

either a mass spectrometer or O₂ analyzer called attention to the problem.

In the case we present, the problem was not diagnosed until the patient became seriously hypoxic. An O₂ analyzer or mass spectrometer would have alerted us to the situation before this occurred. In answer to Dr. Zorab and Dr. Feingold, it seems to us that the proper use of currently available analyzers can provide an incremental improvement in safety for our patients and that this cannot be provided only by providing a minimum of 20% O₂ from the machine.

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Infrared Heat Lamps Interfere with Pulse Oximeters

To the Editor:—We recently encountered a problem in using infrared heating devices and pulse oximeters simultaneously.¹

The Nellcor Pulse Oximeter Model 100® (Nellcor Inc.) and BTI Biox III Oximeter® (Bioximetry Technology Inc.) are in use at our institution. Both monitors operate by producing light at two wavelengths (660 nm and 940 nm, respectively) from light-emitting diodes. The light is transmitted through tissue (*e.g.*, of the finger or ear), sensed by a photodetector, amplified, and processed. The character of the two plethysmograph wave forms is determined by the pulsating vascular bed, the wavelengths of light used, and the oxygen saturation of arterial hemoglobin (SaO₂). SaO₂ can be calculated and displayed by using Beer's law and the amplitude of pulsation at two wavelengths.

Because the photodetectors can measure weak signals, both oximeters are designed to reject ambient light. When the intensity of ambient light is high (as from heat lamps or sunlight), the photodetector cannot sense light transmitted through tissue or calculate SaO₂. The Nellcor Model 100® digital display remains blank, the pulse search light flashes, and the unit may show a

falsely low pulse rate or SaO₂. The BTI Biox III® display indicates that the light from the diode is not being sensed by the photodetector. Protecting the light-emitting diode and photodetector from bright light obviates the problem.

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The "Puff Technic" for Intravenous Diazepam

To the Editor:—Anesthesiologists find many uses for diazepam iv as an anxiolytic, sedative, amnesic, and/or

anticonvulsant. The iv route is preferred for prompt action, since absorption from an im site is unpredictably