Our results are in accordance with the article of Fletcher et al who systematically tested the accuracy of this catheter system in humans. He also found a consistent underestimation of the fiberoptic pulmonary artery catheter SvO₂ values below 50% compared with direct spectrophotometry and proposed two equations to adjust the catheter measurements:

1. \[ \text{Catheter} = -11.68 + 1.1892 \times \text{COOX} \]
2. \[ \text{Catheter} = \text{COOX} - 210.997 \exp (-0.099 \times \text{COOX}) \]

SvO₂ values readout from the fiberoptic pulmonary artery catheter from ranges 100 to 20%. Our method to evaluate the fiberoptic catheter and the results were already published in Japan in 1992. The illustration of experimental system and the figures of the result in this article are shown below.

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Figure 1. The circuit of blood gas equilibrium and blood gas analysis for in vitro calibration. Blood is perfused through a tube from the gas equilibrium system to the fiberoptic catheter tip and CO-oximeter by a roller pump. Gas exchange occurs in the water bath on the mixer.

Figure 2. Correlations between the SaO₂ measured by fiberoptic oximeter (OX-3) and by CO-oximeter (IL-282) in high (80%) and low (30%) saturation blood.

A Matter of Terminology

Alveolar-Arterial Oxygen Gradient

To the Editor:

I would like to commend Stein and colleagues (Chest 1995; 107:139-43) on showing that normal arterial hemoglobin oxygenation does not exclude the diagnosis of acute pulmonary embolism. The use of the term “alveolar-arterial oxygen gradient,” however, needs some discussion. The authors predict the normal alveolar partial pressure of oxygen from the standard alveolar gas equation, which assumes an idealized lung where all alveoli are perfused and ventilated uniformly. Even a normal lung contains alveoli with different partial pressures of oxygen in both the alveolar space and end-cap-