Abstract 11

## A Review of Preoperative Clinic Cardiology Referrals for Adults Undergoing Intermediate- and Low-Risk Surgery

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Guidelines for the preoperative evaluation of adult patients undergoing noncardiac surgery were released in 2007.[1] After obtaining IRB approval, we performed a focused chart review to evaluate application of these guidelines in an adult preoperative clinic over a 3-month period during 2010.

The Vanderbilt preoperative evaluation center (VPEC) is staffed by 16 advanced practice nurses (NPs) experienced in the preoperative evaluation of adults. An attending anesthesiologist is consulted per protocol or at the discretion of the NP regarding the need for additional testing or consultation.

**Results:** During the study, 4,477 adult patients were evaluated in VPEC. Seventy patients undergoing intermediate- (43) or low-risk (27) procedures were referred for cardiology consultations. Sixty-four patients had at least one clinical risk indicator (CRI), and 10 had three or more CRIs.[1] The average age was 61 and 34 of the 70 referred patients were male.

Three patients with known serious heart disease (severe pulmonary hypertension, moyamoya disease, and cyanotic congenital heart disease) were referred for an opinion regarding optimization prior to anesthesia and surgery.

Of the remaining 67 consultations, 43 (64%) were judged to be consistent with the guidelines: 19 for possible unstable coronary symptoms, six for arrhythmias, two for congestive heart failure, seven for possible significant valvular disease, and nine for patients having intermediate-risk surgery with both poor exercise tolerance and at least one CRI.

Three referred patients had stable or atypical chest pain not needing further testing, according to the cardiology consultant.

Of the remaining 21 consultations judged inconsistent with the guidelines, 12 patients were scheduled for low-risk procedures; nine patients undergoing intermediate-risk surgery had either good exercise tolerance (seven patients) or no CRI (two patients).

**Conclusion:** Based on a limited chart review, a significant number (36%) of cardiology referrals from our preoperative clinic are inconsistent with published guidelines and represent an opportunity for improved efficiency, cost savings, and better patient care. We plan to consider measures such as educational initiatives or computerized clinical decision support to decrease unnecessary referrals.

1. *Fleisher LA, Beckman JA, et al. ACC/AHA 2007 Guidelines on Perioperative Cardiovascular Evaluation and Care for Noncardiac Surgery: executive summary: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the 2002 Guidelines on Perioperative Cardiovascular Evaluation for Noncardiac Surgery). Circulation 2007; 116:1971–1996.*