

0966-6532(95)00036-4

Value-based anesthesia care for the adult outpatient — discussed at 1995 American Society of Anesthesiologists Annual Meeting

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On Tuesday, October 24, 1995, a well-attended panel on 'Value-based anesthesia care for the adult outpatient' was convened at the Annual Meeting of the American Society of Anesthesiologists, held at the Georgia World Congress Center in Atlanta, Georgia.

Moderator Jeffrey Apfelbaum, Associate Professor and Vice Chair, Clinical Affairs, and Director, Outpatient Surgery for the Department of Anesthesia and Critical Care of the University of Chicago, began the session with a brief introduction of the concept behind the panel, entitled 'Value-based care – definitions/considerations'. Dr Apfelbaum detailed the background for the concept that value-based anesthesia care can be interpreted as quality anesthesia care at a reasonable cost. Such costs include not only drug acquisition costs *per se*, but also include pre-, intra- and postoperative factors. Dr Apfelbaum stated that, at the University of Chicago, anesthetic drug costs were approximately 7% of the operating room budget vs. approximately 38% for recovery room costs. He also referred to an abstract presented at the 1995 ASA Annual Meeting by David Lubarsky and colleagues from Duke University, Durham, NC, which showed that operating room and postanesthesia care unit (PACU) costs were two orders of magnitude greater than drug costs for the outpatient procedures studied by the Duke group. These examples illustrated the point that cost containment efforts, in so far as they affect the delivery of value-based anesthesia care, need to be focussed on all aspects of perioperative care.

After Dr Apfelbaum's introductory summary of the panel's focus, Patricia A. Kapur, Director, UCLA Surgery Center and Associate Professor of Anesthesiology at the University of California School of Medicine, Los Angeles, spoke on 'The anesthesiologist as a facility manager'. The continuous quality improvement approach used as a management tool to seek out systems improvement opportunities to provide quality perioperative care in ambulatory surgery facili-

ties at an acceptable cost was described. Some of the needs of a facility's 'customers' were identified, including those of patients, surgeons, anesthesiologists and third-party payors, as a framework to selected administrative action priorities. Management strategies to optimize staff, equipment, instruments and supply utilization were discussed. The ability to alter staff deployment between the preoperative preparation area, the PACU and the phase II recovery areas are essential in order to optimize staff utilization and to match staff availability to whichever area has the most patient need as the day progresses. Cross-training between operating room tasks and recovery tasks is also a helpful strategy in order to minimize under-utilization of staff. The use of sufficient ancillary staff to carry out support duties, that do not require professional licensure, contributes to cost-effective staffing. Examples include licensed vocational nurses and clinical assistants in preoperative and recovery areas, scrub technicians in the operating rooms and anesthesia technicians to make rooms ready so that the anesthesiologist can go directly from recovery to see the next patient.

Fine-tuning the operating room schedule throughout the day was noted to be a powerful management tool to ensure the best utilization of perioperative resources. Staff flexibility to adapt at short notice to changing work assignments can help the ambulatory facility to cope with changes in the daily schedule, as cases change rooms and surgeons or patients arrive early or late. Combined limited block scheduling (for surgeons who will actually fill the blocks) plus open booking for the remaining time is frequently used in the ambulatory surgery setting. The anesthesiologist facility manager is in a good position to make decisions that contribute to cost-effective operating room scheduling. Another function of an anesthesiologist, serving as the facility administrator, is the development of product lines and package pricing to attract and maintain future patient flow to the center. Marketing, involving outreach to patients, surgeons and to payor groups, is commonplace for ambulatory surgical facilities in competitive markets.

Accepted: 4 December 1995

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Michael F. Roizen, Professor and Chair of the Department of Anesthesia and Critical Care, and

Professor of Medicine at the University of Chicago, followed with a discussion of 'Value-based considerations in the choice of anesthetic technique, general anesthesia, monitored anesthesia care, regional anesthesia'. Dr Roizen reviewed some of the available data on this subject in the ambulatory setting, as well as the areas where little data is available. Some of these studies are limited in interpretation by the constraints of the clinical protocols in place at the institutions where they were performed. Because old-style system adaptations in a particular facility can make cost savings impossible for the anesthesiologist, it is not clear that the overall costs can be solely determined by the choice of anesthetic techniques. Examples of this could include the lack of a suitable area in which to place an arm block prior to surgery, resulting in the utilization of expensive operating room time to place the block, despite potentially lower drug costs and less expensive recovery time with regional techniques for arm surgery. Outdated recovery paradigms, such as a minimum PACU time required for all patients, regardless of how soon they meet phase II recovery criteria, can defeat cost-saving benefits from quick recoveries after short-acting drugs. Similarly, outdated requirements for every patient to have oral intake before discharge may exacerbate nausea and vomiting and further prolong costly recovery stay. Requiring every patient to wait until they can void, as compared to using this criterion only for those patients with specific indications, can also negate cost-savings by increasing staff requirements and slowing the throughput in the phase II area. Dr Roizen emphasized that each anesthesiologist, as the perioperative physician, can make a difference by introducing changes in the environment of their institution and applying a multidisciplinary approach among physicians, nurses, ancillary staff and administrators to analyse systems, processes, policies and patient flow patterns so that the overall resource consumption pattern can be optimized for each patient.

The next speaker was Charles H. McLeskey, Professor and Chair of the Department of Anesthesiology at the Scott and White Hospital and Clinic, Texas A & M University Health Science Center, Temple, Texas, whose assigned topic was 'Perioperative nausea/vomiting (PONV): prophylaxis and/or treatment'. Dr McLeskey began by explaining the unique arrangement at Scott and White, where three inter-related, physician-owned entities exist: a tertiary care hospital which serves as the teaching facility for the medical school at Texas A & M University; an outpatient clinic complex; and a health maintenance organization (HMO). The costs incurred providing patient care at the hospital and clinics determine the prices the HMO has to charge to contract for patients, and therefore if the HMO is forced to lower prices in order to win contracts for patients, there will be fewer funds available per patient for the clinics and hospital to provide the care. Because all three entities are owned by the same physicians, there is a unity of objective to optimize service per cost incurred. Furthermore, at Scott and White the operating and recovery employees and facilities have been merged with the Department of Anesthesiology to create one unit dedicated to value-based perioperative care.

With regard to perioperative nausea and emesis, Dr McLeskey chose ondansetron as an example to demonstrate that the prevention and/or effective treatment of nausea and emesis with minimal or no side effects has the potential to obviate delays in postoperative recovery that can otherwise be costly to the institution. Furthermore, patient satisfaction is improved by minimizing PONV. Dr McLeskey discussed the effects of various antiemetics in suppressing activation of the chemoreceptor trigger zone in the central nervous system. The role of anesthetics and adjuvants in aggravating or reducing emesis in the ambulatory setting was also discussed. In deciding whether or not to administer an antiemetic and the choice of such a drug, Dr McLeskey cautioned the audience to strike a balance between: (a) the likelihood of a particular patient experiencing PONV; (b) drug effectiveness; (c) side effects; (d) acquisition costs and (e) savings from the decreased utilization of overall recovery resources.

The final presentation was also delivered by Dr Apfelbaum. It was entitled 'Rethinking the PACU: can we bypass phase I recovery using a short-acting, fast exit (SAFE) technique?'. Dr Apfelbaum posed the question as to whether an intensive care environment (i.e. PACU) is really warranted for healthy ambulatory surgery patients who are awake and alert and even able to sit or stand at the end of their surgery, as a result of the use of newer, short-acting pharmaceutical agents. Because, as detailed in his earlier introductory remarks, the major factor for recovery resource utilization is labor costs, the elimination of unnecessarily complex care could lead to cost savings, assuming staff deployment patterns can be altered. Dr Apfelbaum described the procedure at the University of Chicago ambulatory facility, where 10–15% of patients who received general anesthesia and who met the PACU discharge criteria in the operating room were transferred to the phase II chair in the operating room and allowed to bypass the PACU.

Dr Apfelbaum then went on to discuss the Aldrete discharge criteria and to distinguish PACU discharge criteria from 'home-readiness' criteria that permit discharge from the phase II unit. He also clarified for the audience the recovery requirements of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), i.e. that appropriate recovery care be available, and those of the American Society of Anesthesiologists (ASA), that a "PACU or an area which provides equivalent postanesthesia care shall be available to receive patients after anesthesia care", and that "all patients who receive anesthesia care shall be admitted to the PACU or its equivalent except by specific order of the anesthesiologist responsible for the patient's care". Dr Apfelbaum then concluded that certain patients may be permitted to bypass the expensive intensive care setting provided by a PACU and go directly to the phase II recovery unit if they were judged to meet the institution's PACU discharge criteria in the operating room.

Dr Apfelbaum concluded by informing the audience of a multicenter study which was about to commence, the goal of which will be to determine if the use of short-acting anesthetics and adjuvants, by allowing patients to bypass the PACU, can result in cost savings

compared to the traditional two-phase recovery patterns for all patients. Dr Apfelbaum emphasized that close cooperation between the ambulatory facility's anesthesiologists and administrators would be required, because savings will only be achieved by alterations in processes and systems as well as by staff redeployment.

A brief but lively question and answer period ensued. A topic of particular interest was how to carry out regional anesthesia in the ambulatory setting cost effectively. The consensus of opinion was to place blocks before entering the operating room. Placing the block in an area where the nurse who subsequently watches the patient until the operating room is ready can also be assigned other patients is more cost effective than one-to-one observation after the block is placed. Use of shorter-acting local anesthetic agents was discussed in order to reduce the recovery time to void and ambulate after spinal and epidural anesthesia. The audience was cautioned not to administer intrathecal lidocaine through needles smaller than 25 gauge for safety reasons. It was suggested that arm and ankle blocks can usually go directly to the phase II area if the patients are awake and alert. Some panelists and audience mem-

bers stated that they do not keep patients in the PACU until complete recovery from epidural or spinal blockade. At such facilities, the timing of transfer of post-spinal or post-epidural patients to phase II areas varied. Some transferred post-spinal or post-epidural patients to phase II directly from the operating room if awake and alert, whereas others transferred such patients to phase II after some evidence of return of motor function in the PACU.

Staffing in phase II areas was discussed, including the supplementary use of ancillary personnel to allow a registered nurse to oversee a number of patients in phase II concomitantly. Dr Apfelbaum stated that in his unit, family members help to provide phase II care, including duties such as helping the patients to the rest room and to get dressed. The optimal design of new facilities was discussed with the recommendation to provide more flexible recovery space and possibly more phase II than PACU spaces, because the new anesthetic agents and new recovery management approaches could be anticipated to result in a greater flow of patients to phase II than to the PACU.

At this point, the audience and panelists reluctantly dispersed after concluding a very stimulating session.