Letters to the CSA

Job Sharing

To the Editor:

I had the pleasure and honor of having a chat with Dr. Carl Fisher a couple of years ago. As you know, he was one of the early editors of the *CSA Bulletin*. I thought that you and your readers might be interested in some of his many contributions to our specialty. In 1973, my sister, Mary, also an anesthesiologist, was practicing at Kaiser, Oakland, having been recruited by Dr. Fisher from his alma mater, UCSF. In fact, shortly after WW II, he had become the first anesthesiologist in the Kaiser system. I also was looking for a job, and Dr. Fisher offered both my sister and me a great situation—basically sharing a full-time position. Yes, both my sister and he somehow got over my being a Stanford graduate. (In fact, Dr. Jackson, you probably remember that I had been one of your residents.) For my sister and me, it was just right, alternating access to first-rate cases, while having enough home time when our children were babies. The seven cousins have grown up well and still are very close. Now many years later, I asked Dr. Fisher about his "daring" in starting a job-sharing situation so long ago. He mused, "Well, let's see. I studied curare back when it was thought to be toxic in itself. I brought physician anesthesia to the Kaiser system. I introduced CPR to Kaiser. No, job sharing didn't seem very daring."

Helen O'Keeffe, M.D.
Former Director of CSA District 7

Room Air Pulse Oximetry

To the Editor:

In their Letters in the Winter 2007 issue of the *Bulletin* about respiratory and oximetry monitoring during anesthesia,[1] I believe Dr. Pauker and Dr. Dailey missed the fact that the only currently available *reliable* respiratory monitoring modality for patients with uninstrumented airways is room air pulse oximetry.[2] Neither stethoscopy nor other alarms in this setting come close to the *quantitative* beat-to-beat sensitivity and security of room air pulse oximetry.

As we wrote in our Letter in the Feb '06 *ASA Newsletter,*[3] the reason for the failure to employ this respiratory monitoring modality—room air pulse oximetry—

which in turn allows "an age-old problem to continue unabated" (as Carl Hug wrote about respiratory problems during MAC[4]), is because anesthesiologists misunderstand the *real* purpose of pulse oximetry in the operating room—not for directly monitoring *oxygenation*, but for indirectly monitoring *ventilation*.

Both Pauker and Dailey recognize the primacy of respiration and the need to monitor the patient's breathing during anesthesia. How to do this reliably in patients with an uninstrumented airway is problematic. The facts are: 1) qualitative assessment (visual or auditory) of respiratory rate and excursion fail to correlate with alveolar minute ventilation; 2) room air pulse oximetry is the only current technology with clinically adequate sensitivity, reliability, and responsiveness to *quantitatively* mirror alveolar ventilation in patients with uninstrumented airways[2,5] (I think most anesthesiologists intuitively recognize—but don't deliberately employ—this in their practice), and 3) 98-plus percent of patients undergoing anesthesia with an uninstrumented airway have no need for supplemental oxygen: as long as their breathing is assured, they will oxygenate adequately.

For many years, a good part of my practice has involved full general TIVA for just about the entire gamut of esthetic plastic surgery cases and many other kinds of moderately invasive surgery, all on room air, with uninstrumented airways, and I have yet to have a single respiratory incident, not even a minor one. For the vast majority of our patients, **breathing is the only thing that counts.** In patients with an uninstrumented airway, pulse oximetry on room air is the only guaranteed accurate monitor to make sure that the lungs are being ventilated—thus the only monitor needed is the pulse oximeter with a variable tone pitch and a volume that is turned up loud enough for *everyone in the room to hear.*

Leo I. Stemp, M.D.

References

1 Pauker KY and Dailey PA. Letters to the CSA. *CSA Bulletin* 2007; 55(4):67-68.

2 Weinger MB. APSF Workshop and White Paper Address Prevention of Postoperative Respiratory Complications. Executive Summary. *APSF Newsletter* 2006; 21(4):61-67.

3 Stemp LI, Ramsay MA. Pulse Ox Last Line of Defense. *ASA Newsletter* 2006; 70(2):32.

4 Hug CC Jr. MAC should stand for maximum anesthesia caution, not minimal anesthesiology care. *Anesthesiology* 2006; 104:221-3.

5 Stoelting R. President Stoelting Summarizes the State of the APSF in 2006. *APSF Newsletter* 2007; 21(4):62.

Reply to Dr. Stemp's Letter:

Dr. Stemp's point in describing the utility of pulse oximetry as a measure of ventilation in a patient breathing room air with an uninstrumented airway is duly noted. He has already made this same point quite coherently in letters to the *ASA Newsletter* and the *APSF Newsletter.* This subtlety is not lost on either of us. However, this was not the subject to which we had directed our comments in our separate letters. Rather we were disagreeing on whether the use of stethoscopy in addition to the standard pulse oximeter and capnograph is still the standard that it was in years past, given our vastly improved monitoring technology.

However, given a door to walk through, we'll take a whack at a few issues. Ours was not a discussion limited to uninstrumented airways, nor a plastic surgery patient population, nor post-op patients on PCA. Furthermore, although the use of pulse oximetry as Stemp describes it may be "truly quantitative," supplemental oxygen in our patient populations of old and sick and frail patients seems to us to provide a margin of safety consistent with our professional role as a clinician duty bound to minimize risk. Using supplemental oxygen during procedural sedation in fact may permit using deeper levels of sedation safely, permitting modest hypoventilation, while assuring adequate oxygenation. Appreciating that the hemoglobin dissociation curve is relatively flat above 90 percent oxygen saturation explains why the pulse oximeter is a fairly late warning of ventilatory inadequacy. Dr. Pauker would argue that a combination of an oximeter and a capnograph are far more sensitive to apnea than pulse oximetry; Dr. Dailey would advocate the addition of a stethoscope to the oximeter and capnograph.

Dr. Stemp has argued that the ASA 2002 Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists "recommend that supplemental oxygen be administered to all patients undergoing deep sedation," but are "entirely silent on the complications of this practice." We do not regard mild to moderate hypoventilation per se without hypoxemia as so much of a problem or an issue, although we are quite aware that supplemental oxygen in sedated patients can "disguise" hypoventilation.

Kenneth Y. Pauker, M.D., and Patricia A. Dailey, M.D., Associate Editors

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