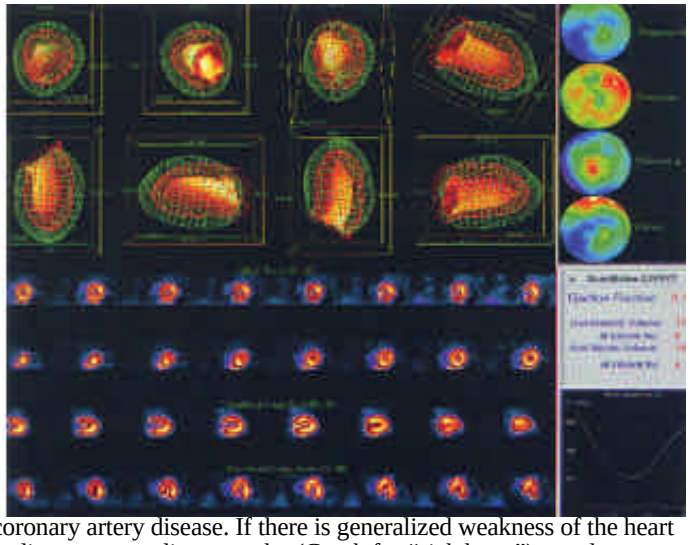
Gated Nuclear Angiogram (Wall Motion Study)



A gated nuclear angiogram (nuclear wall motion study, radio-nuclide angiogram, MUGA scan) is a technique using radioisotopes to measure the pump function of the heart. Usually we use this technique to measure the function of the left ventricle (LV), which is the major pumping chamber of the heart. The LV receives blood from the lungs and pumps blood to the rest of the body. A gated nuclear angiogram is more accurate than echocardiography and even cardiac catheterization in measuring the pumping capacity of the left ventricle.

This test requires an intravenous site. Otherwise the test is painless and non-invasive. Your own red blood cells are tagged with a radioactive material called Technetium (99m Tc). As these red blood cells circulate through the heart, counts of their radioactivity are obtained with a gamma camera. A computer constructs moving pictures of the heart by timing and counting radioactivity throughout the contraction and relaxation phases of the heart's cardiac cycle.

A cardiologist or radiologist interprets the moving pictures and comments on the size and contractility (strength) of the left ventricle. If localized areas of the heart do not contract normally, these "regional wall motion" abnormalities usually indicate damaged heart muscle from coronary artery disease. If there is generalized weakness of the heart muscle, other conditions such as hypertensive heart disease, valvular heart disease, or cardiomyopathy (Greek for "sick heart") may be present.

The nuclear angiogram is the best way to measure the ejection fraction or EF of the heart. This is the percentage of the heart's internal blood volume that is ejected with every beat. A normal ejection fraction is > 55%. An EF of 40-55% is considered mild LV (left ventricular) dysfunction. An EF of 30-40% is considered moderate LV (left ventricular) dysfunction. An EF of < 30% is considered severe LV (left ventricular) dysfunction. The EF is a very important measurement and is one of the best prognostic indicators we have in assessing heart disease.

A Gated Nuclear Angiogram is a medically safe and approved test that helps your physician to properly assess your heart's pumping function.