

ASCCA INTERCHANGE

AMERICAN SOCIETY OF CRITICAL CARE ANESTHESIOLOGISTS

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President's Message

Task Force on Strategic Planning to Help Guide Society's Future

By Clifford S. Deutschman, M.D.
Philadelphia, Pennsylvania

In the December 2002 *ASCCA Interchange*, I detailed the opportunities and threats that await us in the near future and announced the formation of a Task Force on Strategic Planning. This group consists of myself, President-Elect Michael J. Breslow, M.D., Secretary Gerald A. Maccioli, M.D., and Board of Directors member Todd Dorman, M.D. The charge to the task force is to examine the make-up, mission and orientation of our Society and to develop proposals to be discussed by the Board of Directors. After several electronic (e-mail) meetings to lay the groundwork, we convened in Baltimore, Maryland. The result of this December 2002 meeting was a preliminary document outlining a framework for change. The document has been distributed to the Board of Directors, and some preliminary modifications have been made. At the time of this writing, we are scheduled to meet, discuss, modify and formally adopt the recommendations contained in the document. I want to share with you some of the contents of the preliminary document and the thinking that underlies it.

The proposed changes to the Society are designed to reflect a more clearly articulated vision and a series of guiding principles. The vision of the task force is to ensure that anesthesia-based intensivists are active participants in the practice and evolution of critical care medicine. As such, we believe that intensivists represent the core constituency of the Society. Virtually all anesthesiologists care for critically ill patients. The interests of the operating room anesthesia community are represented by a number of well-connected political and educational societies. While the Society of Critical Care Medicine (SCCM) is a broad-based, highly effective organization representing the specialty of critical care,

ASCCA is the only organization that represents anesthesia-based intensive care unit physicians exclusively. We want it to be clear that this is our mission. A revised mission statement reflects this commitment. It reads as follows:

The mission of the American Society of Critical Care Anesthesiologists is to preserve and expand the pivotal role of critical care medicine, as practiced by intensivists in intensive care units, within the scope of practice of anesthesiology. This will be accomplished through education, advocacy and community.

To help us achieve our mission, we will adhere to four guiding principles:

1. Intensivists are an integral component of the modern health care system because they improve the quality and cost-effectiveness of patient care.
2. Intensive care medicine is an essential subspecialty of anesthesiology practice because it enhances the overall quality of anesthesia practice and care.
3. Anesthesiologists with special training and experience in intensive care medicine improve the quality of postoperative care by advancing our understanding of critical illness; they also have contributed to major improvements in intraoperative management and outcomes. Continued participation in critical care medicine is essential to the future of the specialty and to continued improvements in perioperative care.
4. The present numbers of anesthesia intensivists are insufficient to meet current and future needs of patients and practices, thus the number of trainees needs to be increased.



Clifford S. Deutschman, M.D.

A volunteer society is only as good as the individuals who volunteer.

On the basis of the revised mission statement and guiding principles, we have developed a series of goals and objectives. We propose that ASCCA must:

1. Enhance the understanding of the value that intensivists bring to patient care;
2. Educate the anesthesia community in particular and the health care community in general as to the benefits that anesthesia intensivists bring to clinical practice;

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Membership

Membership in ASCCA is open to all anesthesiologists and residents in approved anesthesiology programs. Membership applications may be obtained by writing to **ASCCA**, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.

Web Page

You may visit the ASCCA World Wide Web site at:

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ASCCA Dues

Dues are \$150 for active members and \$150 for affiliate members. Resident members of ASA are provided joint membership in ASCCA through the Society's affiliation with *Anesthesiology*. Prompt payment of your dues is greatly appreciated by the ASCCA officers and directors. Remember, payment of your dues allows you to enjoy the full privileges of ASCCA membership.

EDITORIAL NOTES

Editorial Policy

The opinions presented are those of the authors only, not of ASCCA. Drug dosages, accuracy and completeness of content are not guaranteed by ASCCA.

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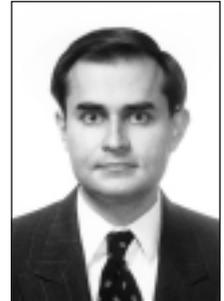
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Editorial

It's Our System: Change It!

By Michael L. Ault, M.D.
 Editor



Michael L. Ault, M.D.

Recent malpractice insurance crisis episodes in Pennsylvania and West Virginia have turned much attention to the subject of tort reform. Without such reform, the practice of medicine is doomed to a slow, painful death.

The concern for patient care is now overshadowed by legal issues and compliance with billing regulations and the Health Insurance Portability and Accountability Act. With such distractors, health care costs continue

We have become a profession whose decisions are based on fear and paranoia instead of reason

to spiral out of control. We, as physicians, must take a proactive role in solving these issues that threaten to destroy our profession and the public's confidence.

As an intensivist, I see the daily parade of subspecialists throughout our intensive care unit providing consult after consult. While their expertise and help are greatly appreciated, many consults are obtained with a "cover your tail" philosophy in mind instead of a true diagnostic or treatment dilemma.

In addition to my own frustration about the current situation, I am often amazed by the stories that patients relate of the myriad of consultants whom they visit. I wonder how many of them find time for issues outside of medical appointments? We have

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See page 7 for Abstract Submission Cover Letter

Announcing an Easier and Faster Way to Submit Critical Care Abstracts for Presentation at the ASCCA Annual Meeting

ASCCA invites submission of abstracts for presentation at the ASCCA Annual Meeting on October 10, 2003, in San Francisco, California. Abstracts will be graded competitively on the basis of scientific merit and will be selected for either oral or poster presentations. Abstract presentation at the ASCCA Annual Meeting does not conflict with or preclude presentation at the American Society of Anesthesiologists (ASA) 2003 Annual Meeting.

The Committee on Education has made it easier to submit critical care abstracts for presentation at the ASCCA

Annual Meeting, especially if one is submitting an abstract for presentation at the ASA Annual Meeting. To submit an ASCCA abstract, simply copy and paste your ASA abstract into a Word document.

Format the document so that it has one-inch margins all around, print and send it to the ASCCA office with the cover letter that appears on page 7. Each package MUST INCLUDE a diskette of your abstract submission. The abstract submission deadline is May 2, 2003.

For more information or to submit an abstract, contact:

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ASCCA and SCCM to Sponsor Burchardi Award

The Burchardi Award is jointly sponsored by ASCCA and the Society of Critical Care Medicine's (SCCM's) Anesthesiology Section. It was named after its first recipient, Hilmar Burchardi, M.D., a pioneer in the field, a revered teacher and a founding member of the European Society of Intensive Care Medicine, of which he was President in 1998-00. The award was first established in 2002 at the SCCM Annual Congress and will be presented every two years, alternately at an ASCCA or SCCM event.

Criteria for nomination stipulates that the individual should be an anesthesia-based intensivist who has been practicing for at least 12 years and who has held a leadership position in at least one of the established national or international critical care societies/organizations. He/she should have

made considerable contributions to the specialty, not necessarily in terms of research, but especially in terms of ability to motivate and touch people. His/her greatness and leadership should

be defined equally by competence, humility, humanity and a sense of humor. In short, this is a "Good Guy/Good Gal" award.

ASCCA President and the SCCM Anesthesiology Section Chair by September 15 of odd years, beginning in 2003. This will allow the respective boards to deliberate



Hilmar Burchardi, M.D.

and vote on the matter when they convene in October of that year.

Please submit nominations for the 2004 award with supporting letters to both Clifford S. Deutschman, M.D., ASCCA President, and Eugene Y. Cheng, M.D., SCCM Anesthesiology Section Chair, by **September 15, 2003**.

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PRO and CON

Mechanical Ventilation of the Patient Without Adult Respiratory Distress Syndrome (ARDS): What Is an Appropriate Tidal Volume?

It is the Monday morning after a long weekend, and a weary intensivist reports the patients to his colleague. The discussion finishes with, "You know, you are battering our patients with this kind of ventilator management. All patients should be ventilated with low tidal volumes, otherwise you will induce lung injury!"

Barely had he finished when the weary colleague (brought back to sharp attention by such a questionable position) aptly replied, "I agree, patients with ARDS will benefit from this strategy, assuming that a moderate amount of hypercapnia can be tolerated. However, to generalize these findings to all patient populations only serves to impose the limitations of the injured lung onto all patients. This approach is unsubstantiated by study and could actually precipitate additional injury."

The conversation ensues for the next half hour, with house staff looking on while the two spar with each other. Finally, weary of the other's position, they agree to finish the discussion later.



Pratik Pandharipande, M.D., left, takes on Kenneth G. Smithson, D.O., Ph.D., in an ARDS-wrestling match over appropriate tidal volumes for patients without adult respiratory distress syndrome.

Mechanical ventilation is a routinely employed medical therapy in operating rooms and intensive care units across the world. This therapy, while life-saving, can also induce both significant and subtle injuries to the ventilated patient. Our insights into the numerous plausible mechanisms of ventilator-induced lung injury have evolved rapidly within the last two decades, in part driven by the systematic study

of acute lung injury and ARDS. This work has demanded the significant attention of many investigators worldwide because of its prevalence and lethality. In these efforts, ARDS has emerged as a model for ventilator-induced lung injury, further clarifying, at least in this patient population, the role of mechanical ventilation in exacerbating underlying lung injury.¹ A recent and substantive effort in this body of work was the clear demonstration that lower tidal volumes (5-7 ml/kg) as compared to standard therapy (12 ml/kg) demonstrated a significant reduction in mortality.² It has been presumed that this ventilatory strategy minimizes ventilator-induced lung injury by preventing overdistension of the remaining viable alveoli. Alternatively, low tidal volumes combined with an increased respiratory rate promote the development of intrinsic positive end-expiratory pressure, thereby preventing cyclical recruitment and derecruitment of vulnerable alveoli. It is within this backdrop that we present opposing views to the merits of low tidal volume ventilation in the "normal lung."

PRO — Patients, irrespective of their pulmonary status, should be ventilated with low tidal volumes (5-7 ml/kg) to reduce ventilator-induced injury.

*By Pratik Pandharipande, M.D.
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Mounting evidence in the last few years has shown that overdistension of alveoli causes damage to the lungs. There has been much debate on whether this is attributable to pressure or volume changes in the alveoli. Dreyfuss and colleagues³ showed that volume as opposed to pressure was responsible in inducing increased lung water in ventilated rats. In this study, rats were stratified into three

ventilatory strategies: 1) high pressure and high tidal volume; 2) low pressure and high tidal volume; and 3) high pressure and low volume in which the rats' chest walls were strapped, thereby maintaining low tidal volumes in this group. Interestingly, this last group had normal lung permeability. Distension (i.e., volutrauma), not elevated pressures per se, induced lung injury. Additional work



Pratik Pandharipande, M.D.

by this group has demonstrated a rapid initiation, on the order of minutes, of the injury response to distension. Thus, the relatively high volumes employed in "conventional ventilation" result in selective overdistension of the alveoli, thereby inducing injury.

West and colleagues⁴ have explained volume trauma on the basis of excessive wall stress (ratio of alveolar wall tension to thickness). Although mechanical factors are important in causing permeability defects, Parker et al.⁵ have shown that stretch-activated cation channels may contribute to lung injury. The group demonstrated that blockade of these channels modulated the filtration coefficient of the capillary bed, irrespective of ventilatory pressures. Recent work by Ranieri et al.⁶ has shown an increase in cytokine response for IL-1 beta, IL-6 and tumor necrosis factor-alpha in patients with ARDS and

ventilated with conventional tidal volumes of 10-12 ml/kg versus those ventilated with lower tidal volumes. Upregulation of these cytokines represents a potential “feed-forward” mechanism for development of a systemic inflammatory response and, if unabated, multi-system organ failure.

That these same mechanisms take place in the normal lung, albeit to some lesser extent, is patently obvious. Thus, if the risk of volutrauma is increased with “conventional” ventilatory strategies, alternative paradigms should be employed for all patients requiring mechanical ventilation. It is obvious that this

should include ill patients within intensive care units. Less obvious is the likely fact that these principles also should apply to patients requiring general endotracheal anesthesia within the operating room. It seems perfectly plausible that the induction of cytokine release through “conventional” ventilation, coupled with the additional stress response of surgery, could conspire to increase pulmonary complications in the perioperative period. The familiar words echo again: “It’s anesthesia’s fault.” Perhaps this time they are correct.

CON — The routine application of low tidal volume ventilation is not supported by clinical study and may result in unforeseen morbidity.

*By Kenneth G. Smithson, D.O., Ph.D.
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Vanderbilt University
Nashville, Tennessee*

The salient question of this discussion is: What causes ventilator-induced injury in the normal lung?¹ If the solutions are to be found through the study of mechanical ventilation in patients with ARDS, the fundamental supposition is that the underlying pulmonary pathophysiology of ARDS well-models the normal lung. This supposition is patently wrong. ARDS is characterized by a dramatic loss of ventilatory units due to atelectasis and alveolar flooding, which may represent a loss of 30 percent to 70 percent of the patient’s normal lung volume.⁷ Furthermore, the remaining alveoli are distributed across the nondependent lung in a heterogenous fashion. Consequently, the mechanical properties of these units, like their distribution, also are heterogenous, displaying widely dispersed compliance and flow characteristics (i.e., time-constant). Taken together, and consis-

tent with the view that overdistension (volutrauma) underlies much of the secondary injury in mechanical ventilation, it seems perfectly reasonable that a reduction in tidal volume would result in less ongoing injury in compromised lungs. This, however, does not resemble the anatomical or mechanical properties of the “normal” lung. Furthermore, given the mechanical complexity of the injured lung due to its heterogeneity⁸ and the additional variability of this picture among patients with ARDS, it is no wonder that the identification of an “ideal” solution would require a carefully controlled study with a large number of patients. It seems reasonable given these assumptions that tidal volumes of 10-12 ml/kg also should confer similar benefit in the normal lung. In fact, the orderly recruitment of alveoli in the normal lung are much more likely to result in less overdistension of indi-



Kenneth G. Smithson, D.O., Ph.D.

vidual respiratory units than the injured lung.

An important manifestation of altered pulmonary mechanics is the “disordered” recruitment of alveoli resulting in atelectasis, overdistension and repeated cycles of recruitment and derecruitment. The cellular responses to these abnormal forces are complex and incompletely understood.⁹ It does seem clear from both animal and clinical studies that provocation of these untoward alveolar forces enhances an inflammatory response which further exacerbates the pre-existing injury. However, what has remained unclear is the role of a pre-existing injury as a prerequisite for the inflammatory response to

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Mechanical Ventilation of the Patient Without Adult Respiratory Distress Syndrome (ARDS): What Is an Appropriate Tidal Volume?

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mechanical ventilation. In other words, would a similar level of alveolar “force” produce a cytokine response of similar magnitude in an otherwise healthy lung? Overdistension is but one of the mechanisms by which alveoli may be injured during mechanical ventilation. Equally deleterious is the repeated cycle of recruitment and derecruitment that can be seen with low tidal volume ventilation.¹⁰

In the end, the clinician is obligated to pursue the approach that offers the clearest benefit while minimizing risk to the patient. Millions of patients with “normal” lungs in operating rooms and intensive care units have been mechanically ventilated with tidal volumes of 10-15 ml/kg without development of overt pulmonary dysfunction. Low tidal volume strategies are, by comparison, much less well understood, particularly as they pertain to this patient population, and furthermore, they offer little conceptual impetus to redefine the current standard. Clearly, the many lessons learned in the study of ARDS, particularly as they relate to the general principles of ventilator-induced injury, can be generalized to all patient populations. However, the applications

of these principles are unlikely to be successful without a clear and fundamental understanding of these “hard-fought” solutions.

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Task Force on Strategic Planning to Help Guide Society's Future

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3. Increase the number of anesthesia intensivists;
4. Bring value to our members by providing educational opportunities via advocacy;
5. Ensure the viability of our organization.

Our task force has proposed restructuring the ASCCA committee system in order to help us realize these goals. We believe that empowering our committees to formulate a series of objectives, strategies, plans and actions is the best way to achieve this.

The ASCCA Board of Directors met during the SCCM Annual Symposium last year in San Antonio, Texas, prior to the publication, but after the deadline for submission, of this message. By the time you read this, the board will have reviewed the report of the task force and made recommendations for its imple-

mentation. My next message to you will define the outcomes of the deliberations by the board, the details of the new committee structure and a delineation of the goals and objectives of each committee.

Since my message in the last issue of the *Interchange*, I have heard from a number of readers. Your enthusiasm and encourage-

ment are gratifying and stimulating. I urge each of you to review the changes proposed by the task force, provide additional input and decide how your particular talents can be used to advance our Society's goals. A volunteer society is only as good as the individuals who volunteer. I look forward to hearing from many of you in the near future. ♦

ASCCA Task Force on Strategic Planning

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Raleigh, North Carolina



Cover Letter for 2003 Abstract Submission

PLEASE COPY — a cover letter must be filled out completely and accurately and submitted with each abstract or the abstract will be rejected for technical reasons. All abstracts and completed cover letters must be received by the program chair by **May 2, 2003**.

PLEASE TYPE:

1. Title of Abstract: _____

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3. Name of Institution and Address of Presenting Author:

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4. Session Preference: Oral Poster Either

5. This abstract should be considered for the ASCCA Young Investigator’s Award: Yes No

6. Human Studies: If human subjects were used in the research, the following statement must be signed by the presenting author.
“I have satisfied the requirements of my institution or organization regarding the use of human subjects in research.”

(Signature — Presenting Author)

7. Consistency: All drugs used in the research have been identified consistently in the abstract by generic names.

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8. Funding Sources: (Check one)

Educational grants **were used** to fund the research and are identified at the bottom of this cover letter and at the bottom of the abstract.

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It's Our System: Change It!

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become a profession whose decisions are based on fear and paranoia instead of reason.

As an intensivist and anesthesiologist, I believe that many of us possess an extremely broad understanding of the role of medical and surgical specialists and subspecialists. Such an understanding is essential, in my opinion, to initiating change in today's health care system. It is time for each health care system to examine its resources, distribution of work and return on its expenditures. Thus, we must begin to demonstrate accountability to a system that extends beyond the legal system. Once we begin to develop such a system, I believe that our ability to "police" our own profes-

sion can result in significant improvements in health care.

As intensivists, it is up to us to encourage hospitals to think about the rising costs of intensive care and allocation of these resources to those who need it most. With the help of other health care professionals such as nurse anesthetists, nurses, pharmacists, respiratory therapists, social workers and others, we can begin to develop a system that is cost-conscious and closely monitors quality of care. This is certainly much better than the current situation in which the legal system "watches the hen house."

We must be open to change and develop a system to report and discuss so-called "near-misses" in a forum that is free from discovery. Currently, most — if not all —

states allow discussion of quality management issues in a confidential, privileged manner. However, most quality management committees are not interdisciplinary and deal only with problems that have resulted in bad outcomes. We must work to change this attitude and approach problems in an intellectual format without fear of reprisal.

Critical care medicine can provide the fertile ground for such reform. By introducing a "safer" health care system, we can provide patients with a higher quality of care and begin to attack the malpractice insurance crisis in an organized, cogent manner. As physicians, we need to prove that we have the ability and desire to correct potential problems in an open, thoughtful manner that is not constrained by fears of unjust financial penalties. ♦