

# LANCASTER RADIOLOGY ASSOCIATES, LTD.

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## **P.E.T. SCAN**

### **What it is:**

Positron Emission Tomography (P.E.T.) is a nuclear medicine medical imaging technology that produces a three-dimensional image or map of the processes within the human body. These images are then used to evaluate a variety of diseases.

P.E.T. scans are commonly used to detect cancer and to examine the effects of cancer therapy by analyzing biochemical changes in the cancer. In addition, P.E.T. scans of the heart can be used to determine blood flow to the heart muscle and help evaluate signs of coronary artery disease. P.E.T. scans of the heart can also be used to determine if areas of the heart that show decreased function are alive rather than scarred as a result of a prior heart attack (called a myocardial infarction). Combined with a myocardial perfusion study, P.E.T. scans allows a physician to differentiate nonfunctioning heart muscle from heart muscle that would benefit from a procedure, such as angioplasty or coronary artery bypass surgery, which could reestablish adequate blood flow and improve heart function. Additional P.E.T. uses include scans of the brain that are used to evaluate patients who have memory disorders of an undetermined cause, suspected or proven brain tumors or seizure disorders that are not responsive to medical therapy and are therefore candidates for surgery.

### **What you need to know:**

P.E.T. scans can help physicians detect changes in biochemical processes that would suggest disease before changes in anatomy are apparent with other imaging tests (such as CT or MRI).

Because the radioactivity in a P.E.T. scan is so short-lived, your radiation exposure is low. In fact, the radiation amount is so small that it will in no way affect the normal processes of your body. However, the radioactive substance may expose radiation to a fetus in patients who are pregnant or infants of women who are breast-feeding. The risk to a fetus or infants should be considered in relation to the potential information that could be gained from the result of the P.E.T. examination. If you are pregnant, you should inform the P.E.T. imaging staff before the examination is performed.

### **How to prepare:**

P.E.T. scans are usually conducted on an outpatient basis. You should wear comfortable, loose-fitting clothes. You should not eat for four hours before the scan, but you are encouraged to drink water. Diabetic patients should ask for any specific dietary guidelines to control glucose levels during the day of the test. Your doctor will instruct you regarding the use of medications before the test.