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Creation of a Perioperative Medicine Curriculum for an Anesthesiology Residency Program

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Abstract

Because of the increasing expansion of the practice of anesthesiology beyond the borders of the operating room, there is attention being paid to Perioperative Medicine (PM) within anesthesiology training programs. With the elements of PM incorporated into the newest requirements for anesthesiology residency programs by the Residency Review Committee (RRC) for Anesthesiology of the American College of Graduate Medical Education (ACGME), programs are obliged to develop PM curriculum. At the Cleveland Clinic, a PM curriculum was created from existing, diverse elements of the clinical practice. Clinical supervision of the Pre-Anesthesia testing center, the Same-Day-Surgery unit, In-House Consultation and the Post-Anesthesia Care Unit were combined into a single teaching service. A didactic curriculum was created, resident function within these units was defined, and weekly teaching sessions were created. The result has been increased clinical teaching of PM, satisfaction of RRC requirements, and improved opportunity for resident learning in these areas. Residents have rated PM within the top 10% of rotations for the first two years of existence. We conclude that a combined service is an excellent approach to the creation of a PM curriculum.

Keywords: Perioperative Medicine, Pre-anesthesia Testing, Post-Anesthesia Care Unit, Curriculum, Practice Management

INTRODUCTION

Care of patients in the operating room has been the traditional core of the practice of Anesthesiology. The changes in the practice of medicine driven by managed care and reduced reimbursement has led to a re-evaluation of the scope of practice.(1) Critical Care Medicine (CCM) and Pain Management (PAM) have become universal components of anesthesia groups.(1) Management of pre-surgical testing centers, ambulatory surgical centers and tertiary center operating rooms is increasingly being handled by anesthesiologists. Hospitals and Medical Centers are recognizing the unique skills of the anesthesiologist to participate in Risk Management and Continuous Quality Improvement (CQI) processes and to be

members of Resuscitation, Pharmacy, Transfusion, Infection Control and Operating Room Design committees.(2)

This change in the scope of anesthesiology practice has also become an issue in the training of anesthesiology residents. Each anesthesiology resident is expected to have specific rotations in CCM and PAM. As of July 1996, new rules from the RRC identified the requirement to teach pre-anesthesia testing (PAT) and management of patients in the Post-Anesthesia Care Unit (PACU) in specific rotations. Other issues such as practice management, drug abuse and CQI are identified as integral components of an anesthesiology residency. In the context of a highly turbulent manpower environment in the 1990's, changes in residency curriculum were inevitable.

To achieve the goal of unified teaching of PM, we created a section of Acute Perioperative Care (APOC). This section of the staff has the clinical responsibility for supervision of all anesthesia care outside the operating room (except for CCM and PAM) and for a resident rotation in PM.

METHODS

A section of Acute Perioperative Care (APOC) was created by identifying a group of faculty interested in clinical care outside the operating room and willing to teach residents in a PM rotation. The clinical responsibility for the section was defined from several areas, including the Pre-Anesthesia Consultation and Evaluation (PACE) Clinic, the Same-Day-Surgery (SDS) unit, the In-House Anesthesia Consultation (IHAC) service and the Post-Anesthesia Care Unit (PACU). Staff supervision of these units requires one staff assignment to PACE each day and another staff with a reduced ORA assignment to cover SDS, IHAC and PACU.

The PM rotation was defined as a CA-1 rotation, preferentially within the first 6 months of training. This choice was made because the skills to be taught were felt to be both basic and important to learn early in training. In a training program with a four-week module structure, the PM rotation was defined as eight consecutive weeks. Three residents are assigned to the service at a time and are not assigned night or weekend call. Elimination of night call was chosen to maximize work hours on the rotation during normal working hours, when the activity in the section is maximal. For one-week intervals, the residents are assigned on a rotating basis to one of three jobs, either PACE, IHAC/SDS or PACU. Clinical care in each of these areas is initiated by the PM resident and supervised by the APOC faculty.

Three days of each week, one hour (9:00-10:00 AM) is defined as a didactic session. The staff assigned to supervision of the IHAC/SDS/PACU assumes responsibility for teaching these sessions. The topics are standardized by the curriculum (table one), which is published for each 8-week module. The teaching sessions are complemented by a syllabus that contains guidelines for clinical care in each area, written material for each of the teaching sessions and annotated bibliography. Performance of the resident on the service is evaluated by standard clinical evaluation and a pre-test/post-test process administered on the first and last day of the rotation. The performance of the rotation is evaluated by the residents using the standard format for the training program, which involves anonymous critique of the rotation and the individual staff.

RESULTS

From a faculty of 54, 8 were recruited to the APOC section. In the first 24 months, 78 residents completed the PM rotation. The overall staff response to the APOC service has been positive, although not specifically measured. In the first two years, the PM rotation was rated among the top 10% in the annual resident reviews, and was rated 3rd for 1998-1999. Of the faculty for 1998-1999, 5/8 were rated in the top 10% and for 1998 and 1999, a member of the section was voted "Teacher of the Year" by the residents.

DISCUSSION

Integrating existing clinical activities into a combined teaching service appears to have been a successful strategy for the creation of a perioperative medicine rotation for anesthesiology residents. It has the beneficial effect of improved clinical services within an environment of excellent clinical teaching.

The combination of activities for residents provides the exposure tot he comprehensive care for surgical patients, which makes staff anesthesiologists uniquely qualified to lead the practice of perioperative medicine.(3) Exposure to a broad spectrum of perioperative clinical care may lead residents to expand their clinical frontiers from the start of their practice, and fill needs within health care facilities enthusiastically.(4) This approach may be more effective at changing practice patterns, since changing practice patterns of existing practices is difficult, if not impossible.(5) Leadership in perioperative medicine may lead to participation in guidelines of clinical practice with other specialties, which is clearly preferable to the imposition on the perioperative period by other specialties.(6)

Change driven by economics also drives the evolution of perioperative medicine and it's teaching.(7) Cost savings which result from pre-surgical testing under the direction of a comprehensive anesthesiology-managed pre-surgical testing clinic are established.(8) A logical extension of this fact is the need to teach comprehensive pre-surgical testing to anesthesiology residents. A further expansion of this approach combines all of the activities managed by anesthesiologists that are outside the traditional boundaries of the operating room into a single activity. This can be taken a step further by the creation of fellowship training and additional credentials. Perhaps this will ultimately lead to the development of perioperative medicine subspecialty practice.(8) Regardless of whether this additional training becomes a major force within anesthesiology, it is clear that integrated teaching of perioperative medicine is a permanent part of the future of the specialty. The economic forces within anesthesiology clearly favor physicians who take an active role in economic efficiency.(9)

We conclude that integration of existing clinical services into a unified teaching service proves an effective approach to the management of a PM curriculum for anesthesia residents. Good clinical service, an excellent environment for teaching and a high level of resident satisfaction with the learning experience is the result of this approach.

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Figures and Tables

Table 1

Master Schedule, Perioperative Medicine Curriculum

Day	Date	Teaching Session #	Topic
Tuesday		1	Basic Preoperative Assessment
Wednesday		2	Admitting a Patient to the PACU
Thursday		3	Nausea and Vomiting
Tuesday		4	Preoperative Assessment for Regional Anesthesia
Wednesday		5	Circulatory Physiology and Hemodynamic Monitoring
Thursday		6	Acute Pain in the PACU
Tuesday		7	Cardiac Preop
Wednesday		8	History of Anesthesia for ECT
Thursday		9	Arrhythmia
Tuesday		10	Pulmonary Preop
Wednesday		11	Ventilation/Oxygenation/ABG interpretation
Thursday		12	Carotid Artery Disease
Tuesday		13	Neurological Preop
Wednesday		14	Emergency Airway Management
Thursday		15	Ethics in Anesthesiology

Tuesday		16	Asthma
Wednesday		17	Hypovolemia
Thursday		18	Rheumatoid Arthritis
Tuesday		19	Aspiration Prophylaxis
Wednesday		20	Perioperative Risks after Myocardial Infarction
Thursday		21	Pediatric PACU Care
Tuesday		22	Endocrine Preop
Wednesday		23	Hypothermia
Thursday		24	Anesthetic Implications of Chemotherapy

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