

# GLOBAL PERIOPERATIVE PATIENT CARE THROUGH CLINICAL PATHWAYS

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**T**he practice of medicine has evolved over time and is expected to change significantly in the near future. In an effort to improve outcomes and reduce health care costs, there is increased emphasis on standardization of medical practice. One such approach is the use of clinical pathways (also known as integrated care pathways) that take into consideration the entire perioperative period, including post-discharge period. The implementation of clinical pathways should avoid the idiosyncrasy of medical practice, as there are many practitioners who still manage their patients based on traditions and dogma despite availability of good (level 1) evidence.

Although clinical pathways have been shown to reduce complication rates and improve outcome,<sup>1,2</sup> they are not widely utilized in the perioperative period. The polarization over standardized clinical practice stems from concerns that a “cookbook” approach would result in loss of individualized patient care and loss of the “art” of medicine. In addition, critics of standardized practice lack trust in guidelines, probably due to an irrational aggressive approach to guideline development. In fact, the premature push toward aggressive perioperative beta-blockade and intensive insulin therapy has resulted in significant patient harm.<sup>3,4</sup> The practice of “tight” control of vital signs (e.g., heart rate and blood pressure) or laboratory values (e.g., glucose levels) is probably an extension from primary care/internal medicine practice. However, acute normalization of laboratory values in patients with chronic derangement (e.g., diabetes) may be detrimental and could worsen long-term outcome.<sup>5</sup> Thus, it is critical that we use a

balanced approach to patient care and not attempt to normalize a particular value.

For clinical pathways to be successful they should be procedure-specific and patient-specific and address every aspect of care for that particular patient undergoing that particular surgical procedure, and for the entire perioperative period. Furthermore, the approach to developing these pathways should be well recognized.<sup>6-8</sup> Obviously, developing such pathways should be a collaborative effort between anesthesiologists, surgeons, internists, and other medical extenders, including members of the quality assurance department. There is no question that anesthesiologists, as perioperative physicians, should take a lead in this process as we manage most of the perioperative course (e.g., preoperative evaluation and optimization, intraoperative care and postoperative care in the intensive care unit [ICU] as well as post-discharge care, particularly after ambulatory surgery). Importantly, our leadership with development and implementation of clinical pathways will become even more critical if “bundled” payments for perioperative care are introduced.

Unlike private practice, many academic departments have the ability to play a major role in an integrated pathway through preoperative clinics, acute pain services, ICU service and chronic pain services. Nevertheless, consolidation of anesthesia practice with formation of “large” groups<sup>9</sup> may allow extension of anesthesia care beyond the operating room and enhance patient care and safety. It is imperative that large groups develop preoperative clinics and acute pain services as well as critical care practice. Although this may not appear to be cost beneficial for now, it may be profitable in the long run as it will give us leverage with hospital administrators who may be the decision-makers with respect to distribution of “bundled” payments. Another aspect of this “global anesthesia service” is involvement with hospital committee work, including peer review, credentialing and privileging, quality assurance and education, to name a few. Obviously, “time is money” and costs of such “non-clinical” involvement are not immediately apparent and may not be appreciated. However, “if we are not at the table, we will be on the menu.”

In this issue of the *NEWSLETTER*, Paul E. Wischmeyer, M.D. discusses the “Semmelweis Syndrome” (page 14) and challenges you to “open your mind” with respect to new



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initiatives geared toward improving patient safety. It is interesting that the hand-washing emphasized by Dr. Semmelweis is still poorly performed and therefore is a critical World Health Organization patient safety initiative. Unfortunately, some anesthesiologists have been found to be significantly lax with respect to hand hygiene.<sup>10</sup> Although many hospitals have made it easy for physicians to clean their hands with suitable disinfectants, some anesthesiologists have been noted to move from one operating room to another with complete disregard to hand hygiene. It is difficult to understand the resistance to change, particularly by well-intentioned physicians who really care for their patients.

Recent data suggest an association between increased depth of hypnosis and perioperative morbidity and mortality.<sup>11</sup> Although an association does not necessarily mean causation,



it is critical that we pay some attention to the depth of hypnosis during general anesthesia. Similarly, increased depth of hypnosis in mechanically ventilated ICU patients has been linked to prolonged mechanical ventilation and increased length of ICU stay as well as increased mortality. A recent study found that regular pain assessments in the ICU resulted in lower requirements of sedatives and neuromuscular blocking agents, which reduced the duration of mechanical ventilation and the duration of ICU stay.<sup>12,13</sup> On page 18, Michael Ramsay, M.D. discusses the importance of maintaining “light” sedation and emphasizes the administration of adequate pain therapy in ICU patients. “Light” sedation avoids the concerns of deep hypnotic levels and allows for pain assessment. Overall, assessments for pain and sedation and their treatments are complementary and interdependent in mechanically ventilated patients. Although pain assessment in the mechanically ventilated patient may be more challenging than assessment of sedation,<sup>14</sup> we must switch our emphasis from sedation to pain relief. An objective measure of pain would further enhance our ability to provide adequate pain relief.

Telemedicine is a term used to describe health care provided by a practitioner at a remote location with the help of advanced technologies. Telemedicine is expected to play an increasingly important role in outpatient settings (e.g., home health care, remote patient monitoring, chronic disease management and rural health care) as well as in hospital settings (e.g., emergency department and ICU). Other applications of telemedicine include battlefield medicine, maritime medicine and aviation health care. Telemedicine provided in the critical care setting is commonly referred to as e-ICU. e-ICU has been proposed as a potential means of bringing the expertise of critical care specialists to hospitals with inadequate access to intensivists. Since e-ICU practice is still in its infancy, several areas of practice are not yet clearly delineated. Peter M. Hession, M.D.,

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and Adebola Adesanya, M.D., M.P.H. discuss the role of e-ICU in critical care medicine on page 20. The practice of telemedicine may also be applicable to anesthesiology in which an anesthesiologist stationed in a room (within the operating area) could monitor multiple operating rooms. The telemedicine concept combined with automated anesthesia systems or closed-loop systems may further improve patient safety.

In recent years there has been increased attention to intraoperative blood pressure management. While some experts have called for “tight” blood pressure control, others have recommended maintenance with higher mean arterial pressures (e.g., MAP of 70-80 mmHg versus 50 mmHg). Sergio D. Bergese, M.D., C.B.A. and Dr. Joshi discuss the controversy surrounding intraoperative blood pressure control on page 22. Despite the progress in our understanding of this issue, a number of clinical questions still remain unanswered. It is clear that large, randomized, controlled trials required to address these issues might not be possible due to cost constraints. Therefore,

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it is hoped that studies using large databases, including the efforts of the ASA's Anesthesia Quality Institute (AQI), would provide us some guidance with these clinical dilemmas.

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### Correction From the Editor

On page 17 of the June ASA NEWSLETTER, in an article by Drs. Pennant and Joshi, the statement was made that "Some practitioners (and all successful oral board examinees) routinely intubate all obese patients awake." This statement is erroneous. As an oral examiner for the American Board of Anesthesiology for over a decade, I can personally attest that there is no one correct answer when discussing securing the airway in an obese patient. Many factors need to be taken into consideration, and it is the candidate's judgment, i.e., how that person synthesizes the various factors and determines how the airway will be secured, that is important.

The defense of the airway plan is also critically important. In the end, it is the thought process and the judgment of the candidate that determines if he or she has passed the exam and met the requirements of the ABA. There simply is no one-size-fits-all answer to this issue or many others that are incorporated in the oral exam. I apologize for any inconvenience this may have engendered.

— D.R.B.