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Pre-operative assessment clinic: routine use or just for the challenging patient

A basic tenet of anesthetic practice is that preoperative information can lead to better preparation of the patient for surgery and modification of intraoperative management, both of which will lead to better outcomes. In order to obtain a thorough history in patients who present the day of surgery, preoperative screening clinics were created. Holt and colleagues surveyed anesthesiologists at the 2005 Annual ASA meeting and reported that 69% of the respondents reported working at institutions with a Preoperative Evaluation Clinic (PEC).(1) In many practice settings, the internist or primary caregiver provides a preoperative evaluation with the anesthesiologist performing a brief history at the time of surgery. Alternatively, the surgeon may identify health patients in whom a telephone interview may suffice or the evaluation may occur the day of surgery. Managed care organizations may also restrict the number and nature of preoperative tests performed, and the anesthesiologist may not be able to evaluate the patient prior to surgery

Several systems have been developed to assure accuracy and completeness of the information from the preoperative evaluation. Multiple preoperative questionnaires have been developed and tested against traditional physician interviewing. These questionnaire are at least as accurate, if not more accurate, than physician interviews.(2) Computer driven programs have also been developed, which demonstrate good success.(3) In both cases, repetition of critical questions is essential. The precise method of obtaining the history is not as important as its completeness and accurate ability to dictate appropriate care.

Over the past decade, the systems by which a preoperative evaluation is obtained are being evaluated for their value in improving the efficiency of the perioperative process. By assuming responsibility for ordering tests, the anesthesiologist can obtain a more appropriate laboratory panel and potentially reduce cancellations the day of surgery from an inadequate evaluation. Additionally, laboratories can be centralized and patient and family perioperative education can occur within the confines of these centers. The costs of such centers are significant, so the benefits must be evaluated. Fisher et al had demonstrated the cost effectiveness of establishing a preoperative evaluation clinic at Stanford by reducing both testing and cancellations.(4,5) Starsnic and colleagues at Thomas Jefferson University compared the group who had testing primarily ordered by surgeons augmented by anesthesiologists in the Preoperative Evaluation Clinic versus those ordered primarily by anesthesiologists augmented by the surgeons as deemed necessary during two consecutive time periods in 1992.(6) They demonstrated an average cost savings of \$20.89 per patient when the anesthesiologist was the primary physician determining testing. Importantly, there were no recorded cancellations or alterations in intraoperative management attributable to inadequate testing. Similarly, Allison and Bromley performed an analysis of the cost savings of unnecessary testing at the Department of Veterans Affairs Medical Center in South Carolina and demonstrated a potential savings of \$11,757.50 per year.(7) Vogt and Henson performed a retrospective chart review and estimated a potential hospital savings of approximately \$80,000 by eliminating unindicated tests for the 5100 patients seen in the Preoperative Clinic annually.(8) Ferschl and colleagues conducted a retrospective chart review of all surgical cases during a 6-month period at the University of Chicago Hospitals. In the same-day surgery suite, 98 of 1,164 (8.4%) clinic-evaluated patients were cancelled, as compared with 366 of 2,252 (16.2%) in the non-clinic group ($P < 0.001$). (9) In the general operating rooms, 87 of 1,631 (5.3%) PEC-evaluated patients were cancelled, as compared with 192 of 1,477 (13.0%) patients without a clinic visit ($P < 0.001$). For both operating areas, PEC patients had a significantly earlier room entry time, although only 2 minutes, than patients not evaluated in the PEC. Correll and colleagues evaluated the impact of their PEC at the Brigham and Women's Hospital and reported a total of 5,083 patients of whom 647 patients had medical issues requiring further information or management.(10) Most of the

new problems required that a new test or consultation be done, whereas most of the old problems required retrieval of information existing from outside medical centers. New problems had a far greater probability of delay (10.7%) or cancellation (6.8%) than old problems (0.6% and 1.8%, respectively). The authors concluded that a PEC can identify and resolve medical issues.

An alternative approach to the construction of a Preoperative Evaluation Clinic is through the simple dissemination of guidelines. Mancuso studied the impact of new guidelines on physicians ordering of preoperative tests at an orthopedic hospital.(11) A simple memo was distributed to the participating surgeons after the establishment of ordering patterns by a multi-disciplinary group. They demonstrated a marked reduction in the number of tests without an increase in cancellations or untoward events. A savings in charges of \$34,000 was realized. Although the compliance of the physicians was variable, this simple approach did demonstrate efficacy in reducing costs. These studies suggest that the anesthesiologist's involvement in the design of the system to determine the preoperative testing algorithm is essential for economic success, but that cost-savings from a reduction in testing does not require a PEC.

Maurer and colleagues have designed an alternative approach which incorporates a healthquiz and surgical risk to triage individuals to no further evaluation, an anesthesia preoperative clearance clinic, and a medical service directed clinic.(12) The unique setting of the Cleveland Clinic may make such a scenario cost-effective, but the general triage approach is becoming more common.

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