Cardiac Blood Pool Test (MUGA)

What is Cardiac Blood Pool Imaging (MUGA)?
A cardiac blood pool test, sometimes referred to as a wall motion study, multi-gated acquisition or MUGA scan, is a nuclear medicine test used to assess the heart’s pumping function.

The MUGA is most often used 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.

The test is also the best way to measure the ejection fraction (EF) of the heart, or the percentage of the heart’s internal blood volume that is ejected with every beat. The EF is a very important measurement and one of the best prognostic indicators for heart disease.

How is a Cardiac Blood Pool Test Performed?
For the test, the patient’s own red blood cells are tagged with a radioactive material called Technetium (Tc-99m) and then injected back into the bloodstream. A gamma camera detects the radioactive red blood cells as they circulate through the heart and measures the timing of cell movement during the contraction and relaxation phases of the heart. The images and information provided by the wall motion study help assess the size and strength of the LV.

What should I wear for the test?
Wear a shirt or blouse that can be taken off easily. Females may be asked to remove their bras.

How long does the test take to complete?
The test will take about 1 hour to complete.

Specific preparation
There is no preparation for this test.
What should you expect during the test?  
The test is performed by a specially trained technologist. During the test you will be lying on your back. Three EKG patches will be placed on your skin to record your heart rhythm.

Will I have any pain or discomfort during the test?  
This test does not usually cause pain, but there may be a brief sting or pinch when the IV is inserted into your vein, usually in the arm.

What should you expect after the test?  
There are no after effects from the test.

When will you know the results of your test?  
The pictures of your heart will be reviewed by a cardiologist. The results of the test will be sent to the doctor that ordered the test for you. The test results will also be sent to your family doctor. It may take 3 to 4 days before you know the results of your test. The technologist that is doing your test will not give you the results of the test after he or she finishes taking the pictures.