

**HACKETTSTOWN REGIONAL MEDICAL CENTER
CARDIO PULMONARY POLICY MANUAL
DOBUTAMINE STRESS ECHOCARDIOGRAM**

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Effective Date: March 2010
Cross Referenced:
Reviewed Date: 02/16
Revised Date: 02/16

Policy No: 6.009
Origin: Cardio Pulmonary
Authority: Cardio/Pulmonary Manager
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Purpose: The Dobutamine Stress Echo is a non-invasive test used to evaluate coronary artery disease in patients who are unable to exercise on a treadmill. The test will help the doctor evaluate the patient's cardiac condition related to the following:

- How well the heart muscle and valves are working and how they function under stress.
- The size of the heart's pumping chambers (ventricles).
- Abnormal heart function: Coronary Artery Disease and/or inadequate coronary blood supply.

Procedure: To perform a Dobutamine Stress Echocardiogram, a physician's order must be given. A cardiologist, a nurse, a non-invasive technician (echo tech), and a Cardiology technician must be present to perform a stress echo, all stress echos will be performed in a timely manner. Dobutamine Stress Echos will be Performed via the Phillips Epiq C7.

The physician will place an order into Cerner for a Dobutamine Stress Echo. Cardiology will call the Cardiologist to schedule a time for the test or the Cardiologist will give Cardiology a specific time. Out Patients will be scheduled with Radiology. Radiology will schedule the pt in the Stress Echo schedule Book and a Cardiologist Book.

Cardiology Technician Responsibility

The cardiology technician will introduce his or herself to the patient before escorting the patient to the Stress Echo area. Once in the Stress Echo room, the technicians will explain the procedure to the patient. The technicians will proceed with the following:

1. Prepare the patient for the stress portion of the diagnostic test.
 - a. If the patients are not appropriately dressed, offer the patient a hospital gown and the privacy to change into it. (utilize the bathroom if available)
 - b. The patients skin will be cleansed with alcohol swabs and abraded with 4x4 gauze.
 - c. Male patients will be shaved in area of the chest where electrodes will be placed.
 - d. Ten EKG stress electrodes will be placed on the patients chest.
 - RA- Right arm under the inside of the right clavicle.
 - LA- Left arm, under the inside of the left clavicle.
 - RL- Right leg, lower right side of the rib cage.
 - LL- Left leg, lower left side of the rib cage.
 - V1- Fourth intercostal space, one inch from right sternum.
 - V2- Fourth intercostal space, one inch from left sternum.
 - V3- Halfway between V2 and V4
 - V4- Fifth intercostal space, mid clavicle.
 - V5- Halfway between V4 and V6, on the rib.
 - V6- Fifth intercostal space, mid axillary
 - e. Connect stress electrode wires from stress machine to the patient electrodes using standard connection.
 - f. Use the keyboard to enter patient data.

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- g. Press 12 Lead to print a 12 lead EKG. Print one with the patient lying still.
 - h. Secure the belt to the patient and repeat 12 lead EKG with patient standing still.
 - i. Document EKG in the supine position.
 - j. Use the manual blood pressure cuff to take the patients blood pressure.
2. Answer the patient questions or refer questions to the performing physician.
3. Prepare paperwork:
 - a. Dobutamine Stress test form.
 - Patient name, age, weight
 - Date
 - Medical Record Number
 - Attending Physician and Performing Physician
 - Patient Medication, symptoms, and smoking history
 - Patient's Heart rate and Blood Pressure
 - b. Dobutamine Drip Infusion rate sheet
 - c. Dobutamine Consent Form
 - Patient must read and date consent form
 - Patient must print and sign his/her name on the Dobutamine Consent form before proceeding with the stress test.
 - Technician and physician must sign as witness to the patient signature.
4. Obtain initial blood pressure
 - a. Inform the patient he/she will have multiple blood pressures taken throughout he test.
 - b. Place the blood pressure cuff on the patient's arm opposite the IV.
 - c. Take the blood pressure throughout the test as directed by the cardiologist
 - Approximately every 2.5 – 3 minutes during the test
 - Approximately every 2 minutes during the recovery period of the test.

Nurse Responsibility

- Preferably the procedure nurse or ICU nurse is required to perform this procedure
- Teaching of the risks and benefits of this procedure is completed by the nurse.
- If this patient has a pacemaker/defibrillator, inform the cardiologist prior to the start
- Review patients vials (BP, HR, O2 Sat, baseline EKG)
- General assessment of patient (why they are having test, allergies, medications, etc)
- Vitals to be taken every 2 minutes during test, or as per cardiologist
- Steps of procedure:
 - a. The nurse will initiate the IV.
 - b. IV pump with primary IV pump tubing, started by RN
 - c. Primary IV of 250cc NSS to run at 100cc/hr
 - d. RN will complete the 'Progress Note- procedure with Medications' and scan to pharmacy
 - e. Pharmacy will profile the medication
 - f. Nurse will check EMR and make sure medication is profiled (PRN order), if not call pharmacy
 - g. Dobutamine is removed from the pyxis under the patient's name
 - h. Patient's ID band will be scanned, dobutamine will be scanned
 - i. Piggyback Dobutamine into the lowest port of NSS infusion
 - j. Nurse begins the drip, as per doctor's instruction.

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- k. The nurse will administer the saline, dobutamine and any other medications prescribed by the cardiologist.
- l. Dosage of Dobutamine is ordered by the cardiologist and will possibly be increased throughout the procedure

Echo Technician Responsibility

Prepare the patient for the echo imaging portion of the diagnostic test.

- a. Have the patient in a supine position and turn to his/her side.
- b. Enter patient data.
- c. Make sure the ECG cable is connected to the Phillips Epiq C7 system via the gray cable to synchronize the machines together
- d. Press the preset key and select "Stress Echo" tab.
- e. The stages will be displayed and labeled.
- f. Obtain base line images.
 - First PSLAX, SAX, AP4 and AP2
 - The images will automatically come up in a quad screen for each view.
 - The cardiologist must approve the resting pictures.
- g. After all views have been selected and approved,
 - Press ACCEPT stage.
 - This will move you to the next stage.
- h. Press the Timer Key and ACQUIRE key to begin acquisition of each post stage
- i. Press the TAB key above the track ball to accept the views and then hit END ACQUISITION to stop the timer. This will allow you to pick the 4 post pictures. Press ACCEPT STAGE, this will display Pre and Post Images side by side. After the physician views all pictures, END EXAM. All pictures will be sent to Heart Labs, the Cardiologist will create a report and send it to Medical Records to be scanned into Cerner.

Recovery of Patient

- a. When drip is stopped by nurse, Cardiology Technician presses the "Recovery" button.
- b. Immediately following peak heart rate, Echo tech will repeat step 'f' starting at stage "f" (Post Recovery Images)
- c. Cardiology technician will record until patient returns to baseline rates. (heart rate and blood pressure)
- d. RN will continue to monitor the patient. Once vitals return to normal limits, the test will end.
- e. At this point, Cardiology tech presses the "Test End" button, enters appropriate date, and prints the final report.
- f. The nurse will remove the IV and any medication used for the procedure before leaving.

Test is Complete

- a. The physician will provide the patient with the preliminary report.
- b. Disconnect the patient from both the Echo and Stress equipment.
- c. Remove the electrodes from the patient's chest.
- d. Provide the patient with a towel and/or wash cloth.

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- e. Offer the patient the bathroom facilities to clean off ultrasound gel and to get re-dressed.
- f. Dismiss the patient.
- g. Return the room and equipment to the appropriate place for the next technician.
- h. The technician will finalize the task in Cerner which will charge the order for the Stress Echo. For out-patients, you will enter and charge the order.
- i. RN will document administration of all medications given during procedure and charge for them in EMR.