REFERENCES


2. ASA physical status rating (new classification of physical status). Anesthesiology 24:111, 1963

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On the Prevention of Hypoxic Accidents

To the Editor—In a recent letter to the editor, Dr. Zorab suggested that the way to prevent hypoxic accidents during anesthesia is to abolish the use of hypoxic gases such as 100% nitrous oxide on the anesthesia machine.1 Instead, he recommends that all gases delivered to the machine contain at least 20% oxygen. As an advocate of low-flow and closed-circle anesthesia, I must point out that this method is not foolproof. For example, it is perfectly possible to deliver 1 l/min of air to a circle system attached to a 100-kg patient. This flow will more than keep the bag full on a tight circuit, yet will produce a hypoxic mixture in the circuit. This occurs because 1 l of air provides 209 ml of oxygen, while the basal metabolic rate for oxygen in a 100-kg patient is approximately 316 ml/min.2 This same situation would occur with an 80/20 mixture of nitrous oxide oxygen but would take longer to develop, because of the initial high rate of nitrous oxide uptake and the ensuing second gas effect.

Thus, a calibrated, working oxygen meter in the circuit is still the best insurance against hypoxic accidents during anesthesia3 and "eternal vigilance is the price of safety."

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REFERENCES


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A Simple Device for Testing Peripheral Nerve Stimulators

To the Editor—While monitoring the neuromuscular junction with a peripheral nerve stimulator (PNS) the need sometimes arises (such as when broken lead wires are suspected) to determine if the electrical stimuli are actually present at the patient electrodes. One way to confirm presence of stimuli is to feel for the pulses with one's own fingers, but this can be unpleasant or even painful.

I have found a simple alternative using an inexpensive neon lamp (type NE-2), available from most electronic parts suppliers. The lamp is touched or clipped to the ends of the lead wires (fig. 1), and it should flash with each single pulse or stay lighted with a tetanic stimulus. The orange glow can be seen even in a brightly illuminated room, and the device will not harm the PNS.

A neon lamp typically fires above 95 volts dc, while most PNSs deliver a maximum voltage of about 300 volts. Hence, the test will work at all but the lowest output settings of the PNS. However, as shown in a recent report, the output voltage of a PNS drops