



ABSTRACT

Perioperative Nutrition

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Modern perioperative care is making steady advances in achieving optimal recovery for patients using the concept of early recovery after surgery (ERAS). Perioperative nutrition plays an important part in ERAS care and opportunities for nutritional interventions present for weeks up to hours before an operation, as well as in the postoperative period. Despite that malnutrition and suboptimal nutrition in surgical patients, particularly in those presenting with cancer, is very common.

Preparing the patient weeks before a major elective procedure is increasingly recognised as an area where interventions can improve overall functional outcomes. They should include tailored high intensity physical exercise, motivation and anxiety/stress reduction strategies, review of chronic illnesses and medications as well as postoperative planning. An important aspect of care is the procedure itself as surgery does not depend solely on technical skills, but also on the metabolic condition of the patient. Metabolically vulnerable patients, in particular, may need to undergo minimally invasive surgery or other interventional procedure rather than extensive surgery. Nutritional interventions should start as early as possible and consist of dietary counselling, recommending preferably home based, varied, normocaloric diet with a protein intake of 1.2 g/kg body weight. The oral/enteral route is always preferred. Postoperative complication rates can be reduced when specific oral nutritional supplements are used to achieve the required energy intake. Parenteral support should be limited only to patients where the enteral route is insufficient or unusable.

The immediate perioperative period should respect the modern fasting guidelines allowing eating for up to 6 h and drink clear fluids up to 2 h prior to the induction of anaesthesia and limiting the use of ‘bowel preparation’ to necessary. Overt fluid losses should be replaced to avoid pre-operative dehydration. Long-acting pre-medication sedatives or anaesthetic agents, long-acting opioids and postoperative muscle relaxants should be avoided, if possible, to promote bowel motility, reduce postoperative nausea, drowsiness and allow for early mobilisation. Early nutrition after major surgery, including most abdominal and pelvic procedures stimulates peristalsis and gastrointestinal function, reduces mortality, and shortens overall length of hospitalization. Oral intake, starting with clear fluids, should be initiated

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within hours after surgery in most patients while intravenous fluids should be reduced or stopped as early as possible. Maintaining neutral fluid balance is optimal in most cases. Progression to solid food should be guided by patient preference and swallowing abilities. There appears to be no benefit of food avoidance even in many gastrointestinal surgical procedures. Outcomes tend to be better in patients who receive oral or enteral nutrition. Only in cases where less than 50% of caloric and nutrient requirements cannot be met by oral and enteral intake alone for more than seven days, a combination of enteral and parenteral nutrition is recommended. In such cases parenteral nutrition should be administered in an all-in-one bag (commercial or pharmacy prepared mixed three chamber bag).

As in the preoperative phase, optimal postoperative nutrition should be accompanied by early mobilization, physiotherapy, and resistance exercises where possible to promote muscle perfusion, protein synthesis, and insulin sensitivity.

Keywords: nutrition, surgery, perioperative, ERAS
