

## CORRESPONDENCE

useful monitor in these patients. It is likely that ESOX® would be useful in burn patients such as the one described by Ravindran because core organ perfusion likely would be maintained.

Dorn *et al.*<sup>5</sup> demonstrated the application of ESOX® in a critical care setting. They concluded that ESOX® seems to be more reliable than surface pulse oximetry in intensive care unit (ICU) patients, especially in situations of hemodynamic instability. Their findings support the potential usefulness of ESOX® in Ravindran's patient.

Atlee *et al.*<sup>3,6</sup> introduced ESOX® and demonstrated a favorable comparison with lingual or rectal oximetry in dogs subjected to desaturation. Prielipp *et al.*<sup>4</sup> compared ESOX® with peripheral surface oximetry in patients undergoing CABG. They found that the ESOX® signal was sometimes well preserved when peripheral sensors failed. Dhamee *et al.*<sup>7</sup> compared ESOX® SpO<sub>2</sub> measurements with simultaneous SaO<sub>2</sub> measurements (co-oximetry) during clinical desaturation of a patient with alveolar proteinosis undergoing pulmonary lavage; they found comparable, favorable trending during transient desaturations to SaO<sub>2</sub> values as low as 70%.

In conclusion, we suggest ESOX® as a potentially useful monitor in intubated critically ill patients such as the one reported by Ravindran.<sup>1</sup>

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*In Reply:*—Dr. Roth's recommendation that pacing esophageal stethoscope (Arzco Medical Systems, Inc.) may be used to monitor the ECG in patients with extensive burn injury is also a nice solution. It offers the additional advantage of the ability to pace the atrium should that need arise. However, I see two problems with it. (1) It is an expensive solution compared with what I have proposed. (2) It can be used in patients only after induction of anesthesia is accomplished as the probe has to be inserted into the esophagus. Because of this necessity, (as pointed out by the authors) baseline ECG monitoring of the patient before induction and during induction are not possible.

Dr. Borum's suggestion about the use of transesophageal pulse oximeter addresses the other issue of difficulty in monitoring oxygen

saturation in these extensively burned patients. However, it does not address the issue raised by me, which is, monitoring the ECG in these patients.

The difficulty in placement of esophageal probes in patients with extensive burns (who may have feeding tubes or nasogastric tubes) also has to be considered.

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