

## **What is a MUGA scan?**

A multigated acquisition scan (also called equilibrium radionuclide angiogram or blood pool scan) is a noninvasive diagnostic test used to evaluate the pumping function of the ventricles (lower chambers of the heart). During the test, a small amount of radioactive tracer is injected into a vein. A special camera, called a gamma camera, detects the radiation released by the tracer to produce computer-generated movie images of the beating heart. The MUGA scan is a highly accurate test used to determine the heart's pumping function.

## **How should I prepare for the test?**

- There is no special preparation required for this test; there are no medication or food restrictions.
- Wear comfortable clothes that can be easily removed, as you may be asked to wear a hospital gown during the test.

## **What happens during the test?**

- An intravenous injection of "cold" pyrophosphate will be injected into your vein and we will wait for 30-45 minutes for incubation.
- After the wait, a small amount of radioactive tracer tags your red blood cells so they can be detected by the camera and forms the image your heart. The tracer stays in your bloodstream for several hours and does not enter your tissue cells.
- The technologist will ask you to lie/sit on the exam table/chair under the gamma camera. He will attach electrodes (small, round adhesive patches) to the skin of your chest. Men may have their chest hair shaved to allow a better connection. The electrodes are attached to an electrocardiograph monitor (EKG) that charts your heart's electrical activity during the test.
- The camera above the table is focused on the heart and analyzes the amount of radio-labeled red blood cells pumped from the heart with each heartbeat. Images can be taken to look at the different walls of your heart.
- This test calculates your **ejection fraction**, a measurement of how well your heart pumps with each beat. A normal ejection fraction ranges from 50-70 percent. An ejection fraction of 65 percent, for example, means that 65 percent of the total amount of blood in the left ventricle is pumped out with each heartbeat. The ejection fraction may be lower when the heart muscle has become damaged due to a heart attack, heart muscle disease (cardiomyopathy), or other causes.

### **Are there any side effects from the injections during the test?**

Because the injected medications contain only a minimal amount of the carrier drug, there are no significant side effects. The radioactive tracer used during the MUGA scan is a diagnostic dose of radiation that is similar to the dose you would receive during a CT scan.

### **How long will the test take?**

The MUGA scan takes about one to two hours to perform.

### **What happens after the test?**

You can resume your normal activities right after the test.

### **How will I get my test results?**

After the cardiologist reviews your test, the results will go into your electronic medical record. Your referring physician will have access to the results and will contact you to discuss them.