Naloxone and Its Analeptic Effect

To the Editor:—It appears from the interesting overview by Yaksh and Howe,[1] that there is still not a clear enough distinction made between anesthesia and analgesia with regard to the opioid system.[2]

We have shown with *analgesic* doses of N_2O that there is a bipolar response to naloxone challenge at low doses; some subjects having potentiation of analgesia (the majority) and some having reversal of analgesia. All responses decay within five minutes of iv bolus injection, since N_2O was continued during the decayed period.[3] As a result of these findings we have postulated a dual system hypothesis to explain this effect.[4]

We therefore conclude that a very important variable, when considering the interaction of naloxone and an anesthetic agent, is whether one is dealing with anesthetic or analgesic concentrations of the agents being challenged by naloxone.

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REFERENCES

1. Yaksh TL, Howe JR: Opiate receptors and their definition by antagonists. ANESTHESIOLOGY 56:246–249, 1982
2. Gillman MA, Footerman DS: The need for a clearer distinction between anesthesia and analgesia in relation to the opiate system. ANESTHESIOLOGY 54:524–525, 1981
3. Gillman MA, Kok L, Lichtigfeld FJ: Paradoxical effect of naloxone on nitrous oxide analgesia in man. Eur J Pharmacol 61:175–177, 1980
4. Gillman MA, Kimmel I, Lichtigfeld FJ: The dual-system hypothesis of pain perception. Neurol Res 3:317–327, 1981

Failure to Use O_2 Analyzers to Prevent Hypoxic Accidents

To the Editor:—Anoxic accidents during anesthesia continue to occur resulting in millions of dollars in settlements against anesthesiologists and hospitals. Hospital authorities, responsible for limiting the malpractice claims against their hospitals, after reviewing hypoxic anesthesia accidents, have expressed serious concern about the failure of anesthesiologists to routinely use the O_2 analyzer provided from the start of each anesthesia.

They have indicated that in view of this experience, in future apparatus, the O_2 analyzer should be so designed that it is activated automatically whenever the gas machine is used.

We have discussed their requirement with colleagues and we feel that such an O_2 analyzer should have the following features: 1) The analyzer should be switched on automatically whenever the machine's flow of gases are turned on, *i.e.*, when any gas flow is started rather than when the machine's internal piping is first pressurized. If the machine has a gas flow ON/OFF switch, switching this to ON should activate the analyzer. 2) When initially switched on, the analyzer should audibly signal, thus indicating that the battery and alarm systems are operative and alerting the user to the need to calibrate its reading to room air. The only way of silencing this signal should be by adjusting the analyzer's reading to 21% ($\pm 1\%$ O_2) in air. 3) Thereafter the alarm should not be adjustable to *less than* 18% O_2.* In the future gas machines may be designed to give not less than 30% O_2 and it may be desirable to have a higher minimum setting. However, those machines incorporating an air flowmeter for neonatal anesthesia, for example, will require alarms adjustable down to 21% O_2. 4) The analyzer should be powered by two or more rechargeable batteries in parallel and the device should incorporate a charging circuit such that battery power would be used only during an emergency or when otherwise operating without line current. A visual indicator should be provided to indicate when the device is operating on battery power. 5) The analyzer's sensor should be fitted into a mechanism within the patient's inspiratory chan-

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* The O_2 analyzer accuracy requirement is specified as $\pm 3\%$ O_2 for the analyzer's alarm system (ANSI Standard Z79.8.1979).