Abstract 3

Residents' Knowledge of ACC/AHA Guidelines for Preoperative Cardiac Evaluation Is Limited

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Background: To determine if duration of clinical training is associated with knowledge and application of the 2007 American College of Cardiology/American Heart Association (ACC/AHA) Guidelines on Perioperative Cardiovascular Evaluation and Care for Noncardiac Surgery.

Methods: We designed and implemented a Web-based assessment tool based on the cardiac evaluation and care algorithm as described in the 2007 ACC/AHA guidelines. Twenty-four academic training programs (548 residents) participated. All residents were presented with 6 scenarios describing patients with one of the following: (1) active cardiac condition; (2) low-risk surgery without active cardiac conditions; (3) good functional capacity and 1 clinical risk factor and intermediate-risk surgery; (4) 1 or 2 risk factors and vascular surgery; (5) 2 clinical risk factors and poor/unknown functional capacity and intermediate-risk surgery; or (6) no clinical risk factors and intermediate-risk surgery. Scenarios and possible recommendations were presented in a randomized order. For each scenario, we created 3 "equivalent" descriptions, to lessen the chance that two residents would see the same clinical scenario.

Results: Resident participation by site ranged from 18% to 91%. The 548 trainees included 45 PGY-1s, 159 CA-1s, 154 CA-2s and 167 CA-3s. Residents' recommendations for scenario #1 (active cardiac condition) were consistent with

the guidelines approximately 80% of the time. For the remaining 5 scenarios, recommendations were consistent with the guidelines < 47% of the time. CA-3s answered questions correctly more often than the other two groups. However, the differences among CA-1s, CA-2s, and CA-3s were small. The largest difference between any two groups was 13%. In only two scenarios was the difference > 10% (the "low-risk surgery" scenario and the "2 clinical risk factors and poor/unknown functional capacity and intermediate-risk surgery" scenario).

In general, residents recommended more aggressive evaluation and conservative management than suggested by the guidelines. For the low-risk surgery scenario, 42% of residents required an ECG, although the guidelines suggest to "proceed to surgery." For patients with no clinical risk factors scheduled for intermediate-risk surgery, 36% of residents required an ECG, in contrast with the guidelines. Sixty-one percent of residents recommended that patients with good functional capacity should be at least 3 months out from a myocardial infarction, contrary to the guidelines' 7- to 30-day recommendation.

Conclusions: Residents' knowledge and application of the 2007 ACC/AHA guidelines is limited. Recommendations are minimally influenced by the duration of clinical training. In general, residents requested more aggressive preoperative evaluation and conservative management than is suggested by the guidelines.