

CARDIAC – DOBUTAMINE ECHOCARDIOGRAM FOR AORTIC STENOSIS STRESS TEST PROTOCOL**THIS SHEET IS INTENDED TO BE A REFERENCE ONLY.
MUST HAVE A SIGNED ELECTRONIC ORDER BY A PHYSICIAN FOR
MEDICATIONS.****Pre-Test:**

- Obtain INT access
- Flush INT with Normal Saline
- Connect 12 lead EKG and record baseline and record at the end of each stage

Vital Signs:

- Document vital signs every 3 minutes and as needed throughout the test

Sonographer will capture images:

- *Pre-Test*
- *Every 3 minutes with every dobutamine dose change.*
- *When heart rate rises 20 bpm over baseline or exceeds 100 bpm, or when max dose of dobutamine given*
- *Post-Test*

Contrast:

- May use contrast if needed: sulfur hexafluoride (Lumason) 0.5 mL IVPush (no maximum dose) as needed for image enhancement. To be administered by qualified personnel.

The test may be stopped at the discretion of the physician in the event of:

- Positive test by echo criteria
 - An increase in effective AVA to a final valve area greater than 1.0 cm² suggests that stenosis is not severe.
 - Severe stenosis is suggested by an AS jet velocity greater than or equal to 4 m/s or a mean gradient greater than 30-40 mmHg provided that the AVA does not exceed 1.0 cm² at any flow rate.
 - Absence of contractile reserve (failure to increase SV by more than 20%) is a predictor of a high surgical mortality and poor long-term outcome although valve replacement may improve LV function and outcome even in this subgroup.
- Heart rate rises 10-20 bpm over baseline or exceeds 100 bpm
- Any ST elevation/depression or ischemia
- Chest Pain
- Uncontrolled Hypertension (blood pressure greater than or equal to 250/116 mmHg)
- Abnormal Rhythm such as heart blocks, V-tach, etc.

Dobutamine Infusion Regimen:

- Dobutamine infusion will be given as follows in 3 minutes stages, and will continue until positive test by echo criteria, patient's heart rate rises 20 bpm over baseline or exceeds 100 bpm, or until max dose of dobutamine is given.
 - Maximum dobutamine dose: 20 mcg/kg/min

Dobutamine Titration Instructions:

- Stage 1: **dobutamine** 2.5 mcg/kg/min IV x3min
- Stage 2: **dobutamine** 5 mcg/kg/min IV x3min
- Stage 3: **dobutamine** 7.5 mcg/kg/min IV x3min
- Stage 4: **dobutamine** 10 mcg/kg/min IV x3min
- Stage 5: **dobutamine** 12.5 mcg/kg/min IV x3min
- Stage 6: **dobutamine** 15 mcg/kg/min IV x3min
- Stage 7: **dobutamine** 17.5 mcg/kg/min IV x3min
- Stage 8: **dobutamine** 20 mcg/kg/min IV x3min

NOTE: Max dose of dobutamine is 20 mcg/kg/min

Recovery Period:

- Recovery period, vital signs every 3 min x3, then every 5 min x3, and then every 15 minutes until the patient's baseline heart rate and hemodynamic parameters are reached.

Source: Dr. Scott Shurmur, Kevin Darville

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