

Educational protocols in ambulatory anesthesia

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Abstract

To meet the needs of the professional and lay community for continued safe delivery of quality health care in ambulatory surgery, it is crucial to provide medical education in those aspects unique to ambulatory anesthesia. Formal educational protocols in ambulatory anesthesiology must begin at the medical school level, expand during anesthesiology residency training, and continue throughout professional practice. Additionally, ambulatory surgery and anesthesia is not provided in a vacuum, but is part of a system working to achieve the common goal of providing quality health care. Therefore, the continued education of the practicing anesthesiologist, as well as that of members of other sub-specialties (both physicians and non-physicians), in the protocols of ambulatory anesthesia is as integral to the future successful delivery of sustained quality care in ambulatory surgery and anesthesia as is the education of future anesthesia providers. © 1997 Elsevier Science B.V.

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1. Educational protocols in ambulatory anesthesia

In response to escalating health care costs, the organization of the health care delivery system is undergoing a complete overhaul, a consequence of which is the dramatic shift of elective surgical procedures from institutional (hospital) based to the ambulatory setting. Current predictions are that by the year 2000, 80% of all health care in the US will be performed on an ambulatory basis, facilitated by newly developed technologies in the fields of ambulatory surgery and anesthesia (Fig. 1). The prospect of reduced and/or manageable health care costs remains a major impetus for the continued growth. [1] While over the past 10 years the percentage of ambulatory surgery procedures continue to increase dramatically, the number of residents in anesthesiology continues to decline (Fig. 2). Consequently, the formal education of residents in those principles and techniques unique to ambulatory surgery and anesthesia is crucial to the delivery of successful clinical service [2]. Exposure to ambulatory anesthesia and surgery should begin in medical school,

expand during anesthesiology residency training and continue during professional practice.

Formal, standardized education in the field of ambulatory anesthesiology must be an integral component of the resident experience because it promotes safe practice, while providing the resident with the opportunity for first-hand experience in dealing with clinical and non-clinical issues. Because the scope of clinical services overlaps with training in pediatrics, geriatrics, vascular, and pain, integration of the didactic and clinical por-

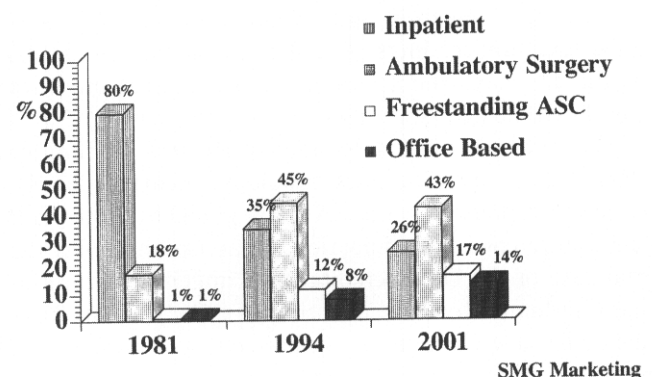


Fig. 1. Relocation in ambulatory surgery — past, present and future.

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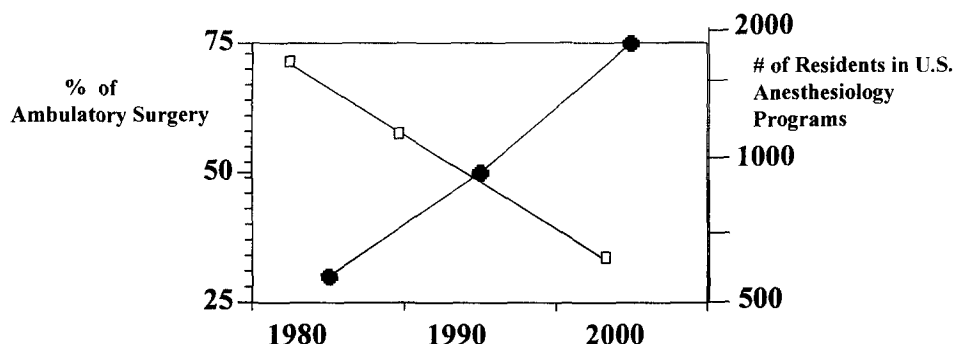


Fig. 2. Trends in ambulatory surgery and anesthesia resident education.

tions should be sought. However, there remains a significant dimension of education that is best served with subspecialty training in ambulatory anesthesia.

The Society for Ambulatory Anesthesiology (SAMBA) has developed Educational Guidelines for Subspecialty Residency Training in Ambulatory Anesthesia and recently revised its third edition [3]. These guidelines 'standardizes' for Program Directors the knowledge base and skills requirements for the resident anesthesiologist during the 3-year training period. The core curriculum proposed by SAMBA is intended to be covered during the 3-year Clinical Anesthesia Curriculum (CA 1–3 years). Guidelines exclude the 'Basic Anesthesia Training', which according to the American Board of Anesthesiology, emphasizes basic and fundamental aspects of the management of anesthesia and usually occurs during the CA-1 year. In conjunction with an annotated bibliography, the guidelines span the gamut of perioperative ambulatory anesthesia management. The curriculum concentrates on developing the anesthesia resident's role as clinical decision-maker and consultant in preoperative evaluation, didactic and clinical sessions in the pharmacology of short-acting inhalational and intravenous anesthetics, recovery room management (acute pain, post-operative nausea and vomiting (PONV)), and recognition and implementation of ambulatory discharge criteria. Further, the residency training experience would be expanded and enriched by participation in journal club, clinical case conferences, research and ambulatory anesthesia-related textbook readings. Anesthesia residency programs in the US have incorporated such a curriculum with clearly delineated objectives.

The newly instituted Residency Review Committee (RRC) guidelines for anesthesiology, incorporates the concepts espoused in the SAMBA guidelines, but with some differences in delineation. In accordance with the mandate of the US Accreditation Council for Continuing Graduate Medical Education (ACGME) 1996 Residency Review Committee, the core curriculum (CA 1–2 years) in Ambulatory Anesthesia must include resident experience in preoperative evaluation and management

of surgical patients, with the level of complexity commensurate with experience. The RRC guidelines specifies that the ambulatory anesthesia rotation should be a minimum of 1 month with resident management of a minimum of 100 ambulatory surgery cases. Additional requirements include didactic and clinical experience in the management of geriatric patients, regional anesthesia (50 epidurals, 50 spinals, 40 peripheral nerve blocks), and postoperative care unit (PACU) management (e.g. acute pain, PONV, PCA) (Table 1).

The advanced curriculum (CA-3 year), provides for a 6–12 month rotation with emphasis on the integration of clinical, administrative, and research experiences. This period is marked by more complex anesthesia assignments. As the ACGME does not specify further details, programs have developed their own detailed advanced curriculum. Described below is this author's formal program. In addition to the above requirements, CA-3 residents participate in case conferences, journal club, and ambulatory anesthesia-related text book readings. With the medical director as mentor, the CA-3 resident gains administrative experience through ASU/PACU management, participation in interdepartmental activities, budget planning and continued quality improvement-related issues. Research experience is fostered through resident participation in research development and methodology, development of grant proposals for external funding, abstract presentation of clinical study at national meeting(s) of scientific organizations (e.g. SAMBA, American Society of Anesthesiol-

Table 1
US Accreditation Council on graduate medical education requirements

Preoperative evaluation and management of surgical patients
Delineated experience for ambulatory surgical patients for a minimum of 1 month
Management of a minimum of 100 patients undergoing ambulatory surgery
Epidurals (50), spinals (50), peripheral nerve blocks (40)
Acute postoperative pain, PCA, neuraxial blocks
Instruction and experience in managing geriatric patients
PACU management

ogy (ASA), International Anesthesia Research Society (IARS), Post Graduate Assembly (PGA) and/or submission to peer-reviewed journals (*Anesthesia and Analgesia*, *Journal of Ambulatory Surgery*).

The fellowship program (CA-4) provides for a funded 1 year post graduate specialty in ambulatory anesthesia with specific emphasis on research, grant development, administrative, and management skills. The anesthesia fellow spends approximately 50% of the time engaged in research, honing skills in research methodology, grant proposal developments, and presentation/publications of clinical research study. The fellow would expand administrative and management skills by assuming an active role in interdepartmental activities and budget. The CA-4 is also encouraged to attend formal graduate course work in health care finance and administration.

Why should anyone do an ambulatory anesthesiology fellowship? The advanced training provides residents with the opportunity to go beyond the junior curriculum requirements. Additionally, the fellowship program provides the new practitioner with the opportunity to acquire a more comprehensive and integrated knowledge base related to administrative health care finance and business management, an option that is not available during standard anesthesia residency training. The advanced specialty training prepares the resident to assume the role of future medical director, administrator or physician executive. Ambulatory surgery comprises over 60% of practice, and the field continues to expand. If for no other reason, it behooves the future anesthesia provider to enter the work-force armed with, at minimum, a proficiency in ambulatory anesthesia. Currently, there are 150 accredited postgraduate programs: 40 offer specific advanced residency (third year), and 14 offer fellowship training (CA 4–5 years) [4].

For the practicing anesthesiologist, journal reviews, (*Anesthesia and Analgesia*, *Journal of Ambulatory Surgery*), participation in scientific organizations (ASA, IARS, SAMBA, PGA), are ways of meeting continuing education goals (Table 2). The Accreditation Council for Continuing Medical Education (ACCME) sponsors self-study courses available through scientific publications (ASA self-evaluation studies, *Anesthesiology*). In this era of cutting-edge technology, the linkage of computers via the Internet, provides global communication where anesthesiologists may exchange information and educate other medical services as well as the general public almost simultaneously.

Table 2
Ambulatory anesthesia education

Specialty training
Medical school and anesthesiology residency
SAMBA educational guidelines
Residency review commission
Continuing medical education
Scientific publications
Anesthesia and Analgesia
Journal of Ambulatory Surgery
Ambulatory anesthesia textbooks
Scientific organizations
American Society of Anesthesiologists (ASA)
Society of Ambulatory Anesthesia (SAMBA)
Scientific research
Sources: NIH, corporate industry, medical societies

Ambulatory anesthesia is not practiced in a vacuum, but is an integral part of a system working together toward the common goal of providing safe delivery of quality medical care to the community. Therefore, it is imperative that education in ambulatory anesthesia involve not only members of the specialty, but other physicians, nurses, and non-medical personnel as well. Interdisciplinary and continued medical education may be fostered through subspecialty and multidisciplinary conferences, journal reviews, mortality and morbidity conferences, and research seminars.

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References

- [1] Rhodes RS. Ambulatory surgery and the societal cost of surgery. *Surgery* 1994;116:938–40.
- [2] Friedman P. Education of surgical house staff and medical students — opportunities and problems. *Amb Surg* 1993;1:211–2.
- [3] SAMBA. Educational guidelines for subspecialty residency training. In: *Ambulatory anesthesia*. 3rd ed., 1996.
- [4] SAMBA. Directory of ambulatory anesthesia residency and fellowship training programs, 1996–1997.