Nutrition Can Help Improve Surgical Outcomes

Did you know...

- 29% of well nourished patients experience complications post surgery
- 43% of patients with malnutrition are not diagnosed
- 72% of malnourished patients experience complications post surgery
### Types of Surgical Nutrition

**Immunonutrition — A blend of protein, arginine and fish oil to support immune health and recovery from surgery**

Surgical stress results in prolonged inflammation and depletion of essential nutrients.

*Meta-analyses report that perioperative immunonutrition is associated with:*

- Reduced wound complications
- Reduced infectious complications
- Reduced hospital length of stay

A randomized clinical trial compared the effects of a high protein formula or an immunonutrition formula on patient outcomes. Compared with the high protein formula, patients receiving immunonutrition experienced:

<table>
<thead>
<tr>
<th>Fewer surgical site infections (5.7% vs. 17.2%)</th>
<th>Fewer infectious complications (10.7% vs. 23.8%)</th>
<th>Fewer complications (23% vs. 35.2%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>P = 0.005</em></td>
<td><em>P = 0.007</em></td>
<td><em>P = 0.035</em></td>
</tr>
</tbody>
</table>

**Preoperative Carbohydrate Loading — Complex carbohydrates help to provide energy to the body prior to surgery versus fasting**

*Benefits of preoperative carbohydrate loading:*

- Reduced preoperative hunger, thirst and anxiousness
- Reduced postoperative insulin resistance
- Reduced postoperative nausea and vomiting

**The Impact of Surgical Nutrition**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Length of Stay Reduction Associated with Intervention</th>
<th>Cost Savings Associated with Length of Stay Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preoperative Carbohydrate Loading</td>
<td>0.7 Days ‡§</td>
<td>$2,179 †</td>
</tr>
<tr>
<td>Immunonutrition</td>
<td>2.4 Days †</td>
<td>$7,417 †</td>
</tr>
</tbody>
</table>

Immunonutrition and preoperative carbohydrate loading are supported by guidelines from both the **Enhanced Recovery After Surgery Society** and the **American Society for Enhanced Recovery**.

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*When compared to fasting
†Based on average cost of stay per day for a patient undergoing elective colorectal surgery
‡When compared to standard nutrition
§ These guidelines are for elective colorectal surgery
Drink 2-3 shakes/day for 5-7 days before and after surgery

If patient is at risk of malnutrition consider immunonutrition for a minimum of 7 days perioperatively

**ENSURE® SURGERY IMMUNONUTRITION SHAKE**

**SURGICAL IMMUNONUTRITION**

- Specially designed to support immune health and recovery from surgery
- High in protein to support protein synthesis, tissue repair, and wound healing
  - 18 g protein
    - 4.2 g arginine
  - 1.1 g EPA & DHA (omega-3 fatty acids from fish oil)
  - 330 calories

**ENSURE® PRE-SURGERY CLEAR CARBOHYDRATE DRINK**

**PREOPERATIVE CARBOHYDRATELOADING**

- Specially designed to help reduce insulin resistance after surgery and improve patient outcomes
- Contains complex carbohydrates and is low in osmolality, unlike sports drinks
  - 50 g carbohydrates
  - Antioxidants: zinc, selenium
  - 200 calories

References:

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