

ACC/AHA guidelines accurately predict cardiac risk

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The American College of Cardiology/American Heart Association (ACC/AHA) preoperative cardiac assessment guidelines accurately predict major cardiac events in patients undergoing **orthopedic surgery**, say US researchers.

Stephen Salerno (Tripler Army Medical Center, Honolulu, Hawaii, USA) and colleagues conducted a **retrospective** review of 338 orthopedic pre-operative evaluations to assess whether ACC/AHA guidelines impact on patient management and predict major cardiac events, such as myocardial infarction, congestive heart failure, and sudden cardiac death.

Patients with minor or absent ACC/AHA clinical risk predictors were less likely to experience major cardiac events ($P=0.007$), therefore "ACC/AHA guidelines accurately define low-risk orthopaedic surgery patients," the authors write in The American Journal of Medicine.

More than half of patients meeting ACC/AHA indications for non-invasive cardiac tests did **not** receive them. However, **69%** of **major cardiac events** occurred in patients **not** meeting the **criteria** for **cardiac testing**.

Abnormal non-invasive cardiac **testing** results did **not** alter medication recommendations. Only **3%** of these patients had major cardiac events, and they were more likely to have peri-operative β -blockade ($p<0.01$) than those with normal results.

The **age** of the patient and **urgency** of the surgery were important indicators of increased risk of peri-operative cardiac complications.

Patients aged **70** years or older and those undergoing **hip** surgery were more likely to have major cardiac events than other patients, at odds ratios of 5.0 and **7.5**, respectively.

Major cardiac events occurred in **12%** of urgent surgeries versus **4%** of elective procedures.

Interestingly, although ACC/AHA guidelines consider all orthopedic surgeries as intermediate risk, cardiac complications occurred in less than 1% of knee replacements.

The team suggests that "if many surgeries could be reclassified as minor risk, it would result in substantial cost-savings because patients with poor functional capacity would not require non-invasive cardiac testing."

Salerno et al conclude: "The ACC/AHA 2002 guidelines for peri-operative cardiac evaluation were successful in predicting cardiac risk but did not recommend cardiac testing for most patients having cardiac events."

They add: "Prospective studies are required to determine whether patients would benefit more from an approach based on beta-adrenergic blockade and close postoperative scrutiny versus more widespread preoperative cardiac testing with refined standards for functional status determination, or a combination of both."

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