Sir,—Dr Meakin’s astute observations that rebreathing in the Bain system, detected by capnography, at a level less than two times the minute ventilation (2\(V\text{E}\)) [1] could be claimed as rebreathing with a magnitude which may be of clinical importance. The actual curves, using the more sensitive and accurate method to discern rebreathing, showed that deviation from the maximum effective alveolar ventilation (\(V\text{E}/2V\text{E}\)) line began at 2\(V\text{E}\). Why, then, should I have said in another earlier report that the recommended fresh gas flow (\(V\text{F}\)) for children should be 3\(V\text{E}\) [2]? This recommendation is based upon the difference in the magnitude of variability of metabolic rate between children and adults.

In the Magill or any other afferent reservoir system, the recommended \(V\text{F}\) is equal to \(V\text{E}\) and is greater than the point at which onset of rebreathing occurs (approximately 0.6–0.7 of the \(V\text{E}\) [1, 2]). This is to allow for changes in carbon dioxide production (\(V\text{CO}_2\)) during anaesthesia. In the Bain system, the recommended \(V\text{F}\) should be greater than this point, which may become clinically significant only when \(V\text{F}\) is less than 2\(V\text{E}\). In children, the potential changes in \(V\text{CO}_2\) are greater than in adults and it is therefore for practical reasons that I made the recommendation that \(V\text{F}\) should be 3\(V\text{E}\) for all afferent reservoir or T systems. If one were monitoring the resting minute ventilation in children (and not many of us do), then I must agree that \(V\text{F}\) equal to 2\(V\text{E}\) would indeed be acceptable.

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REFERENCES

Picolax Bowel Preparation

Sir,—I was interested to read the abstract of the presentation to the Anaesthetic Research Society on the effects of Picolax on body weight and intravascular fluid [1]. The findings might account for the observation of Campbell and colleagues of the increased requirement for i.v. fluids during surgery for intestinal resection [2].

My experience in anaesthetizing patients for colon resection after Picolax bowel preparation is that these patients often need large volumes of i.v. fluids (up to 4 litre) to stabilize the arterial pressure after induction of anaesthesia. I have also heard anecdotal stories of collapse after bowel preparation with Picolax before radiological examination, and of one patient who had a cardiac arrest. The manufacturers inform me that their packaging insert includes the instruction to encourage oral fluid intake when Picolax is used, but I found that many nurses were not aware of this, and that individual sachets of Picolax do not include this advice.

It is important that patients who are given Picolax are also given the instruction to drink quite large quantities of fluid. In a letter from the manufacturers, they describe a study in which patients drank 139 ml of water every 1 h for 12 h during treatment with Picolax, and serum sodium, potassium and osmolality results suggested that this produced only mild overhydration. If oral intake is impossible, fluids should be infused i.v.

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REFERENCES

INTERFERENCE WITH PACEMAKER FUNCTION

Sir,—The recent case report by Dr Finfer [1], illustrates one of the inherent problems of a unipolar pacing system, that of inhibition by skeletal muscle myopotentials. Suxamethonium-induced muscle fasciculations were thought to be responsible for pacemaker failure. It has been suggested that a defasciculating dose of a non-depolarizing neuromuscular blocker should be used or suxamethonium avoided [2]. In addition, thiopentone has been documented to decrease pacemaker threshold [3], increasing the risk of ventricular arrhythmias [4].

Permanent pacemakers with bipolar electrodes are less sensitive to interference [5]. This has led to their increased use over recent years. During the 12-month period April 1990 to March 1991, 16 unipolar and 402 (96%) bipolar pacemakers were inserted at our hospital. Wider adoption of this practice will help reduce the problems encountered during anaesthesia.

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REFERENCES

Sir,—Thank you for the opportunity to reply to this letter. The author quotes Zaidan in suggesting that a “defasciculating dose of non-depolarizing neuromuscular blocker should be used or suxamethonium avoided”. Suxamethonium remains the neuromuscular blocker of choice for rapid sequence

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