

UW Medicine



## Multi-Gated Acquisition (MUGA)

### About your scan

This handout explains a multi-gated acquisition (MUGA) scan. This scan shows how well your heart works when it is at rest.

### What is a MUGA scan?

Your doctor wants to find out how well your heart works when it is at rest. A *multi-gated acquisition* (MUGA) scan tells how well the left *ventricle* (chamber) of your heart is pumping to the rest of your body.

The result is called the *left ventricular ejection fraction* (LVEF), and it is given as a percentage. A normal result for a MUGA scan is an LVEF of 50% or higher.

This exam is most often used for people who are going to start chemotherapy treatment, which uses medicines that may be toxic to the heart. MUGA scans may be done regularly during your chemotherapy or after your treatment is done. A MUGA scan may also be done before a transplant or as part of a *clinical trial* (research study).

### How should I prepare?

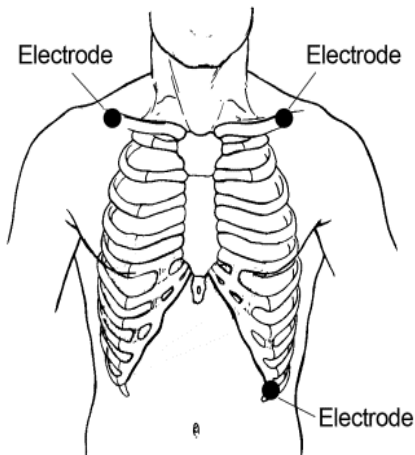
- Tell the scheduler if you have a *heparin allergy* or *heparin-induced thrombocytopenia* (HIT).
- You do not need to do anything special to prepare for a MUGA scan.

### How does the scan work?

- A small sample of your blood will be withdrawn from an *intravenous line* (IV) or your port-a-cath, peripherally inserted central catheter (PICC), or Hickman line.
- The red blood cells (RBCs) from your blood sample will then be labeled with a low-dose *radioactive tracer* called Technetium-99m. You will need to wait 20 to 30 minutes while your RBCs are being labeled.



For the MUGA scan, you will lie on your back on an exam bed while the gamma camera takes images of your heart.



Three electrodes will be placed on your body, as shown in this drawing.

- Your scan will be done in the imaging room. You will lie on your back on an exam bed.
- Three small patches (*electrodes*) will be placed on your chest and abdomen (see drawing at left). These electrodes will record your heart's rhythm.
- The radioactive RBCs will be injected through your IV.
- The technologist will take images of your heart. A total of 3 images will be taken:
  - 1 directly above your chest (*anterior*)
  - 1 at an angle (*left anterior oblique*)
  - 1 at your left side (*lateral*)
- It will take about 45 minutes to take the images. During this time, you must lie still on your back. Tell your technologist if you will have problems lying on your back for that long.

### What should I expect during and after the scan?

- You may feel slight discomfort where the IV is placed.
- There should be no side effects from the tracer.
- You do not need to follow any special radiation safety precautions after your MUGA scan.

### What do the scan images look like?

Here is an example of what a MUGA scan image looks like:



An image from a MUGA scan.

#### Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

- UW Medical Center Imaging Services: 206.598.6200
- Seattle Cancer Care Alliance: 206.288.7045
- Harborview Medical Center Imaging Services: 206.744.3105