

Thallium Stress Test

What is a thallium stress test?

A thallium stress test is a nuclear medicine study that is ordered by your doctor. This test helps your physician in determining if you have a blockage in one or more of the arteries around your heart. This exam also allows your physician to visualize whether there has been any damage done to your heart by any problems you may have had previously. This is a three part test: 1) a set of pictures when your heart is at rest, 2) a stress test, 3) a second set of pictures after your heart has been stressed. This procedure can last from 2 to 4 hours depending on how long your body takes to clear the isotopes.

The material used to visualize your heart is a radioisotope. **This is not a contrast agent** that causes allergic responses in some people. A radioisotope is a radioactive material that is bound with a specific agent that targets a certain area of the body. A nuclear gamma camera is then used to identify the radioactive material and place it on an image for the physician to read.

The radiation received to you during this test is very minimal. It is about the same level as a CT scan would be. The radioisotopes naturally decay over time. They are removed from the body through your urine. It is recommended that after the test you drink plenty of fluids to speed this process up and to decrease the amount of radiation exposure you receive.

If there is any chance that you may be pregnant or breast feeding, notify the technologist before your test.

Preparations:

- No food or drink after midnight prior to the test. It is OK if you have a small drink of water to take any medicines that your doctor has instructed you to take. **NO CAFFIENE 24 HOURS PRIOR TO YOUR TEST** (No coffee, colas, chocolate or tea-Not even Decaf).
- Stop any medications that your doctor has instructed you to discontinue. (Toprol XL, metoprolol, atenolol, ect) If you have questions, please call.
- Wear comfortable clothes and shoes.

Resting Images:

- A technologist will start a small IV in your arm that will be used throughout the procedure.
- An injection of a radioisotope (Thallium201 Chloride) is given through the IV.
- You then have a 10-20 minute waiting period to give the tracer time to get to your heart.
- You will be placed on the nuclear camera for your resting set of images. The scan takes 15-25 minutes depending on your body size.

Stress test:

- After your resting images, a stress test will be administered.
- During your stress test, a nurse will monitor your vital signs and your EKG.

Treadmill:

- If you are able to walk a treadmill, you will be asked to walk as far as possible.
- The treadmill will increase in incline and speed every three minutes. The test will be stopped when you have reached your target heart rate, you are too tired to continue, or there are EKG changes that would indicate stopping.
- At peak exercise another radioisotope (Tc99m Cardiolite) will be injected into your IV.
- After your vital signs have returned to their resting state, you will be asked to wait a short period of time before taking your last set of images to allow for clearance of the radioisotope from other organs, this is usually from 10-45 minutes.

Pharmacological Stress:

- This test is performed if you are unable to walk a treadmill.
- A drug is administered through your IV that will simulate stress to your heart. This does not mean that your heart will race. The drug that is administered is a vasodilator, meaning it causes your arteries to widen (the same response that occurs during physical exercise). Because the drug is not specific to coronary arteries you may experience some side effects such as a headache. The drug is short acting and any side effects should only last a short time.
- Once the stressing agent has been administered, you will be given another radioisotope (Tc99m Cardiolite) into your IV.
- After your vital signs have returned to their resting state, you will be asked to wait a short period of time before taking your last set of images to allow clearance of the radioisotope from other organs, this is usually from 30-60 minutes. During this wait, you will be asked to eat and drink a small snack that will speed this clearance up.

Stress Images:

- After your stress test and waiting period, you will be asked to take another set of pictures.
- These pictures are much like the resting pictures except your heart rate will be monitored and the time is shorter.

After the test is complete, the images will be compiled and given to a nuclear medicine physician to interpret. The results of your test will be given to your physician for them to discuss with you.