

Table 2. Estimated Energy Requirements for Various Activities*

1 MET	Can you take care of yourself? Eat, dress, or use the toilet? Walk indoors around the house? Walk a block or two on level ground at 2 to 3 mph or 3.2 to 4.8 km per h?	4 METs	Climb a flight of stairs or walk up a hill? Walk on level ground at 4 mph or 6.4 km per h? Run a short distance?
↓		↓	
4 METs	Do light work around the house like dusting or washing dishes?	Greater than 10 METs	Do heavy work around the house like scrubbing floors or lifting or moving heavy furniture? Participate in moderate recreational activities like golf, bowling, dancing, doubles tennis, or throwing a baseball or football? Participate in strenuous sports like swimming, singles tennis, football, basketball, or skiing?

MET indicates metabolic equivalent.

*Adapted from the Duke Activity Status Index (7) and AHA Exercise Standards (27).

the examination) or recent MI (greater than 7 days but less than or equal to 1 month before the examination) with evidence of important ischemic risk by clinical symptoms or noninvasive study is a major predictor. This definition reflects the consensus of the ACC Cardiovascular Database Committee. In this way, the separation of MI into the traditional 3- and 6-month intervals has been avoided (12,25). Current management of MI provides for risk stratification during convalescence (26). If a recent stress test does not indicate residual myocardium at risk, the likelihood of reinfarction after noncardiac surgery is low. Although there are no adequate clinical trials on which to base firm recommendations, it appears reasonable to wait 4 to 6 weeks after MI to perform elective surgery.

Table 2 presents a validated method for assessing functional capacity from a carefully obtained history. This method represents an important aspect of evaluating overall cardiac risk and planning appropriate preoperative testing.

Table 3 stratifies the risk of various types of noncardiac surgical procedures. This risk stratification is based on several

reported studies (12,15,21,22,25,28-30). It is clear that major emergent operations in the elderly (i.e., those violating a visceral cavity and those likely to be accompanied by major bleeding or fluid shifts) place patients at highest risk. Vascular procedures are higher risk and, primarily because of the likelihood of associated coronary disease, justify careful preoperative screening for myocardial ischemia in many instances. This aspect of decision making is covered more extensively in Section IV.

E. Stepwise Approach to Perioperative Cardiac Assessment

Fig. 1 presents in algorithmic form a framework for determining which patients are candidates for cardiac testing. For clarity, categories have been established as black and white, but it is recognized that individual patient problems occur in shades of gray. The clinician must consider several interacting variables and give them appropriate weight. Furthermore, there are no adequate controlled or randomized clinical trials

Table 3. Cardiac Risk* Stratification for Noncardiac Surgical Procedures

High	(Reported cardiac risk often greater than 5%) <ul style="list-style-type: none"> ● Emergent major operations, particularly in the elderly ● Aortic and other major vascular surgery ● Peripheral vascular surgery ● Anticipated prolonged surgical procedures associated with large fluid shifts and/or blood loss
Intermediate	(Reported cardiac risk generally less than 5%) <ul style="list-style-type: none"> ● Carotid endarterectomy ● Head and neck surgery ● Intraperitoneal and intrathoracic surgery ● Orthopedic surgery ● Prostate surgery
Low†	(Reported cardiac risk generally less than 1%) <ul style="list-style-type: none"> ● Endoscopic procedures ● Superficial procedure ● Cataract surgery ● Breast surgery

*Combined incidence of cardiac death and nonfatal myocardial infarction.

†Do not generally require further preoperative cardiac testing.