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Anesthesiology Residents Do Not Agree With Their Training Programs on the Degree to Which the 2007 ACC/AHA Guidelines Are Emphasized

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Introduction: Clinical practice guidelines have been increasingly accepted as the standard of care. However, few studies have evaluated the degree to which they are emphasized by anesthesiology training programs. We hypothesized that there is a discrepancy between residents' perceptions and those of their training programs on the emphasis placed on the 2007 American College of Cardiology/American Heart Association (ACC/AHA) Guidelines on Perioperative Cardiovascular Evaluation for Noncardiac Surgery.¹

Methods: We designed a Web-based survey instrument to evaluate how anesthesiology residents apply the 2007 ACC/AHA Guidelines on Perioperative Cardiovascular Evaluation for Noncardiac Surgery. Twenty-four anesthesiology-training programs (386 residents) participated. As part of a Web-based survey that determined residents' ability to apply the guidelines, we included a question that related to the emphasis of the guidelines in their training. In addition, each site coordinator was asked to quantify the degree to which the guidelines were emphasized. We determined agreement between residents and their program calculating Cohen's kappa statistic with 95% confidence intervals. Cohen's kappa statistic measures the amount of agreement after adjusting for the expected association due to chance.²

Results: The 386 trainees included 44 PGY-1s (preliminary year before anesthesiology training), 127 CA-1s (first year of residency training), 104 CA-2s (second year), and 98 CA-3s (third year). Thirteen participants submitted incomplete questionnaires. Of the 24 anesthesiology training programs, 66% of site coordinators indicated that their training programs emphasize the guidelines. However, regardless of resident's training level, there was no statistically significant agreement between the residents and training program coordinators on the degree to which the guidelines are emphasized, as shown by the Cohen's kappa statistic (Table).

TABLE
Interrater reliability analysis

Year of training	N	Kappa	P value	95% Confidence interval	
				Lower	Upper
PGY-1	44	0.114	.445	−0.358	0.130
CA-1	127	0.037	.676	−0.139	0.212
CA-2	104	0.072	.462	−0.121	0.266
CA-3	98	0.145	.152	−0.056	0.345

CA-1, CA-2, CA-3 = first, second, third year of anesthesiology residency; PGY-1 = preliminary year before anesthesiology training

Discussion: Our study suggests that residents and site coordinators do not always agree on the level to which the 2007 ACC/AHA Guidelines are emphasized. This may be a factor in residents' inability to correctly apply the guidelines in common clinical scenarios.³ Adjustments in educational programs may be required to increase awareness of the importance of applying evidence-based guidelines.

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.
2. Altman DG. *Practical Statistics for Medical Research*. London, England. Chapman & Hall; 1991.
3. Vigoda MM, Sweitzer BJ, Miljkovic N, et al. Do anesthesiology residents correctly apply the 2007 American College of Cardiology/American Heart Association (ACC/AHA) guidelines on perioperative cardiac evaluation when evaluating simulated patients? *Anesth Analg*. In press.