I. R. THOMSON, M.D.
W. A. C. MUTCH, M.D.
J. D. CULLIGAN, M.D.
Department of Anesthesia
St. Boniface General Hospital
409 Tache Avenue
Winnipeg, Manitoba
Canada R3H 2A6

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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. 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 Theye found parallel increases in CO₂ production and O₂ consumption. By closing the circuit, the anesthe- sia machine becomes a “metabolic laboratory” and the measurement of whole-body O₂ consumption be- comes straightforward. 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. 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 anes- thesiologist should measure O₂ consumption.

R. K. BAUMGARTEN, M.D.
WILLIAM J. REYNOLDS, M.D., PHD.
630 Alamo Heights Boulevard
San Antonio, Texas

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Respiratory Monitoring for Children Undergoing Radiation Therapy

To the Editor:—Pediatric patients often require seda- tion 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 tele- vision monitor is poor, and movements of the chest or anesthesia bag are often impossible to see. Therefore,