

Abstract 5

Most Anesthesiologists Don't Correctly Apply 2007 ACC/AHA Guidelines on Perioperative Cardiac Evaluation

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Introduction: The 2007 American College of Cardiology/American Heart Association (ACC/AHA) Guidelines on Perioperative Cardiac Evaluation and Care for Noncardiac Surgery is an evidence-based standard for perioperative cardiac evaluation. We surveyed practitioners to determine how they apply suggested testing algorithms from the ACC/AHA guidelines when evaluating simulated patients. We then estimated the percentage of anesthesiologists nationwide who correctly apply the guidelines.

Methods: American Society of Anesthesiologists (ASA) members were solicited by e-mail to participate in a survey. Participants were presented with six clinical scenarios characterized by surgical procedure and the patient's clinical condition (ie, clinical risk factors and functional capacity). Scenarios and possible recommendations were presented in a randomized order. Anesthesiologists selected the recommendation (from a list of five possible choices) that they considered to be most consistent with the guidelines.

Results: A total of 1,595 practicing anesthesiologists participated in the survey. Recommendations for scenario #1 (active cardiac condition) were consistent with the guidelines approximately 80% (95% CI: 78–82) of the time. However, for the remaining five scenarios, this occurred only 18% to 38% of the time (Table).

TABLE
Percent of practicing anesthesiologists with correct recommendation

Scenarios	% Correct [95% confidence intervals]
Active cardiac condition	80 [78, 82]
No active cardiac condition, low-risk surgery	38 [35, 40]
No active cardiac conditions, intermediate-risk surgery, good functional capacity, one clinical risk factor	29 [27,31]
No active cardiac conditions, intermediate-risk surgery, poor/unknown functional capacity, two clinical risk factors	18 [16, 20]
No active cardiac conditions, vascular surgery (one or two risk factors)	26 [24, 28]
No active cardiac conditions, intermediate-risk surgery and no clinical risk factors	30 [28, 32]

Discussion: The 2007 preoperative cardiac testing guidelines, although well supported by scientific evidence, are not correctly applied by anesthesiologists evaluating simulated patients. The number of years in practice was inversely related to percentage of anesthesiologists providing the correct recommendation, suggesting that current methods for dissemination of the guidelines may need reevaluation. Nonetheless, the generally poor performance indicates that other factors (ie, guideline clarity, logistical considerations, etc.) may also be relevant. Increased efforts by regulatory and societal agencies are needed to encourage evidence-based improvements in care. Further study is needed to determine if decision support tools may increase correct application by practicing anesthesiologists.

1. ACC/AHA Task Force on Practice Guidelines, American Society of Echocardiography, American Society of Nuclear Cardiology, et al. ACC/AHA 2007 guidelines on perioperative cardiovascular evaluation and care for noncardiac surgery: executive summary. *Anesth Analg* 2008; 106:685–712.