

**HACKETTSTOWN REGIONAL MEDICAL CENTER  
CARDIO PULMONARY POLICY MANUAL  
NUCLEAR EXERCISE STRESS TEST**

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**Effective Date: February 2000**  
**Cross Referenced:**  
**Reviewed Date: 02/16**  
**Revised Date: 02/16**

**Policy No: 8B.005**  
**Origin: Cardio Pulmonary**  
**Authority: Cardio/Pulmonary Manager**  
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**Purpose:** A nuclear exercise stress test is ordered by the physician to evaluate the blood flow of the heart when it is required to work under stress.

**Resources:**

1. GE Case V 6.01 Exercise Testing System (Stress Computer)
2. Electrodes
3. Alcohol Wipes
4. Rescue Kit
5. Skin Prep with abrasion pad
6. Consent Form
7. Blood Pressure machine and stethoscope
8. MUSE Cardiology Information System

**Personnel:**

1. Cardiology Technician
2. Attending Cardiologist to be determined by the ordering physician
3. Nuclear Medicine Technician

**Contraindications:**

1. Patients with the following:
  - o recent (1 week) myocardial infarction
  - o unstable angina
  - o significant aortic stenosis
  - o obstructive cardiomyopathy
  - o atrial tachyarrhythmias with uncontrolled ventricular response
  - o history of ventricular tachycardia
  - o uncontrolled hypertension
  - o thoracic aortic aneurysm
  - o left bundle branch block

**Pre-procedural Requirements:**

- Patient should be fasting for at least eight (8) hours other than morning medications taken with sips of water.
- The following medications should be held unless otherwise specified by the patient's physician: beta blockers, isorbide dinitrate and isorbide mononitrate.
- Diabetics should not take insulin that will peak during this time.
- Nitroglycerin patches should be removed on hour prior to stress test
- An accurate weight must be done at the time of the test.

**Procedure:** The following is done by the cardiology technician:

1. Introduce yourself to the patient and confirm patient by asking for two identifiers i.e.: first and last name, spelling of the last name, and date of birth.
2. Confirm written order is correct.
3. Obtain written consent from the patient.

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4. Obtain the patient's medical history, height, weight, and list of current medications.
5. After patient's privacy is secured, prep the chest using the following technique:
  - Shave any hair present
  - Clean area using alcohol wipes
  - Rub abrasive pad over area
6. Apply ten (10) disposable electrodes to the chest of the patient in the following areas:
  1. One on each clavicle area (LA and RA).
  2. One on each lower ribcage area (LL and RL).
  3. V1 placed at the right border of the sternum at the 4<sup>th</sup> intercostal space.
  4. V2 placed at the left border of the sternum at the 4<sup>th</sup> intercostal space.
  5. V3 midway between V2 and V4.
  6. V4 placed at the intersection of the mid-clavicular line and the 5<sup>th</sup> intercostal space.
  7. Midway between V4 and V6.
  8. V6 placed at the anterior axillary line on the same horizontal level as V4.
7. Obtain a resting blood pressure.
8. At this time the patient will be placed under the Nuclear Medicine camera by the Nuclear Medicine Technician for resting images.
9. Enter patient data into the CASE stress computer including all of the following information: patient name, ID number (Medical Record #- 9 digits), date of birth, Gender, height, weight, past medical history, test indication, ordering physician, attending physician, technician initials and MUSE logon number, Order # (**9 digits**—for example 0234567891, current medications, test to be performed and Bruce test protocol.
10. When the resting images are completed, notify the attending cardiologist that the patient is ready for the test.
11. Assist the patient to the stretcher in the Nuclear Stress Lab.
12. Attach ten (10) EKG wires to the electrodes on the chest of the patient
13. On the CASE stress computer, press "Pretest".
14. Press "Enter BP" and enter the resting blood pressure.
15. Press "12-lead". The supine EKG will print.
16. Assist the patient to a standing position. Press "Pretest".
17. Press "12-lead". The standing EKG will print.
18. Instruct the patient to hyperventilate for ten seconds. Press "Pretest".
19. Press "12-lead". The hyperventilate EKG will print.
20. When the attending cardiologist arrives, assist the patient onto the treadmill. Obtain the cardiologist's signature on the informed consent.
21. When instructed by the cardiologist, press "exercise" and "start". Bruce protocol will begin.
22. Obtain the patient's blood pressure one and a half minutes into each stage of exercise. Enter the blood pressure into the CASE stress computer each time the prompt to do so appears.
23. When instructed by the cardiologist to end the test, press "recovery".
24. When the treadmill is no longer inclined (flat on the floor), press "stop".
25. Assist the patient back to the stretcher.
26. Monitor the patient's EKG tracing, heart rate and blood pressure until all are within normal limits or close to the patient's resting baseline. At this time, press "test end".
27. Click on "Print Report". The final report will print. This is given to the Nuclear Medicine Technician.

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28. Disconnect all leads and remove electrodes from the patient except the two arm leads and left leg lead.
29. Completed consent (ensuring each signature is dated and timed using military time) is placed in the patient's chart (for inpatients) or sent to Medical Records (for outpatients). A copy of the patient's face sheet is put in the EKG room with the name of the test done and attending cardiologist's name at the top.

**Transfer test to MUSE**

1. When all stress tests are completed for the day, return to initial screen in CASE.
2. Click on "Local Database".
3. Click on the blue "Examinations" box.
4. Click "Select Today's Date". The remaining list of patients will be the tests done that day.
5. Click the first name listed. Hold the shift key down and click the last name listed. All the names should turn blue.
6. Click "Transfer to MUSE".
7. Click "Save".
8. Click "Initial Screen".
9. Click "End Program". The CASE stress computer will shut down.

**Editing test in MUSE**

1. Log into the MUSE Cardiology Information System.
2. Click on "Stress Tests".
3. Chose the desired stress to be edited by double clicking on the patient's name.
4. Review all demographic information. Edit as needed.
5. Select the overreader (the cardiologist who attended the stress test).
6. Click on "Demographic Complete/Send to Inbasket" (Icon of a doctor and a check mark).