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REPLY

Thank you for giving us the opportunity to reply to the points raised by Dr. Diamond concerning our review article *Anaesthesia and emesis*, II.

Dr. Diamond is correct to point out that the action of metoclopramide on stomach emptying can be quite variable and it is seemingly ineffective following a solid meal.¹ However, for the purposes of emergency anaesthesia the matter becomes academic. As our article suggests, we prefer the popular and efficient Sellick manoeuvre for the prevention of aspiration and would not rely on metoclopramide to empty the stomach.

Attention is drawn to our appraisal of the efficacy of metoclopramide for prevention and treatment of postoperative emesis. We referred to the work of Clark and Storrs which demonstrated that 20 mg of metoclopramide administered at the end of surgery was efficient in decreasing postoperative emesis.² This work was supported by Lind and Breivik who found that in patients who had not received meperidine (the only comparable patients in their subgroups), 10 mg of metoclopramide given IM at the end of surgery reduced retching and vomiting better than did perphenazine. Note that nausea was not recorded in this subgroup of their study.³ Handley and Tornetta in independent studies also found metoclopramide useful when given at the end of surgery.^{4,5} However, Diamond's own work demonstrated that 20 mg metoclopramide given orally two hours preoperatively with the premedication to 51 patients undergoing hysterectomy had no significant effect. Also in the same study, females undergoing non-abdominal

surgery were also not helped by preoperative metoclopramide.⁶ These data confirmed work by Assaf et al. who showed that preoperative I.M. metoclopramide did not significantly reduce total emetic sequelae in the 1-6-hour period when the premedication included morphine.⁷ Ellis and Shaw in separate studies also had poor results with preoperative metoclopramide.^{8,9}

We therefore think it reasonable to state "prophylaxis with metoclopramide appears to only have been effective when the drug was administered at the end of the operation." Evidence suggests that metoclopramide is a poor drug for the treatment of emesis.¹⁰ It follows from the above that if metoclopramide has been given for prophylaxis against emesis and has failed, it would be logical to administer a drug with proven efficacy for the treatment of the now new problem of emesis.

We confess to omitting reference to the poorer effect of metoclopramide in women than among men. This may explain some of the variable results in clinical trials and would be a good reason not to use metoclopramide.

We agree with Dr. Diamond that side effects from the use of metoclopramide are low. We stated: "all studies report a low incidence of side effects with both domperidone and metoclopramide." We have no experience in the use of high dose metoclopramide, but should point out that the incidence of side effects is considerably higher in the under 30 age group, 27.3 per cent according to Kris et al.¹¹ Further we would suggest that cancer therapy patients may behave differently to postanaesthetic patients and comparison may not be appropriate.

There is no single obvious solution to postoperative emesis. Its multifactorial aetiology makes it almost impossible to conduct completely controlled clinical trials. It is not surprising that anaesthetists working under diverse conditions achieve similar results with their differing but preferred methods and drugs. If Dr. Diamond achieves good results with his techniques and metoclopramide we hope our article has not discouraged him.

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three minutes, the child again reacted to the needle and then started coughing on the endotracheal tube. The smell of halothane from the fresh gas line was barely discernable.

Since the child had been satisfactorily anaesthetized initially it was assumed that a fault had developed in the vapourizer and that this had produced the audible click. The anaesthetic was completed uneventfully using methoxyflurane.

When the Fluotec Mark II vapourizer was examined after the case, it was found that the circlip had broken, cutting off the fresh gas flow through the vapourizer.

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Intraoperative failure of a Fluotec Mark II vapourizer

To the Editor:

The description by Lamberty and Lerman¹ of the intraoperative breaking of the internal circlip of a Fluotec Mark II vapourizer is most interesting. A similar case occurred in our hospital in 1970.

A two-year-old boy was scheduled for pneumoencephalogram under general anaesthesia. An inhalation induction was performed with nitrous oxide and halothane using a Jackson Rees circuit. Tracheal intubation was easy and did not cause coughing. Nitrous oxide was discontinued and the halothane concentration reduced from four to two per cent. A distinct click was heard from the direction of the anaesthetic machine. There was no obvious cause for this and the child was positioned for lumbar puncture. When the radiologist attempted the lumbar puncture the child reacted to the needle. The vapourizer dial was returned to four per cent but, after inhaling this higher concentration for two to

Nitrous oxide analgesia and the endogenous opioid system

To the Editor:

We read with interest the review by Milne and Jhamandas concerning new therapeutic roles for naloxone.¹ We would like to extend the scope of their article by referring to some of our own work using nitrous oxide.

Firstly, as we have noticed in many cases, as with this review,¹ anaesthesia and analgesia are lumped together, without any clear differentiation being made between these very different states. This probably adds to the controversy regarding the opioid effects of analgesic concentrations of nitrous oxide. During administration of nitrous oxide at analgesic concentration, the level of consciousness of the subject is such that full contact with the environment and co-operation with the investigator