.
- Avoid caffeine and tobacco 24 hours prior to your exam.
- If you have diabetes, discuss with your physician and call the imaging center staff 48 hours before your scan.
- If you are, or think you may be pregnant, discuss this with your physician. Generally, PET imaging is not performed on pregnant women.

What to bring and wear

- Bring your insurance cards.
- Bring your medical history and any pathology reports.
- Bring films or digital images of any previous PET exams, X-ray, CT or MR scans.
- Wear warm, comfortable clothes. The scanner room is often cool.
- Avoid clothes with heavy buckles or metal components.

Arrive on time

- Please arrive 15 to 30 minutes before your scheduled appointment to complete the necessary paperwork.
- If you must cancel or reschedule, please do so at least 24 hours before your appointment.

What to expect at the time of your PET/CT scan

- After registering, you will go to a preparation area where a PET technologist will insert a small IV into your arm.
- A small amount of FDG, a form of glucose, will be injected through the IV. This is painless.
- You will rest for 30 to 60 minutes while the FDG circulates throughout the body.
- Your scan will take approximately one hour.

After your scan

- You may leave immediately.
- Your activity will not be restricted. You may drive if you wish, resume your normal diet, exercise and take all prescribed medications.
- As an extra precaution, avoid close contact with children and pregnant women for eight hours.
- The PET/CT scan will be reviewed by a physician who will send a report to your doctor.
- Your doctor will contact you about the results of your PET/CT scan.

