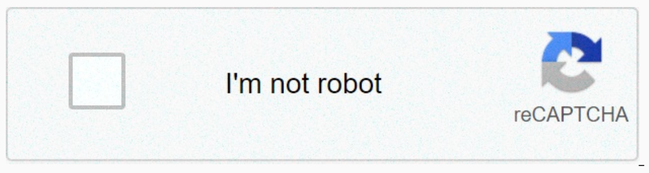

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Espen guidelines clinical nutrition in surgery

Perioperative dietMetabolismSurgeuring InterventionOrral and entry feedingUcute objectives Operations include intentional damage to the body, which has been covered for the general benefit of the patient. Surgical insult causes multiple responses, which cause a change in metabolism towards catabolism. Recovery after surgery requires reversal of catabolism caused by trauma against anabolism. There are many ways in which catabolic responses can be reduced and anabolism supports. Nutrition, energy supply and protein, is an essential part of perioperative treatment. It is important to understand that for most patients undergoing surgery, dietary therapy promotes faster recovery. Most of these patients may and should be given oral food. The aim of dietary treatment should be to optimise fluid intake and ensure sufficient intake of energy and protein in the form of oral. A much smaller group of surgical patients are underoorated. These patients have a higher risk of mortality, complications, long-term hospital stays and delayed rehabilitation and convalescence. Although some early studies of perioperative dietary support have been at odds, over the past 20 years, the study sequence has begun to determine those groups of patients who benefit, especially those with pre-malnutrition. Due to the risks associated with malnutrition and surgery, all patients undergoing surgery should be evaluated and evaluated for nutritional status. Perioperative dietary support should take into account those who are malnourished. It is useful to consider the problem in three phases before, inspectively. From a metabolic point of view, surgery causes a state of insulin resistance in proportion to the extent of the operation that causes glucose metabolism with some similarities to untreated diabetes. There are small changes even after minor surgery, but after major surgery there may be marked metabolic disorders. Postoperative insulin resistance contributes to hyperglycaemia and is associated with protein net catabolism. High-load carbohydrate overload further exacerbates hyperglycaemia. These metabolic changes were closely related to a range of clinical complications. These patients have a normal nutritional status. You can and should eat normal food by the night before surgery. Patients who were on intestinal resections were traditionally prepared by cleaning the intestines the day before surgery. The idea behind bowel cleansing is that if the large intestine is free of stools, it can reduce the risk of postoperative infection. This routine and its hypothesis have recently been called into question. Several recent trials have shown no benefit from the use of this routine or even discomfort by increasing rates of postoperative infection. For patients who still bowel cleansing, oral dietary supplements may be recommended during or after cleaning to ensure that the period of preoperative fasting is as short as possible. The use of this type of diet is immediately taken in the gut and does not compromise bowel cleansing. It was assumed that the traditional fast-operating preoperative preoperative was normal and not harmful. However, over the past decade, a number of national anesthesia companies have changed preoperative fasting guidelines and now recommend free intake of clear liquids up to 2-3 h before anesthesia for selection procedures. This change has proved safe and has been introduced to reduce the discomfort of tinge. This routine also helps to prevent preoperative dehydration. It has recently been shown that iso-osmolar carbohydrate-rich drink, which is given preoperatively, is rapidly emptied from the stomach and with the addition of carbohydrates also reduces preoperative hunger and anxiety. In addition, and probably more importantly, by bringing the patient into metabolically nourished rather than close condition, preoperative carbohydrate therapy reduces postoperative insulin resistance (see further under glucose control). For patients excluded from the use of more recent and liberal post guidelines, glucose with or without insulin has been shown to have the same effects. Provided that the glucose load is sufficient (5 mg/kg/min often using 20% or 30% glucose solution), metabolic change in metabolism from metabolic fasting to nutritional state can be achieved together with glycogen load. This regimen has been shown to reduce cardiac complications after heart surgery in several studies. The therapeutic goal for a postoperative patient is a rapid recovery to normal function and good stay, minimum complications and early rehab. This objective reflects not only good clinical practice, but also good economics. The minimizization of the development of catabolism and the return of the patient from a catabolic state to one of anabolism is an important part of this process, in which nutrition plays an important role. Early oral intake and mobilization are the best weapons in the process. Sip feeds can be useful in patients who do not meet their dietary goals with hospital food. In a few cases, artificial feeding by entering or even following the parenteral route may also play a role. After surgery, there is no scientific food withering in patients. Most patients undergoing surgery may start oral feeding within a few hours of surgery. Oral supplements are a very useful prescription for patients who do not tolerate or only partially cover their energy needs with hospital food. It has also been shown that inlet feeding reduces postoperative complications and reduces the length of stay in a recent meta-analysis. However, for various reasons, oral feeding is often delayed. A number of factors delaying normal feeding can be overcome by changing some traditional routines that have proven unnecessary or even harmful. The routine for delaying oral drinking or feeding until flatus or stools has passed has no scientific support and is unnecessary. A key factor for early oral or enteral feeding is a strict regimen of fluid and electrolyte. Overloading the patient with fluids and salts perioperatively causes edema and prolongs the motility of GI. The reduction of maintenance fluids to 2000 ml and NaCl to 77 mmol per day was demonstrated by Lobo et al to significantly increase gastric motility and speed up recovery. Fluid management is one of the key factors of the multi modal approach to enhanced recovery from surgery proposed by Kehlet and colleagues. These authors also stress the importance of maintaining the function of the cavity using local anaesthetics in epidural anaesthesia, which is maintained for at least 2 days after the resection of the column. This allows avoiding opiates as a treatment for pain, as opiates have a side effect of increasing postoperative ileus. Other factors include avoiding unnecessary nazogastric tubes, drains and urinary catheters, or at least removing such drains and pipes very quickly (see also below). The use of a combination of these measures allows most postoperative patients to be fed orally within a few hours of surgery and return to normal food intake within a day or two even after major gastrointestinal surgery. Using a combination of these measures, most patients return to normal bowel function within a day or two even after bowel resection and the need for a shorter hospital stay. There is also evidence that post-operative drip and suction regimes are being used excessively and unnecessarily. Hess's randomized cholecysttomy and hemicolectomy patients do not receive nasogastric drainage tubes or intravenous fluids and oral intake from day one or to have conventional nasogastric drainage plus intravenous fluids. The outcome was better in the first group with previous recovery of gastrointestinal function. Nazogastric drainage tubes, unless strictly necessary as with gastric outlet obstruction, have also been shown in a large meta-analysis of published studies, which are associated with an increased rate of complications, especially respiratory infections. These recommendations generally follow the adopted guidelines developed by national and international PEN organisations and are based on a substantially available evidentiary body. Further research in this area is needed with large well-conducted trials of the appropriate number of patients. The overall target for an at-risk patient or patient undergoing surgery is the same as for an unsoil patient – this is to encourage faster recovery. The basis for treatment is the same and the general guidelines given for a low-risk surgical patient should be patients at higher risk. However, in addition to these principles, high-risk or malnourished patients often present a higher level of complexity, which may require that other measures be taken to provide adequate nutritional and metabolic support. Several studies have shown that a week or two of pre-operative feeding, enteral or parenteral, improves the outcome of surgery in patients with severe malnutrition. On the other hand, its use in those with normal nutritional status or only mild malnutrition is associated with no benefit or even an increase in complications. An increase in complications was shown to be preoperative TPN in studies conducted 10 years ago. Higher infection rates may be due to overload of carbohydrates and hyperglycaemia. Also, the TPN solutions used were missing glutamine, which may have affected the results. In patients who are unable to take normal food, the situation is different from the untangled patient. Routine use of postoperative parenteral diet has not been shown to be beneficial in previously well-nourished patients or in those in whom normal eating is possible within 7 days of surgery. There is some evidence of the benefits of parenteral diet under the following conditions:The weight of evidence suggests that entry feeding along nasogastric, nasoenteral and jejunal pathways, or a combination of certain inlet and complementary parenteral feeds are preferred methods, although in the presence of long-term gastrointestinal failure parenteral feeding can save lives. There are also some trials showing that early and appropriate oral supplement may improve outcome in the first week after surgery, especially in hypoglyhied. There is growing and strong evidence that glucose levels should be maintained at normal levels while being kept severely under the stress of a surgical patient. Van den Berghe and colleagues showed that postoperative patients (especially breast surgery) needed ventilation support in the setting of intensive insulin therapy to normalise glucose levels (4.5-6 mmol−1). Normalising glucose levels using insulin resulted in a marked decrease in septic episodes, renal failure, fan time, polyneuropathy and also mortality. In this study, patients were fed and demonstrated that insulin function is key to successful immediate postoperative feeding, as well as to prevent complications that will lead to further catabolism. Using insulin to maintain glucose control is likely to be a better approach compared to half-starvation with a carbohydrate limit, which was another approach proposed to prevent hyperglycaemia. Do the beneficial effects of insulin be limited to the maintenance of normoglikemia or include previously demonstrated reduction in net protein and cell catabolism functions, it is necessary to determine. First and foremost, perioperative care requires early intake of normal food as the main objective. Regular hospital food should be the first choice for consumption in most postoperative patients. However, it is essential to monitor and record the relevance of such input. For patients who are unable to consume sufficient amounts of food to meet basal requirements, the following guidelines may be applied to the feed recipe. The supply of nutrients by entry route is limited by gastrointestinal tolerance shortly after operation. In general, it is recommended to eat the feed for patients who ingest some but not regular food. In most cases, in most cases, feeding with an enteral tube with standard polymer feed should be used in patients who are able to take only minor portions of normal food and increase when tolerance improves. Several positive post-operative enteral feeding trials used fairly low intakes of 18-20 kcalkg−1 body weight in the first few days, with favourable results, especially in terms of infection. Some studies in major trauma and cancer surgery suggest that feeds that strengthen immune systems may have some advantages over standard feeds under these conditions. A series of recent studies have suggested that the addition of specific nutrients that strengthen the immune system, such as arginine, ω-3 fatty acids, RNA, may be beneficial for a patient who has undergone surgery. When these formulas were perioperatively reduced in infectious complications and also shortened length of stay, they reported. However, it is not clear from the design of the studies whether the effects are related to the addition of nutrients as such, or the addition of any of the specific components. Further studies did not confirm these initial results and even showed the opposite effects. It is therefore not clear to what extent these formulas can be useful and which of the components that may cause any effect. In addition, some recent data from patients with critical care showed an increased mortality associated with the use of specific immuno-immuno-surgery formulas. In parenteral diet, particular attention should be paid to avoiding oversua or too much salt and water and avoiding hyperglycaemia. Many of these patients may require insulin to maintain normoglikemia. Otherwise, standard recipes for administration of 25-30 kcalkg−1oday−1 with 30-40% of all calories from fat can be used. Entries 0,15-0,2 gNkg−1day−1 are usually appropriate with an energy-nitrogen ratio of approximately 150:1. The usual recommended amounts of minerals and micronutrients should also be available. Dietary care should be an integral part of the optimal management of surgical patients and is not a substitute for poor surgery or anesthesia or deficiencies in other aspects of care. preparation, good surgery and anaesthesia, optimal postoperative genes and fluid balance, and early mobilisation and feeding form an integrated enhanced recovery programme (ERAS), which in many centres improves outcome and reduces hospital stays. Most patients undergoing surgery may return to normal oral feeding immediately or in any case shortly after surgery. More old traditional routines need to be changed. Appropriate anaesthetic techniques for pain management will help facilitate the return to the use of oral feeding routes and avoid postoperative ileus. Preoperative feeding improves the outcome of surgery in patients with severe malnutrition and preoperative carbohydrates reduces postoperative insulin resistance and protein catabolism in elective surgery. Postoperative enteral diet reduces postoperative complications. There is some evidence of the benefit of post-operative enteral and/or parenteral diet in previously malnourished patients, in patients with postoperative complications and after major trauma or burns. So-called immune system improvement feeds have shown benefits in very severe trauma and in patients who have undergone upper gastrointestinal cancer surgery. Feeding should be part of an integrated management protocol throughout the clinical course of the patient. There is no conflict of interest. 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