

Angiography should be the initial
study for patients with stable
exertional angina

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27th Annual Update In Cardiology

December 4, 2009

Is Anatomy Destiny?



Definition of Terms

■ Angina

- Discomfort chest, jaw shoulder, back, arms
- Aggravated by physical/emotional stress
- Relieved by rest/NTG

■ Stable

- NOT rest, severe new onset, or increasing angina

■ Initial

- First thing you do!

“The clinical examination is the most important step in the evaluation of the patient with chest pain.....”

**ACC/AHA 2002 Guideline
Update for the Management of
Patients With Chronic Stable
Angina**

Clinical Examination

- History
- Physical Exam/ECG
- Probability of CAD
- Selective Use
 - Noninvasive Testing
 - Coronary Angiography

History

- Typical angina
 - SSCP, exertional, better with rest/NTG
- Atypical angina (2/3)
- Nonanginal chest pain (0 or 1/3)

Physical Exam/ECG

- Typically normal
- Useful to identify high risk groups
 - Findings of CHF – gallop, rales, edema
 - Aortic stenosis/HOCM
 - Old Infarct/ST changes/LBBB
- Extracardiac signs of atherosclerosis
- HTN
- Nonanginal causes of CP

Probability of CAD

Table 9. Pretest Likelihood of CAD in Symptomatic Patients According to Age and Sex* (Combined Diamond/Forrester and CASS Data) (38,42)

Age (Years)	Nonanginal Chest Pain		Atypical Angina		Typical Angina	
	Men	Women	Men	Women	Men	Women
30-39	4	2	34	12	76	26
40-49	13	3	51	22	87	55
50-59	20	7	65	31	93	73
60-69	27	14	72	51	94	86

*Each value represents the percent with significant CAD on catheterization.

Diabetes significantly increases risk

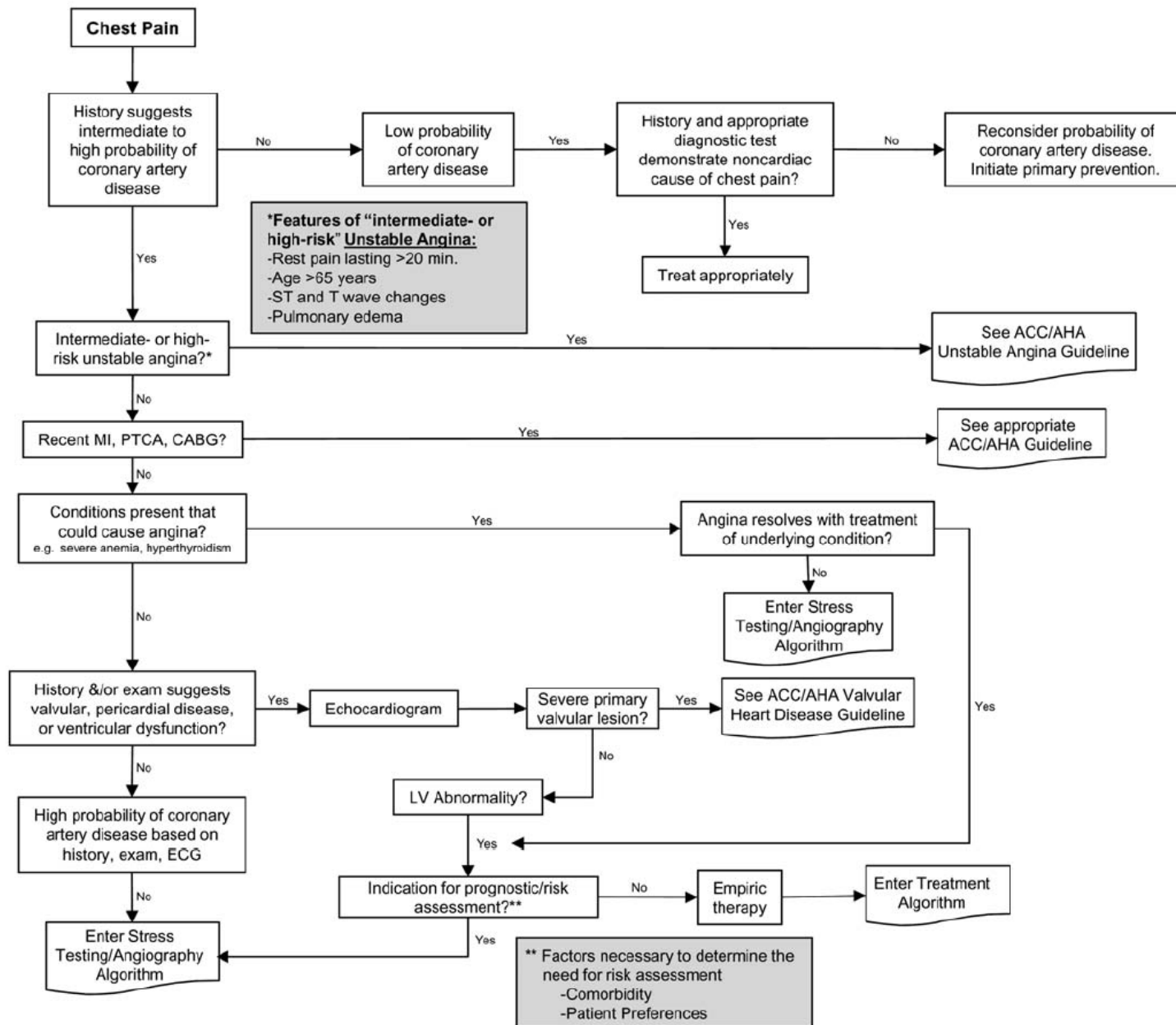


Figure 2. Clinical assessment. MI indicates myocardial infarction; PTCA, percutaneous transluminal coronary angioplasty; CABG, coronary artery bypass graft; ACC, American College of Cardiology; AHA, American Heart Association; LV, left ventricular; and ECG, electrocardiogram.

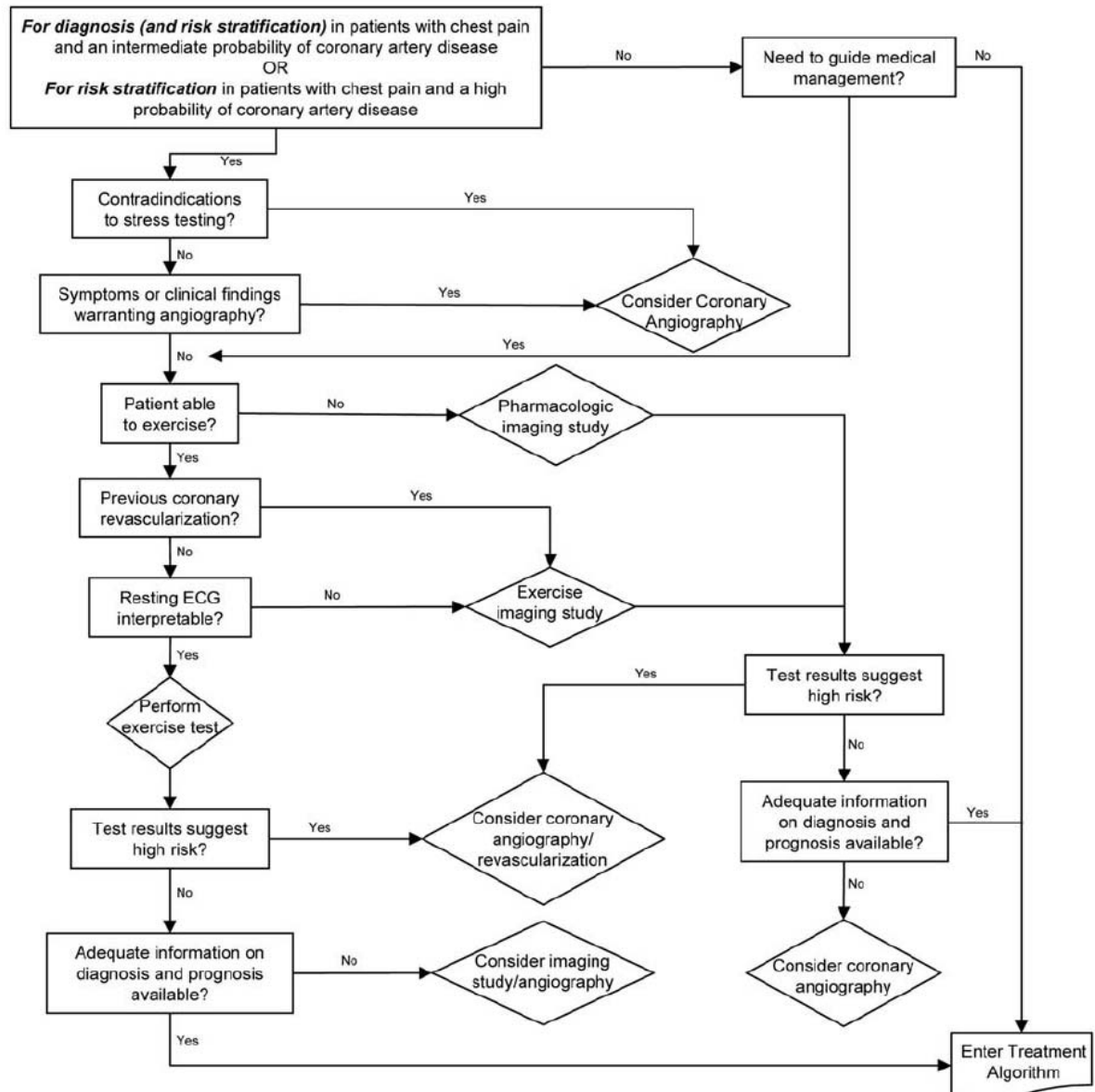


Figure 3. Stress testing/angiography. ECG indicates electrocardiogram.

Clinical Approach

■ Low

- Identify and treat noncardiac cause of CP
- TMET if you have to test
 - » Asymptomatic + TMET, f/u with stress imaging

■ Intermediate

- Stress imaging
 - » Angiography for ischemia, unexpected “infarct”, LV dysfunction
- Risk factor modification

■ High

- Medical therapy/risk factor modification
- Coronary angiography

■ Conflicting information or “need to know”

- Coronary angiography

Optimal Medical Therapy with or without PCI for Stable Coronary Disease

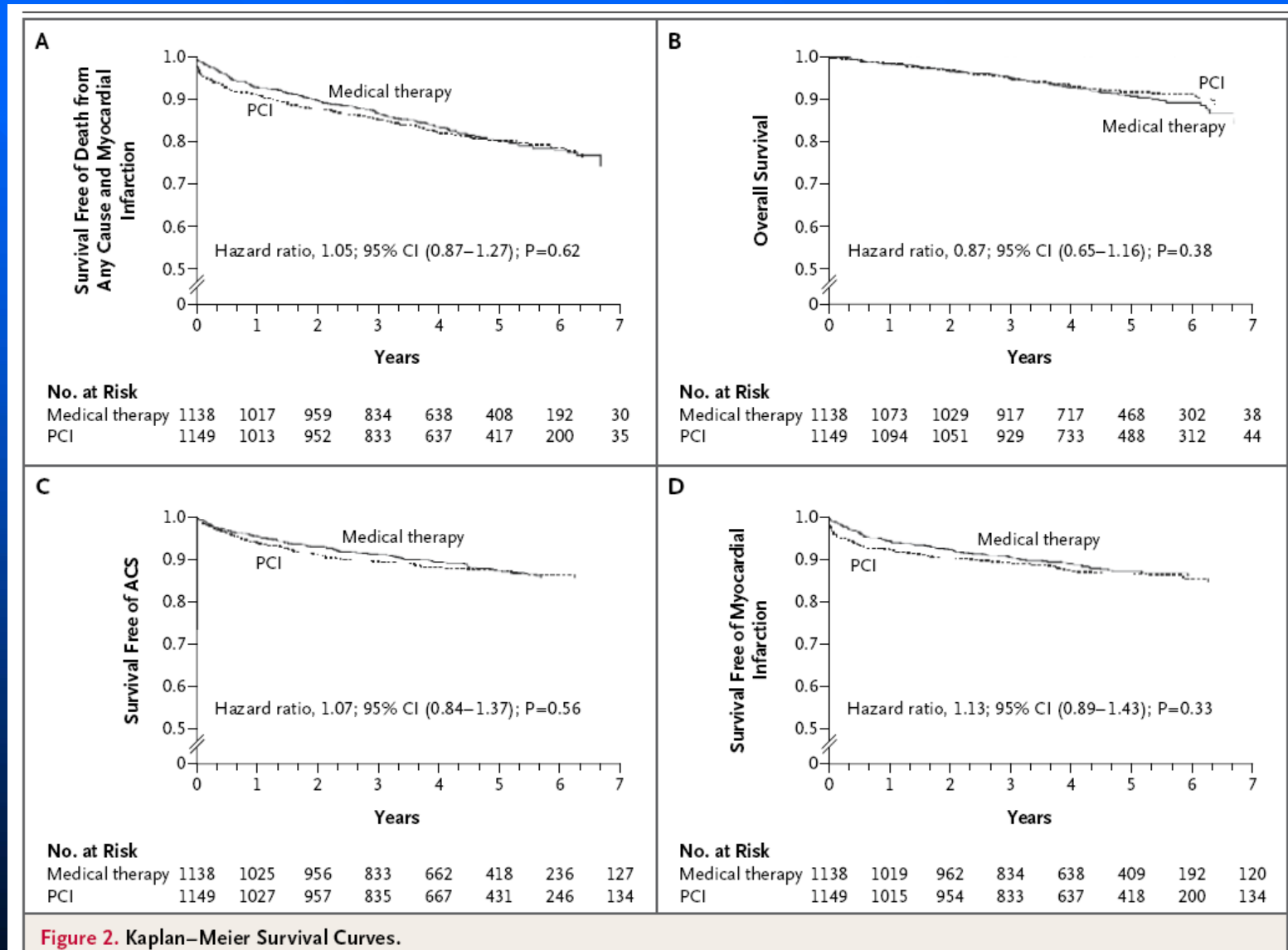


Figure 2. Kaplan–Meier Survival Curves.

Optimal Medical Therapy with or without PCI for Stable Coronary Disease

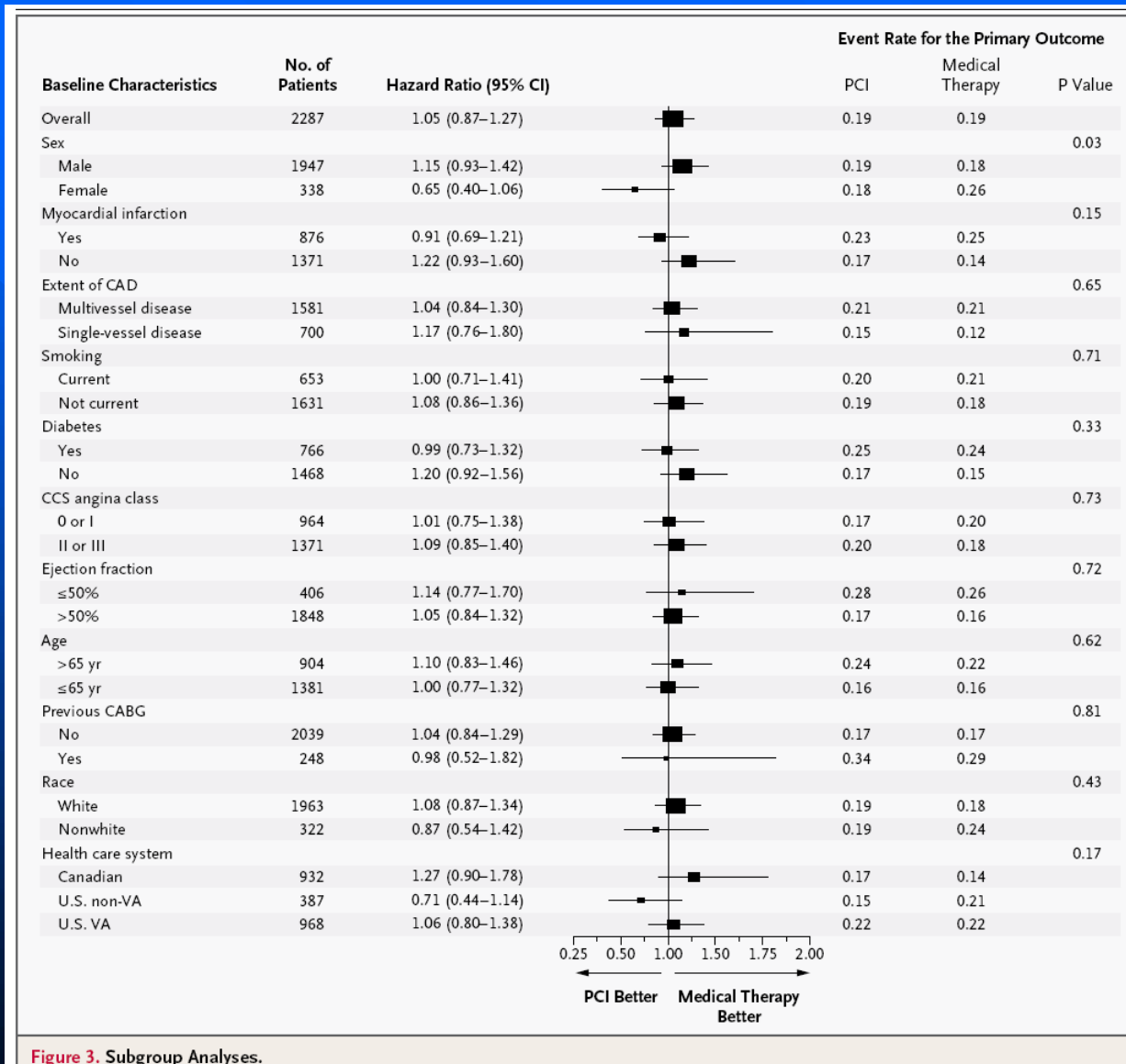


Figure 3. Subgroup Analyses.

IT'S ALL ABOUT THE PLAQUE

(What you don't see can kill you!)

■ Vulnerable plaque

- Thin fibrous cap, large lipid core, fewer SMC, more macrophages, less collagen, expansive remodeling
- Rarely cause stenosis before rupturing (ACS)

■ Stable plaque

- Thick fibrous cap, small lipid core, more SMC, fewer macrophages, more collagen, constrictive remodeling
- Cause angina/ischemia, angiographic stenosis, less likely to rupture

Case: 60 y.o. male

- LVEF 50%, inferior wall hypokinesis
- LM: normal
- LAD: 60 – 70% lesion between S1 and D1
- LCX: nondominant, normal
- RCA: mid vessel occlusion with collaterals from LAD

Scenario 1: 60 y.o. male

- Angina with daily activities, lifestyle limiting, on medical therapy
- Exam normal
- ECG old IWMI
- Stress test: stopped due to symptoms stage II; 2 mm ST depression; ischemia anterior, apical, inferior walls

Scenario 2: 60 y.o. male

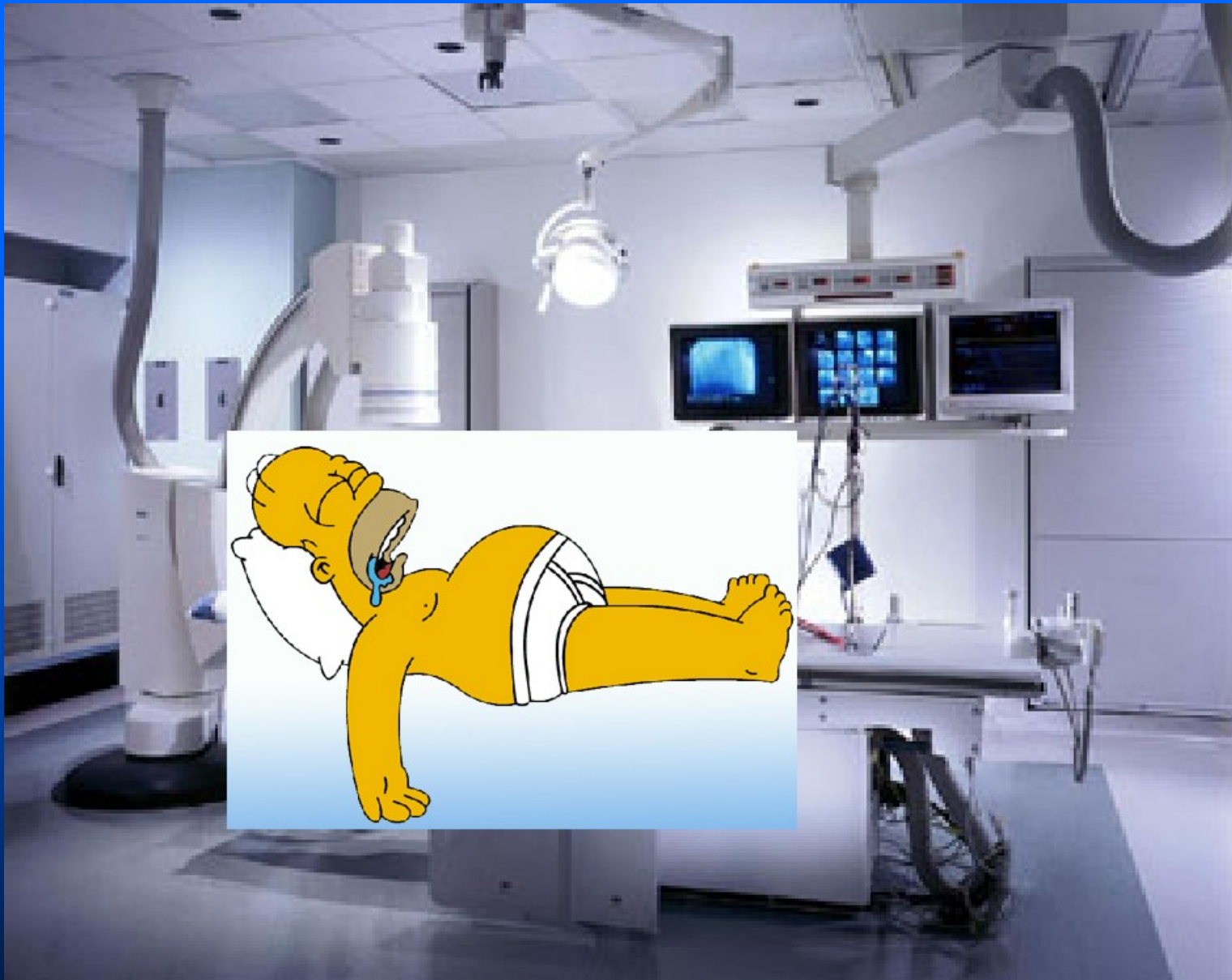
- Angina with moderate exertion, on medical therapy, regular NTG use
- Exam normal
- ECG old IWMI
- Stress test: attained targeted HR; angina at peak (10 METS); 2 mm ST depression; ischemia base to apical inferior wall.

Scenario 3: 60 y.o. male

- Angina only when “overdoes it”, on medical therapy, rarely uses NTG.
- Exam normal
- ECG old IWMI
- Stress test: Exercise to 12 METS; no symptoms; 2 mm ST depression; basal inferior wall ischemia

Treatment: 60 y.o. male

- Scenario 1: CABG
- Scenario 2: PCI of LAD to improve collateral flow to RCA
- Scenario 3: Continue medical therapy



D' OH!