

# Correspondence

## Diffusion Anoxia

*To the Editor:*—The reappraisal of diffusion anoxia by Drs. M. J. Frumin and G. Edelist (*ANESTHESIOLOGY* 31: 243, 1969) will be a timely corrective to any who believe that this phenomenon by itself presents a serious risk to the patient who has normal cardiovascular and respiratory system. However, their re-assessment of the clinical significance of this entity ought also to take into account that some patients do not have normally functioning cardiovascular or respiratory systems. Patients with depressed ventilation, reduced functional residual capacity or impaired myocardial blood flow may be unusually vulnerable. Furthermore, even though diffusion hypoxia by itself hardly presents a hazard, it can cause real trouble if other causes of acute hypoxia intrude.

Thus, the conclusion that "diffusion anoxia" does not exist as a clinical entity needs some qualification, and may even be dangerous if it leads the unwary to gloss over the magni-

tude of the underlying physical phenomenon. A reduction in alveolar oxygen tension of 30 per cent or so, as confirmed by Drs. Frumin and Edelist, is not negligible. Patient 14 in their series, in whom acute respiratory obstruction is explicitly excluded, clearly illustrates the scope of the danger. It should also be borne in mind that the calculation of hemoglobin oxygen saturation from the oxygen dissociation curve of hemoglobin, as employed by the authors, is subject to some uncertainty, and the estimates so obtained are probably inadequate for a rigorous reappraisal of the magnitude of the clinical entity.

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## Checking Anesthesia Machines

*To the Editor:*—The correspondence addressed to the Editor by Leslie Rendell-Baker (31: 194, 1969) relates an incredible series of events with crossed valves in an anesthetic machine equipped with four valves. The correspondent suggests an engineering solution and asks "How long must we wait for this?" The correspondent further states "We were lucky that in each case two anesthesiologists and a spare machine were available to solve the immediate difficulty." It would appear that they were also lucky that a C.R.N.A. was also available to point out what the M.D.'s should have been able to diagnose, but were unable to do. The correspondent concludes by stating "Surely, it is worth some temporary inconvenience to eliminate this hazard for all time by a simple mechanical change in the design." While I have no quarrel with the fostering of improved standards and the elimination of technical deficiencies in our equip-

ment, may I suggest that for a long time in the past, and hopefully for many years to come, we have been and will be teaching our residents the importance of thoroughly checking a gas machine before hazarding a patient's life. That the anesthesiologist involved did not employ the simple expedient of breathing through the machine with oxygen, prior to the beginning treatment of the case, is only too clear. The revision of mechanical deficiencies in this or similar setups, while improving the immediate problem, does not attempt to solve the more basic problem—that of the price of eternal vigilance.

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