

The Examination

In cardiology, positron emission tomography (PET) using rubidium as a tracer, combined with computed tomography (CT) acquisition, is a non-invasive examination technique used to assess the blood supply to your heart muscle (myocardium). This assessment method measures the impact of coronary artery obstructions, known as myocardial ischemia, as well as other conditions affecting blood supply to the heart.

Substances Used

⁸²-Rubidium, a radioactive product. We will also use dipyridamole (Persantine®), aminophylline, and possibly other medicinal substances to simulate a cardiac exercise condition necessary for the examination.

Side Effects

Allergic reactions are extremely rare. Some people may experience short-term side effects. These side effects are generally completely resolved by the end of the examination. The technologist will be nearby during the examination and will take the time to explain the details to you during your visit. Keep in mind that potential adverse reactions stem from medication, rather than exposure to radiation.

Preparation

You must fast for at least 4 hours before the examination. You may drink water at any time. If you suffer from diabetes, you may eat a light meal 2 hours before the exam.

It is essential to refrain from ingesting any caffeinated substances 24 hours prior to the examination. Caffeine is present in a variety of beverages, including soft drinks, energy drinks, coffee, decaf coffee, tea, iced tea, chocolate, and chocolate milk. Moreover, several pharmaceuticals contain caffeine, including Fiorinal and acetaminophen (Tylenol Ultra). Neglecting this directive may cause the examination to be delayed.

➤ **If you suffer from claustrophobia, please let us know.**

Medication

Unless otherwise directed, you may take your medications. When scheduling an appointment, please inform us if you are taking Uniphyl, aminophylline, Persantine, or any other medications containing aminophylline or theophylline.

Duration of the Examination

Allocate approximately 2 hours for the examination. Afterward, there will be a time for verifying the images' quality.

Procedure

Upon your arrival, the technologist will have you change into a gown. In his company, you will fill out a questionnaire to ensure compliance with

the necessary steps and warnings for the examination. To help the nuclear medicine expert interpret the images, the technician will ask you a few questions to gather your medical background information. We will conduct a review of your current medications.

The technologist will install electrodes in the chest and a catheter in a vein in your arm. The catheter serves as a tool for administering Persantine, a radiotracer (rubidium), and aminophylline.

You will then be directed to the PET scan room where the examination will take place. You must position yourself face up on the examination table. A small dose of rubidium will be injected into you through the catheter to create images of your heart at rest. The technologist will then inject Persantine, a medication that simulates the effect of exercise on your heart. You will be administered a second, small amount of rubidium to visualize your stress levels. Aminophylline functions as an antidote and lessens the impacts of Persantine.

The entirety of the PET scan procedure takes around 30 minutes. A technologist will be nearby throughout the entire examination. During the examination, it is crucial to inform the technologist of any symptoms or discomfort you may be experiencing. Then you will receive an injection of aminophylline, a medicine that counteracts the effect of Persantine on the heart. After this injection, you might experience a prickling sensation in your face.

After the examination, you will be asked to wait in the waiting room. During this period, the technologist will ensure the quality of the images with the doctor before allowing you to leave.

Other Information

At any time, you may ask questions to the technologists performing your examination.

The radiation exposure associated with this study is very low, below 5 mSv. At doses of radiation (< 100 mSv), there is no evidence of cancer or any other illness.

Our Nuclear Medicine Department utilizes advanced hybrid equipment, which includes a Positron (PET) Camera that captures the emissions of the injected radiopharmaceutical, coupled with a Computed Tomography Scanner. During this assessment, you will also receive a low dose of X-rays.

For more information on radiation, please refer to the brochure "Information on Ionizing Radiation," which is available in the waiting room of our imaging department.

Key Points

- To ensure a smooth and efficient service during your appointment, we kindly request that you bring a current list of your medications with you.
- If you are a woman, before undergoing a nuclear medicine examination, you must inform us if you are pregnant or breastfeeding.
- Following a nuclear medicine examination, you can resume your regular activities as usual.
- If you are planning to travel abroad soon, be sure to notify the technologist to obtain the required documentation. Customs officials could potentially detect the injected radiopharmaceutical.
- If you are unable to take your examination, please inform us promptly by calling 514-376-3330, extension 3214.

Production:
Multidisciplinary Services Directorate
Layout:
Assistant Directorate of Communications and
Media Relations
March 2024
#84792248

Nuclear Medicine Service

► Myocardial Perfusion with
Rubidium, under Persantine
and at Rest with PET/CT

