



Sanger Heart & Vascular Institute  
**SHVI Stress Testing Appropriateness Test**

Patient: \_\_\_\_\_ Date: \_\_\_\_\_ Previous Date Stress Test: \_\_\_\_\_

Symptoms: \_\_\_\_\_ MR #: \_\_\_\_\_

**STRESS ECHOCARDIOGRAPHY/NUCLEAR PERFUSION IMAGING**

- ☐ Treadmill Exercise Echo      ☐ Dobutamine Stress Echo      ☐ Bicycle Stress Echo      ☐ Treadmill Exercise Nuclear Exam  
☐ Pharmacologic Nuclear Exam

**EVALUATION OF CHEST PAIN OR ANGINAL EQUIVALENT**

- ☐ Low pre-test probability of CAD and uninterpretable ECG (115)  
☐ Intermediate or high pre-test probability of CAD (116-118)  
☐ Possible ACS - no ischemic ECG changes or LBBB/V paced rhythm, nl or minimally elevated troponin (119-122)  
☐ Coronary stenosis of unclear significance (cath or CT angio) (141)  
☐ Equivocal, borderline, or discordant stress testing (153)

**PREOPERATIVE EVALUATION \*see reverse side\***

- ☐ Intermediate risk surgery/poor exercise tolerance (< 4 METS) /  $\geq 1$  clinical risk marker (Uncertain) (157)  
☐ High risk surgery/poor exercise tolerance (< 4 METS) /  $\geq 1$  clinical risk marker (161)

**POST ACUTE CORONARY SYNDROME**

- ☐ No symptoms/catheterization not planned (164, 166)

**ASSESSMENT OF VIABILITY/ISCHEMIA**

- ☐ Known mod-severe LV dysfunction/pt eligible for revascularization/DSE only (176)  
☐ Post incomplete revascularization additional revascularization feasible (170)

**RISK ASSESSMENT WITH PRIOR TEST RESULTS**

- ☐ Worsening symptoms with prior abnl catheterization or stress imaging study (151)  
☐ Stable symptoms/asymptomatic with known CAD  $\geq 2$  yrs since last study (uncertain) (147)

**DETECTION OF CAD/RISK ASSESSMENT WITHOUT CHEST PAIN / ANGINAL EQUIVALENT**

- ☐ New onset heart failure (128)  
☐ Sustained VT, NSVT, freq PVC's, exercise induced VT (129, 130)  
☐ Syncope with intermediate or high global CAD risk (134)  
☐ Troponin elevation without additional evidence of ACS (135)  
☐ Coronary calcium Agatston score > 400 (139)  
☐ Coronary calcium score 100-400 / High global CAD risk (uncertain) (138)  
☐ Asymptomatic pt with high global CAD risk (uncertain) (127)  
☐ New onset atrial fibrillation (uncertain) (132)

**VALVULAR HEART DISEASE (ECHO ONLY)**

- ☐ Equivocal aortic stenosis/low cardiac output/use of dobutamine (193)  
☐ Asymptomatic severe mitral stenosis (179)  
☐ Asymptomatic severe AI or MR/LV size and function not meeting surgical criteria (185, 188)  
☐ Symptomatic pt with moderate mitral stenosis (190)  
☐ Symptomatic moderate mitral regurgitation (195)

**POST PCI OR CABG**

- ☐ Chest pain syndrome / not in early post-procedure period (169)  
☐  $\geq 5$  yrs post CABG (uncertain) (172)  
☐  $\geq 2$  yrs post PCI (uncertain) (174)

**OTHER**

☐

**REFERENCES**

Hendel et al. ACCF/ASNC/ACR/AHA/ASE/SCCT/SCMR/SNM 2009 Appropriate Use Criteria for Cardiac Radionuclide Imaging. JACC 2009, 53(23): 2201-29  
**ACCF/ASE/AHA/ASNC/HFSA/HRS/SCAI/SCCM/SCCT/SCMR 2011 Appropriate Use Criteria for Echocardiography** Pamela S. Douglas  
J. Am. Coll. Cardiol. published online Nov 19, 2010; doi: 10.1016/j.jacc.2010.11.002

## PRE TEST PROBABILITY

Typical angina: Substernal chest pain or discomfort that is provoked by emotion or exertional stress and relieved by rest and or nitroglycerin.

Atypical angina: Chest pain or discomfort that lacks one of the characteristics of typical angina.

Non-anginal CP: Chest pain or discomfort that meets one or none of the characteristics of typical angina.

### Pre-Test Likelihood of CAD in Symptomatic Patients

AGE	NONANGINAL CP		ATYPICAL ANGINA		TYPICAL ANGINA	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
30-39	Low	Low	Int	Low	High	Int
40-49	Int	Low	High	Int	High	High
50-59	Int	Low	High	High	High	High
>60	Int	Int	High	High	High	High

### Pre-Test Likelihoods in High Risk Symptomatic Patients\*

AGE	NONANGINAL CP		ATYPICAL ANGINA		TYPICAL ANGINA	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
35	High	Int	High	High	High	High
45	High	Int	High	High	High	High
55	High	Int	High	High	High	High
>60	High	High	High	High	High	High

- Pt with diabetes, smoking, and hyperlipidemia.

## GLOBAL CAD RISK:

Framingham risk score

ATP III Guidelines: High Risk/CHD Risk Equivalent

Diabetes >10 yrs, PVD, Carotid disease, AAA

Framingham Risk > 20% and > 2 Risk Factors\*

- Hypertension / Cigarette smoking / Family hx CASHD (male first degree relative onset <55 female onset <65) / HDL <40 / Age men >45; female >55

## PRE OPERATIVE EVALUATION

Surgery risk stratification

Low risk surgery: Endoscopic procedures, superficial procedures, cataract surgery, breast surgery

Intermediate risk surgery: Carotid endarterectomy, head and neck surgery, chest or abdominal surgery, orthopedic surgery, prostate surgery

High risk surgery: Emergent major operations, peripheral and aortic surgery, prolonged surgeries with significant fluid shifts or blood loss

### Clinical risk factors

Hx ischemic heart disease, Hx of compensated CHF, Hx CVA, diabetes (requiring insulin), creatinine >2