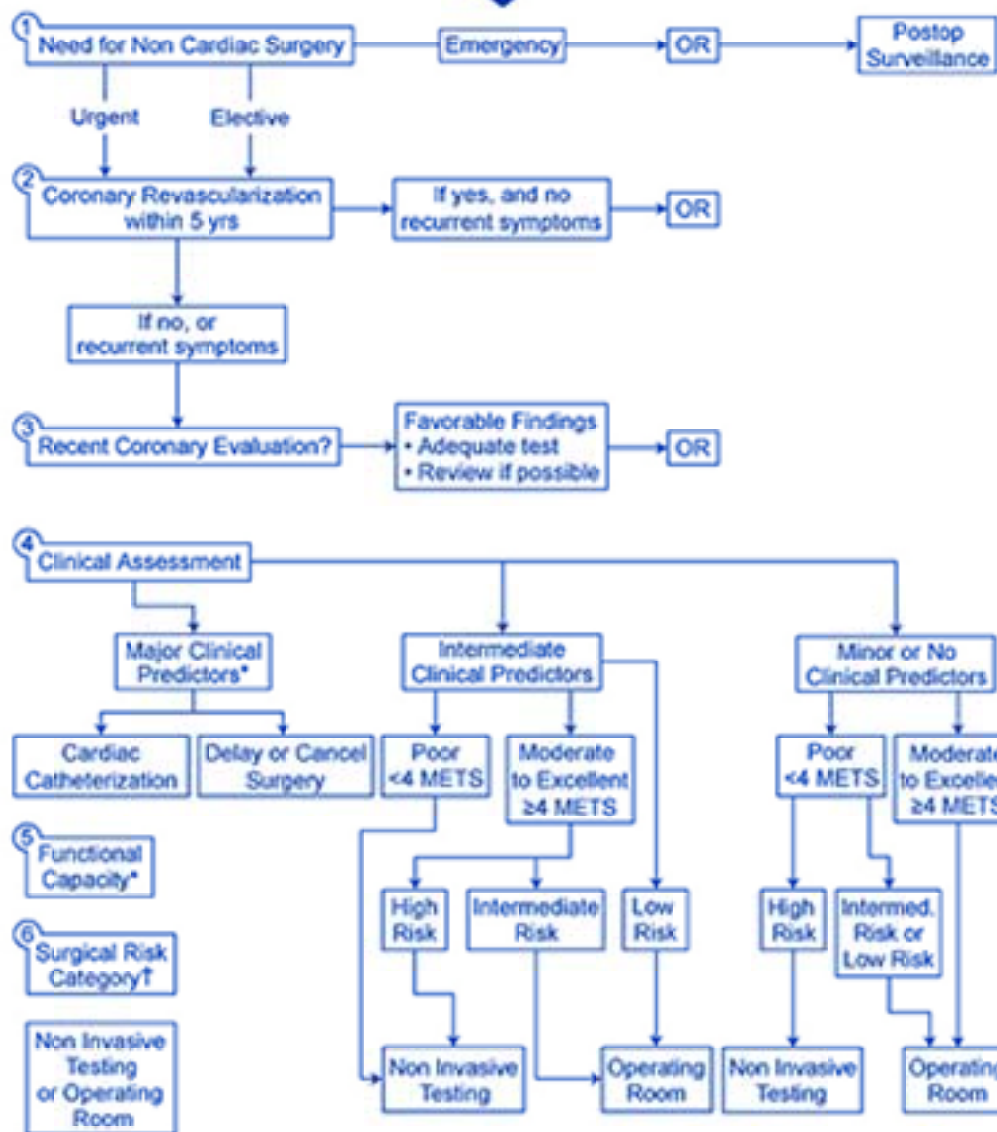


# CARDIOVASCULAR CENTER POCKET GUIDE

## Assessing Coronary Risk for Non-Cardiac Surgery



### Reference:

*J Am Coll Cardiol* 2002;39:542-53.

Fleisher L, Eagle KA. Lowering Cardiac Risk in Non-Cardiac Surgery. *NEJM* 2001;345:1677-1682

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REV: 2008; ACR

### Table 1. Estimated Energy Requirements for Various Activities\*

#### 1 METS

- Care for self
- Eat, drink, dress, use toilet
- Walk indoors around house
- Walk a block or two, level ground, 2-3 mph (3-5 km/h)
- Do light housework (e.g. dusting)

#### 4 METS

- Climb 1 flight; walk up hill
- Walk on level ground, 4 mph (6 km/h)
- Run short distance
- Do heavy house work (e.g. scrub floors, move furniture)
- Moderate recreational activities (e.g. golf, bowf, tennis doubles)

#### >10 METS

- Strenuous sports (swimming, tennis singles, football, skiing)

### Table 2. Clinical Predictors of Increased Cardiovascular Risk (Myocardial Infarction, Congestive Heart Failure, Death)

#### Major

- Unstable coronary syndromes
- Recent MI with evidence of important ischemic risk by clinical symptoms or noninvasive study
- Unstable or severe angina (Canadian Class III or IV) Decompensated congestive heart failure Significant arrhythmias
- High-grade atrioventricular block
- Symptomatic ventricular arrhythmias in the presence of underlying heart disease
- Supraventricular arrhythmias with uncontrolled ventricular rate
- Severe valvular disease

#### Intermediate

- Mild angina pectoris (Canadian Class I or II)
- Prior myocardial infarction by history or pathological Q-waves
- Compensated or prior CHF
- Diabetes mellitus
- Creatinine  $\geq 2.0$  mg/dl

#### Minor

- Advanced age
- Abnormal ECG (left ventricular hypertrophy, left bundle branch block, ST-T abnormalities)
- Rhythm other than sinus (eg. atrial fibrillation)
- Low function capacity (eg. inability to climb one flight of stairs with a bag of groceries)
- History of stroke
- Uncontrolled systemic hypertension

### Table 3. Cardiac Risk Stratification for Noncardiac Surgical Procedures

#### Major

- (Reported cardiac risk often >5%)
- Emergent major operations, particularly in the elderly
  - Aortic and other major vascular
  - Peripheral vascular
  - Anticipated prolonged surgical procedures associated with large fluid shifts and/or blood loss

#### Intermediate

- (Reported cardiac risk 1-5%)
- Intraperitoneal and intrathoracic
  - Head and neck
  - Carotid endarterectomy
  - Orthopedic
  - Prostate

#### Low†

- (Reported Cardiac Risk generally <1%)
- Endoscopic procedures
  - Superficial procedure
  - Cataract
  - Breast

\*Combined incidence of cardiac death and nonfatal myocardial infarction.

†Do not generally require further preoperative cardiac testing

\*The ACC National Database Library defines recent MI as greater than 7 days but less than or equal to 1 month (30 days).

\*\*May include stable angina in patients who are unusually sedentary.

†Campeau L. Grading of angina pectoris. *Circulation* 1976;54.

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