

PET-CT EXAM

What is a PET-CT exam?

A PET-CT exam combines two types of scans to help pinpoint abnormal activity in the body.

A PET (positron emission tomography) scan creates an image of your body's metabolic activity and shows the rate at which your body's cells break down and use sugar (glucose). This is done by injecting a small amount of radioactive material (FDG) into your blood stream and waiting for it to disperse to the area of focus. A PET scan allows the physician to distinguish between living and dead tissue or between benign and malignant disorders

A CT (computed tomography) scan is a noninvasive medical test that uses special X-ray equipment to produce multiple images or pictures of the inside of the body and a computer to join them together in cross-sectional views of the area being studied. A CT scan can detect and localize changes in the body structure or anatomy, such as the size, shape and exact location of an abnormal growth, a sizeable tumor or a musculoskeletal injury

A PET-CT combines the functional information from a PET scan with the anatomical information from a CT scan. When a CT scan is superimposed over a PET scan, doctors can pinpoint the exact location of abnormal activity. They can also see the level and extent of that activity. Even when an abnormal growth is not yet visible on a CT scan, the PET scan may show the abnormal activity.

Common uses

- detect cancer
- determine whether a cancer has spread in the body
- assess the effectiveness of a treatment plan, such as cancer therapy
- determine if a cancer has returned after treatment.
- determine blood flow to the heart muscle
- determine the effects of a heart attack, or myocardial infarction, on areas of the heart
- identify areas of the heart muscle that would benefit from a procedure such as angioplasty or coronary artery bypass surgery (in combination with a myocardial perfusion scan).
- evaluate brain abnormalities, such as tumors, memory disorders and seizures and other central nervous system disorders.
- to map normal human brain and heart function.

Safety

There are some risks associated with the level of radiation exposure during a CT. No direct data have shown that CT examinations are associated with an increased risk of cancer; extrapolations from studies of radiation exposure suggest there is a very small incremental risk.

PET: The dose of radiotracer administered is small, resulting in minimal radiation exposure. Nuclear medicine has been used for more than five decades, and there are no known long-term adverse effects from such low-dose exposure. Allergic reactions to radiopharmaceuticals may occur but are extremely rare.

Women should always inform their physician or technologist if there is any possibility that they are pregnant or if they are breastfeeding their baby. Some of the pharmaceuticals that are used for the study can pass into the mother's milk and subsequently the child will consume them. To avoid this possibility, it is important that a nursing mother inform her physician and the nuclear medicine technologist about this before the examination begins. Usually, you will be asked to discontinue breast-feeding for a short while, pump your breasts in the interim and discard the milk. Breast-feeding can often resume shortly afterwards.

What should I expect BEFORE my PET-CT exam?

Medications

Continue to take prescribed medication, except insulin and diuretic, Lasix (water pill) the day of exam. No over the counter cough medicines.

If you are diabetic and your blood sugar has been consistently, above 200 the days before your PET/CT, please call 775.445.5500 and Radiologists will determine if it is safe to proceed with your exam. If you are

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a “brittle” (severe) diabetic please request to be scheduled at the first time slot.

Food and drink

Do not eat or drink anything for at least 6 hours before the exam, except water - drink several (2 to 6) glasses of water. 1 cup of Coffee is ok to drink, no cream or sugar. If your doctor has told you to take your regular medicine, take it with plenty of water. If you are diabetic, do not drink or eat anything for at least 4 hours prior to your scan. Take your diabetic medication as usual and read paragraph above. If your doctor has told you to take your regular medicine, take it with plenty of water. Avoid: candies, gum, or beverages other than water.

24 hours prior to exam - follow a high protein, low carbohydrate diet (no sugar).

Foods to Avoid

- Cereals, breads, rice, pasta, or beans
- Starchy vegetables such as peas, corn, potatoes
- Fruit or fruit juices
- Sugar, candy, chocolate, honey, jam, or jellies
- Gravy or cream-based sauces
- Milk, including non-dairy milk products (cream)
- Alcohol
- Gum
- Mints.

Exercise

Please do not exercise for at least 24 hours before the exam. Also, do not engage in any repetitive activity, including reading and chewing gum or eating mints.

When to arrive

Please check in 30 minutes before your appointment time. Please bring any x-rays you have of the body part being imaged to your appointment.

What to wear

Wear comfortable clothing, preferably clothes with no zipper or buttons, such as sweats. You may also be asked to remove jewelry, eyeglasses and any metal objects or clothing that might interfere with the images. Gowns are available if needed

Intravenous preparation

Many patients receive a contrast agent intravenously (IV) during their PET-CT test. If your doctor or the radiologist has determined that this procedure will enhance your PET-CT scan results, the technologist will place an IV in your arm or hand prior to going into the test. If you have ever had an allergic reaction to contrast, tell your doctor and the technologist. The doctor may prescribe special medicine for you to take before the exam and while you are here for the exam. You should bring the last two doses of medicine with you.

If you are having your PET/CT with contrast, you must have additional lab work (BUN/Creatinine) prior to exam if you:

- Are over the age of 60
- Have diabetes and on medication for diabetes
- Have a history of renal failure, insufficiency or only one kidney
- Have hypertension (high blood pressure)

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What will I experience DURING my PET-CT exam?

Scanning

It is important that you remain still while the images are being recorded. Though imaging itself causes no pain, there may be some discomfort from having to remain still or to stay in one position during imaging. You will need to be able to lie flat on your back for approximately 45 minutes.

Length of exam

You should plan to be here for approximately 2-3 hours. The actual scanning and preparation time varies with the type of scan you are having.

Contrast medium

If you are over 60 or have kidney disease, diabetes, lupus, or multiple myeloma, you'll need a blood test beforehand to make sure the contrast will be safe for you.

The high speed of our state-of-the art scanners means we are able to produce high-quality images using less contrast than in the past;

What should I expect AFTER my PET-CT exam?

You can drive and resume normal activities immediately after leaving, unless you have taken medication to relax you. It is important that you drink as much water or fluids as possible for the rest of the day and empty your bladder as often as possible. This will result in a more rapid clearance of radioactivity and contrast from your body.

PET-CT Exam results

We understand that quick results are important for our patients. Exams are typically read within 24 hours and results will be sent to your physician who will go over them with you.