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Short Communication

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# Nuclear Cardiology

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## Abstract

It is a branch of medical imaging that uses radioactive materials to diagnose or determine the severity of the diseases and to treat the diseases likewise cancers, heart diseases, gastrointestinal, neurological disorders, endocrine and other abnormalities in the body. It is also used to access the myocardial blood flow by using non-invasive techniques. It is used to evaluate and visualize the size and location of the heart attack and the pumping function of the heart. Myocardial perfusion imaging is most widely used technique, among the techniques used in nuclear cardiology.

**Keywords**

Cardiology; Radioactive traces; nuclear imaging; Heart attack; Radiation

## Cardiac Nuclear Imaging

Cardiac Nuclear Imaging is a branch of nuclear cardiology. It is used for the evaluation of the heart for coronary artery diseases and cardiomyopathy-it is a disease that occurs to the heart muscle. It is also used to determine the damage or severity of damage occurred to heart by any chemotherapy or radiotherapy, if it's done to the patient in the past for any medical conditions. The nuclear medicine uses radioactive tracers in small amounts these are called radioactive tracers/Radiopharmaceuticals. These are injected into the veins are given through mouth. When injected they travel in the bloodstream through the area to be examined and gives off energy in the form of gamma rays which are detected by a small special camera and a computer to create images of the inside of your body. They provide special information that cannot be provided/obtained by using any other imaging procedures.

Before going through these techniques, Please inform your doctor if there's a possibility of being pregnant or if you are breastfeeding, discuss in detail if you any recent illness, medical conditions, allergies and about the medications you are taking. It is a very time consuming process as it may take several house to days to accumulate the radioactive tracer in the area of interest and imaging may take several hours to perform. It is used to diagnose some cardiac diseases like chest pain, angina, shortness of breath, electrocardiogram (abnormal).

## Nuclear medicine imaging

Nuclear medicine imaging is a technique used in nuclear cardiology; it is a method of producing images by detecting radiation from different parts of the body after administering the patient with the radioactive tracer. These radioactive traces have no side effects. In most cases the traces are injected into veins and they may be also given by mouth in some patients based on the study. The amount of radiation in a typical nuclear medicine scan that the patient receives tends to be very low. It is used to visualize the blood flow patterns in the heart, coronary artery disease, heart wall movement and overall heart function (Cardiac grating), results of bypass surgery. Like every techniques these too have some pros and cons

Pros:

- The information provided by them is unique.
- They provide most useful diagnostic or treatment information for many diseases
- Less expensive

Cons:

- You may experience chest pain while exercising if you have CAD. But you will be provided with necessary medication for the pain.
- These injections may cause pain and redness.

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