

opportunity for closer collaboration between the NHS and local government, and political action at local level is the basis of implementation. Agreement to deal with issues not taken up by central government may well be reached by local partners who see the need to act out unpopular policies in their own district. If this opportunity is taken, Britain could move much closer to achieving the goals of Health For All.

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Enteral nutrition after surgery

Not routinely indicated in well nourished patients

Perioperative nutritional support, whether by the enteral or parenteral route, remains controversial. Its efficacy in many circumstances is unproved and the indications for using it are unclear. Nutritional support can be expensive and is not without complications. Its use must therefore be shown to improve outcome in terms of improved survival, reduced complication rates, decreased hospital stay, or improved quality of life. While several studies have evaluated the use of perioperative parenteral nutrition, few have examined the perioperative role of enteral feeding.

In this issue of the *BMJ*, Carr *et al* (p869) report a randomised controlled trial of immediate postoperative enteral feeding in patients undergoing gastrointestinal surgery.¹ Twenty eight patients who had undergone elective intestinal resection and primary anastomosis were randomised to receive either postoperative feeding via nasojejunal tube or conventional intravenous fluids. The authors found no significant difference between the two groups in terms of clinical outcomes such as length of hospital stay and the number of days to oral intake. In particular, changes in nutritional status before and after surgery were similar in the two groups. However, the enterally fed patients had significantly higher mean intakes of energy and protein, and lower gut permeability. They also had non-significant reductions in weight loss and complications such as nausea, vomiting, and wound infection.

The authors give no information on the patients' preoperative diagnoses, preoperative nutritional status, type of operation, or time to complete recovery (return to work or full functional capacity). Such data would be helpful. Previously published controlled trials have shown little improvement in outcome from enteral feeding,^{2,3} but these studied patients with normal body composition or mild malnutrition undergoing major elective operations, who may differ from the patients reported here.

Postoperative weight loss (a mean of 1.8 kg in patients receiving intravenous fluids in this study) is acceptable because short term undernutrition (10–12 days) does not complicate convalescence after major surgery.³ This would therefore not be a reason for recommending routine postoperative nutritional support. In general, well nourished elective surgical patients are not considered to need nutritional support, unless postoperative complications prevent oral intake. The incidence of such complications (bowel obstruction, anastomotic disruption, pancreatitis) is low.

Despite the controversy over who might benefit from perioperative nutritional support, there is no doubt that the enteral route is preferable to the parenteral. At least three clinical

trials^{4–6} and a meta-analysis⁷ have documented the superiority of immediate postoperative enteral feeding over parenteral nutrition in patients with blunt and penetrating trauma. Enteral feeding was initiated within 24 hours of injury, was well tolerated, and resulted in a significantly lower incidence of postoperative pneumonia, intra-abdominal abscess, and catheter sepsis. The adverse effects of total parenteral nutrition on the gastrointestinal tract include decreased brush border hydrolase activity,⁸ reduced amino acid transporter activity,⁹ increased mucosal permeability,¹⁰ and a slight decrease in villus height.¹⁰

Carr *et al* found that enterally fed patients developed no increase in gut mucosal permeability. However, the clinical significance of this finding is unclear. Further studies are needed to determine whether changes in permeability accurately reflect susceptibility to clinically significant sepsis of gut origin.

Although nutrition support has been shown to be beneficial in selected patients, the routine use of enteral nutrition in well nourished patients undergoing gastrointestinal surgery cannot be recommended. Perioperative nutritional support seems to be of greatest benefit in severely malnourished patients and in patients at high risk. If reliable criteria for identifying at risk patients were established, the role of nutritional intervention could be studied more scientifically.

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