



POSITRON EMISSION TOMOGRAPHY (PET)

■ WHAT IS POSITRON EMISSION TOMOGRAPHY (PET)?

PET is a type of nuclear medicine imaging. The test is performed to allow cardiologists to evaluate the structure and function of the heart. PET uses a small amount of radioactive material called tracers to help produce three-dimensional images of the heart.

Part of the PET study is performed while the heart is at rest. Additional images are taken when the heart rate is increased or “stressed”. The images allow a cardiologist to evaluate how blood is flowing through the heart muscle. This helps the doctor determine whether there are any heart related conditions that need to be treated.

A cardiac nuclear stress test is more commonly used for this evaluation. However, for some patients the results may not be completely clear or could produce a false positive result. For this group of patients, the PET offers an excellent alternative. PET produces high quality images with high diagnostic accuracy. PET is also used for patients who are obese; on women who are large breasted or have breast implants; and on patients who are unable to exercise on a treadmill. The PET study uses medication to stimulate or stress the heart, rather than having the patient actually exercise.

■ WHEN IS A PET SCAN PERFORMED?

Your cardiologist may order a cardiac nuclear stress test or PET scan if he/she needs to determine how well your heart muscle is functioning. Your personal health history, cardiac risk factors, known cardiovascular disease, and symptoms are all taken into consideration before ordering a test.

■ WHAT HAPPENS DURING THE TEST?

For 24 hours prior to the test you will be asked not to smoke and to avoid caffeine. This includes decaffeinated coffee, tea and chocolate. You cannot eat or drink 4 to 6 hours before the test. It is okay to have small sips of water. Be sure to ask your doctor if you should withhold any medications you are on the day of the test.

The day of the test, wear comfortable clothing and leave your jewelry at home. A trained technician will place an IV (intravenous) line in your arm to allow the administration of medication before and during the test. Small pads with electrodes will be placed on your chest to allow the medical team to monitor your heart throughout the study.

You will be asked to lie on a scanning table made especially for the PET camera. A small amount of the tracer material will be given to you through the IV line. The tracer gives off gamma rays that can be detected by the camera. The amount of radiation exposure you receive during this test is considered safe by the National Council on Radiation Protection and Measurement.

Images of your heart will be taken at rest and while stressed. You will be given a medication through the IV line that will increase your heart rate as if you were actually exercising. During the test you may

experience chest pain, palpitations, shortness of breath, a flushing feeling, or headache. Be sure to tell the doctor or technician if you are experiencing any symptoms.

■ WHAT HAPPENS AFTER THE TEST?

The entire PET scan process usually takes about an hour and a half. The tracer material will leave your system within hours. After the test you may eat and drink. You should take any medications you may have withheld before the test. You should be able to return to normal activities.

The images produced by the PET scan will be evaluated (read) by a cardiologist who is board certified in nuclear medicine. Your doctor or nurse will contact you regarding the test results after they have been interpreted.