

## EXERCISE SPECT STRESS

**The Exercise SPECT stress test you are having today is being done to detect the presence of or assess the status of coronary artery disease.** Images of how well blood flow is getting into your heart muscle at Rest and under Stress will need to be acquired for this test.

**You will be injected through an established IV access with Technetium-99m, a radioactive isotope attached to a drug called Sestamibi.** No contrast dye is used during this test. You will not feel anything from these imaging injections. This isotope has a 6 hour half- life. You therefore will still be radioactive upon completion of your testing today and for a minimum of 2 days after. This radioactivity will not interfere with eating, drinking, or your medications. Due to the rapidly reproducing cells of an unborn baby and babies after birth up to 2 years, we would want you to avoid sitting next to pregnant females for hours at a time while you are still radioactive and also to avoid holding small babies for long periods.

**You will be asked to sit in the waiting room and to drink ½ of the drink you were instructed to bring, once you are injected with the REST image isotope.** (This drink needs to be without any caffeine!) If you forgot a drink you may obtain a cup of bottled water from the dispenser in our reception area. Drinking helps improve the quality of the heart images. The imaging material takes 45- 60 minutes to adequately collect in your heart muscle for imaging. The technologist will come and call for you when it is time to take your pictures.

**You will be positioned on the recliner chair with your arms resting above your head on a cushion.** The nuclear gamma camera moves about your chest on a robotic arm taking multiple views of your heart over 12 ½ - 16 minutes. This positioning of your arms is to prevent the camera from having to see through your arm bones and tissue to take the images. You must lie still to ensure the accuracy of the images. Once the REST pictures are acquired you will be asked to return to the waiting room until called to the stress room by the nurse for the exercise or stress portion of the test.

**You will be monitored closely by the RN during the stress test.** You will have a continuous ECG monitor and frequent BP checks. The treadmill is pre-programmed to start slowly and at a small grade of incline. Every 2 minutes the incline increases and the belt speed gets faster until you attain the goal or target heart rate that is determined by subtracting your age from 220 and then multiplying by 85% (example  $220-48= 172/\text{bpm} \times .85= 146/\text{bpm}$ ). Once you have been walking a minimum of 4 ½ minutes and have attained the target heart rate you are under enough workload that inside your body the arteries will dilate to increase blood flow with new oxygen to the working muscles, including your heart muscle. When the nurse sees you are within 10/ bpm of your goal heartrate they will call the nuclear technologist into the room. The technologist will hook up to the IV site that they had left in place after the REST isotope injection and will inject the STRESS isotope injection. This will circulate and collect in your heart muscle under the conditions of stress or dilated coronary arteries so that the comparison STRESS images of your heart can later be acquired. You will need to continue to exercise and keep your heart rate up for a minimum of 90 seconds after the injection to ensure a quality stress test. Once those 90 seconds have passed you will continue to exercise until you can go no further and tell the stress nurse you must stop. At this time you will report to the nurse the reason you need to stop, i.e., shortness of breath, leg fatigue, generalized fatigue, dizziness, muscle cramps etc. The nurse will assist you from the treadmill to the chair.

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**Your recovery will be monitored by the RN for a minimum of 5 minutes with serial ECG tracings and BP checks.** They will then unhook the monitor wires and send you to the waiting room to await the STRESS image acquisition by the nuclear technologist. The nurse will leave three monitor buttons on your chest for use by the technologist during the imaging. You will be instructed to eat any snack you brought and to drink at this time to improve the quality of the heart images.

**You will be positioned on the recliner chair w/ your arms resting above your head on the cushion again for the stress blood flow images that take 13-16 minutes.** The nuclear technologist will remove the IV from your arm when they take you back for the stress imaging. Once the images are completed you will be able to leave and your cardiologist or his nurse will contact you with your test results. You will be given a copy of your paperwork identifying that you had radioactive isotope injections for this test upon completion of your images. This will prove that you are medically radioactive if you should set off any radiation monitoring alarms for the 2 days after your test.

**If during your exercise stress test you are unable to reach your target heart rate,** we will be planning to automatically switch you to a medication stress so that we can complete your testing today. The nurse would slow the treadmill belt and lower the incline, while the nuclear technologist would inject through your IV a medication called Lexiscan over 10-15 seconds. This medicine will directly affect your artery walls and cause them to dilate as though you did get to your heart rate. The technologist would then inject the STRESS isotope through the IV. It will circulate and collect in the heart muscle under the condition of dilated arteries so that the STRESS images can be acquired for comparison.

Patients who have received this stress medication while exercising have not reported any symptoms, but if you feel something after it is given, report what you are feeling to the nurse as they will still be monitoring your heart, etc. This is a short acting medication, by the time your STRESS images are acquired and you are leaving to go home the medicine will have depleted. You will have no lasting effects from the stress medicine. You will be assisted from the treadmill to sit for the recovery as 2 paragraphs above @ **Your recovery will be monitored....** Please direct any questions you have to the nuclear technologist preparing you for your test.