**What is a Nuclear Exercise Stress Test?**

**Why do I need a stress test?**
This is a type of nuclear scanning test. It shows how well blood flows to the heart muscle. It's usually done along with an exercise stress test on a treadmill or stationary bicycle. The average exercise time is usually less than 12 minutes.

The nuclear exercise stress test is useful to determine:

- Extent of a coronary artery blockage
- Prognosis of patients who have suffered a heart attack
- Effectiveness of cardiac procedures done to improve circulation in coronary arteries
- Cause(s) of chest pain
- Level of exercise that a patient can safely perform
- Irregular heart rhythms
- Estimate the risk of surgery that can cause a cardiac complication

**What happens during the test?**

- During the first part of your test, a nuclear medicine technologist will place an IV into a vein in your arm or hand and inject a small amount of cardiolite. Cardiolite is a radioactive tracer – it is not a dye. It will be necessary for you to wait approximately 30 minutes after the cardiolite injection to allow it to circulate.
- You will then be asked to lie very still under a camera (“gamma camera”) with your arms over your head for about 12-15 minutes. The camera will record images that show the cardiologist how efficiently blood is circulated through the coronary arteries to each area of the heart muscle at rest.
- During the second part of your test, a stress lab technician will prep ten small areas on your chest and place electrodes (small, flat, sticky patches) on these areas. The electrodes are attached to an EKG monitor that charts your heart’s electrical activity during the test.
- You will be on an exam table while the technician performs EKG’s and blood pressures while you are lying down, sitting up, and standing.
- Next, your heart will be “stressed” on the treadmill. When you reach your maximum level of exercise, a small amount of cardiolite will be injected into your IV.
- You will need to walk for at least one more minute after the cardiolite is injected into your IV to allow the cardiolite adequate time to circulate throughout your body.
- While on the treadmill, you will be asked by the technician how tired you are on a 1-10 scale. A rating of one means that you feel the walk is easy and you are not tired at all. A rating of 10 means that you are so tired that you need to stop walking immediately.
- Please tell the technician immediately if you have chest pain, shortness of breath, or any other unusual symptoms at any time during the test.
- The stress lab staff will watch for any changes on the EKG monitor that suggest the test should be stopped. A physician is available if needed.
- Your heart rate, blood pressure, and EKG will continue to be monitored until the levels are returning to normal.
- Your IV will be taken out after the exercise portion of the test. You will again lie very still under the camera with your arms over your head for about 12-15 minutes. The camera will record images that show the radiologist how well blood circulates through the coronary arteries to each area of the heart muscle during exercise.
What does the nuclear exercise stress test show?

- If the test is normal during both rest and exercise, then blood flow through the coronary arteries is normal. The coronary arteries supply blood to the heart muscle.
- If the test shows that perfusion (blood flow) is normal during rest but not during exercise (a perfusion defect), then the heart isn't getting enough blood when it must work harder than normal. This may be due to a blockage in one or more coronary arteries.
- If the test is abnormal during both exercise and rest, there's limited blood flow to that part of the heart at all times.
- If no cardiolite is seen in some part of the heart muscle, the cells in this part of the heart are dead from a prior heart attack and have become scar tissue.

What if I can't perform an exercise test?

If you are unable to tolerate physical activity or increase your heart rate enough, a drug such as lexiscan is given. This drug dilates blood vessels thus increasing blood flow to the heart similar to exercising. Cardiolite is then given.
Instruction checklist for the nuclear exercise stress test:

- Call the Pre-registration dept. at (419) 423-5304, at least 24 hours prior to your test to update any of your personal information. This will save you time on the day of your test. Also call (419) 423-5110 at least 24 hours prior to the test date to confirm your appointment.

- Bring a list of medications you take with you to the test. Include the name and dosage amounts of each medicine. This information can be found on the prescription or bottle label. **Do not** take any of your medications unless instructed otherwise by your physician.
  - If you have asthma, please bring your inhaler medication with you.
  - If you have diabetes, ask your physician how to adjust your medications the day of your test.

- **Please** refrain from any strenuous exercise or activities the day before your test, or the day of the test.

- **Do Not** eat or drink anything except for small amounts of water for 4 hours prior to your testing time. The last meal you eat prior to the test should be a low fat meal.

- **Do Not** drink or eat foods containing caffeine for 12 hours prior to your test. Caffeine may interfere with the results of your test.

- **Do Not** smoke the day of your test. Nicotine will interfere with the results of your test.

- Wear loose fitting, comfortable clothing. Pants or shorts and short sleeve shirts are preferred. (No long sleeves.) Do not wear one-piece undergarments or body suits. Wear comfortable walking shoes. (No flip flops or high heels.)

- **Parking:** Please use our **FREE** valet service at the Center for Diagnostic Studies (CDS) for the easiest of parking. You can also park in the CDS parking lot or use the parking garage.

- **Register:** Please check in at the Center for Diagnostic Studies registration department on the first floor to pick up your paperwork and they will direct you to the Heart Care Center.

- The Nuclear Exercise Stress Test takes about 2½ – 3 hours to complete.

- If you need to **CANCEL** your appointment, Please call (419) 429-7623. We request you cancel your appointment by 2 a.m. the day of your appointment if at all possible.

- If you need to **CHANGE** your appointment date/time, Please call CENTRAL SCHEDULING at (419) 423-5323.

- If you have any **QUESTIONS** about the test, Please call (419) 423-5110. Please leave a message if prompted to do so. We will return your call as soon as possible.