

## CORRESPONDENCE

any others he mentions, be adopted into standard clinical practice without objective evaluation, ideally a randomized clinical trial. We especially regret that the use of pulse oximetry has been *mandated*, with this important policy decision not *evidence-based*.<sup>4</sup> In fact, given that medical knowledge is continually evolving and thus practice standards are recognized to require periodic reevaluation, it would be appropriate to consider revising standards for monitoring anesthetized patients such that the use of pulse oximetry is "encouraged" rather than required.

Pulse oximetry may well be "a valuable monitor," as Goodman notes—whether as a stress-reducer for the anesthesiologist, as we hypothesize,<sup>1</sup> or perhaps as the best overall monitoring device, as he suggests—but objective evaluation is needed to establish its true value.

**Fredrick K. Orkin, M.D., M.B.A.**

Professor of Anesthesiology and  
Community and Family Medicine (Epidemiology)  
Dartmouth Medical School  
Hanover, New Hampshire  
Chief, Anesthesia Service 112B  
Veterans Affairs Medical Center  
White River Junction, Vermont 05009

**Marsha M. Cohen, M.D., M.H.Sc., F.R.C.P.C.**

Associate Professor of Health Administration  
University of Toronto  
Toronto, Ontario, Canada  
Clinical Epidemiology Unit  
Sunnybrook Health Science Centre  
North York, Ontario, Canada

**Peter G. Duncan, M.D., F.R.C.P.C.**

Professor and Chairman  
Department of Anaesthesia  
University of Saskatchewan  
Saskatoon, Saskatchewan, Canada

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*In Reply:*—Goodman raises valid questions in a thoughtful manner. His fear about generalization from pulse oximetry to other technologies and treatments probably is unwarranted, because no other modality, with the possible exception of capnography, could have the same potential role or impact. The one intention of safety monitoring is to help prevent catastrophic patient damage, and no one really disputes the contention that pulse oximetry, properly used, in specific and rare circumstances, can do this.

No one denigrated randomized clinical trials. It was just pointed out that it is simply physically impossible to conduct a classic outcome trial sufficient to "prove" the efficacy of pulse oximetry in the traditional manner. Further, humans certainly are fallible, and *de facto* standards develop for a complex constellation of reasons. Without necessarily supporting any specific standard, this does not change the fact that such standards *do* exist and do have medicolegal implications. It may be a sad commentary on our system, but one that must be considered. Yes, opinion should never overrule evidence, but it is not wrong to consider it *with* the evidence.

It is wrong, however, to state that earlier detection of untoward developments during an anesthetic does not prevent catastrophes.

This flies in the face of clinical anesthesia logic and practice. As noted, the Danish study was not capable of detecting a difference in frequency of extremely rare events. It is, in fact, likely that 20,000 anesthetics today would be conducted with no major complications, let alone a number large enough to show a rate difference between two subgroups.

It is correct that pulse oximetry is not the perfect monitor or the ultimate answer. Until such time as that better monitor is developed, pulse oximetry is among the best tools we have, and it merits continued use, exactly as Goodman plans.

**John H. Eichhorn, M.D.**

Professor and Chairman  
Department of Anesthesiology  
University of Mississippi  
School of Medicine/Medical Center  
2500 North State Street  
Jackson, Mississippi 39216-4505

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