Early Detection of Malignant Hyperthermia

To the Editor:—It has been suggested that end-tidal CO₂ should be useful in the early detection of malignant hyperthermia (MH) and should be followed to gauge the effectiveness of therapy.¹ Although capnographs and mass spectrometers are proliferating in United States operating rooms, most anesthesiologists still do not have the ability to routinely monitor expired CO₂. Gronert and Theye² found parallel increases in CO₂ production and O₂ consumption. By closing the circuit, the anesthesia machine becomes a “metabolic laboratory” and the measurement of whole-body O₂ consumption becomes straightforward.³ Moderate leaks in the system are easily measured and have little effect on the accuracy of the O₂ consumption measurement. Therefore, all operating rooms have the capability to detect the early metabolic changes of MH.

On the basis of animal models, the O₂ consumption would be expected to increase by at least 30–50% if the patient has MH develop. Effective therapy with dantrolene will also be demonstrated by a decrease in O₂ consumption.⁴ During treatment of MH, cooling is desirable so the circuit should be opened with high flows of oxygen and intermittently closed for 3–5-min periods to follow O₂ consumption. Expiratory CO₂ monitoring would be a valuable complement to measurements of O₂ consumption. Whenever MH is suspected, the anesthesiologist should measure O₂ consumption.

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REFERENCES

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Respiratory Monitoring for Children Undergoing Radiation Therapy

To the Editor:—Pediatric patients often require sedation or general anesthesia to prevent movement during high-voltage radiation. Because personnel cannot be present during this 2- to 3-min period of radiation, the anesthesiologist usually monitors such patients using closed-circuit television. However, resolution of the television monitor is poor, and movements of the chest or anesthesia bag are often impossible to see. Therefore,