Do Surgeons Buy into Prehabilitation?

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Well-do we?

- Sort of
- Depends
- What are we talking about?
- Absolutely—all in. Already doing it...
- We’re in a hurry—cancer never sleeps
- A chance to cut is a chance to cure
Prehabilitation

• “The process of enhancing an individual’s functional capacity before scheduled surgery, aimed at improving the patient’s tolerance to upcoming physiologic stress…”
  • Gillis et al, 2014, Anesthesiology

• “...a ‘process’ on the cancer continuum of care that occurs between the time of cancer diagnosis and the beginning of acute treatment and includes physical and psychological assessments that establish a baseline functional level, identify impairments, and provide interventions that promote physical and psychological health to reduce the incidence and/or severity of future impairments.”
  • Carli et al, 2017, ACTA Oncologica
The Context

• Major GI Cancer-maybe some quite complex timing issues
• Is there an optimal window for operating on these people?
• Older, frailer, more complex-?
• We all want the best outcome for our patients
• Evidence based/precision medicine-right thing for the right patient at the right time
We were young and beautiful

Now we are just beautiful
What are Surgeons comfortable with?

• Sprucing before surgery-general medical checkup
• Assessing and improving nutritional state
• Stopping Smoking
• Stopping Drinking
• Selective Anaesthetic review with selective interventions
• But-we don’t want to wait a long time-
Psychological Intervention

• Patients undergoing surgery are stressed.
• The detrimental effects of psychological stress on wound healing and recovery from surgery suggest that psychological interventions to reduce stress may improve postoperative recovery.
• Psychological interventions prior to surgery have been shown to improve distress, pain
Objective

• This study aimed to investigate whether a brief psychological intervention could reduce stress and fatigue and improve the wound healing response in patients undergoing surgery at Manukau Surgical Centre (MSC).
Methods

• Seventy-six patients undergoing elective laparoscopic cholecystectomy were randomised to receive standard care or standard care plus a 45-minute psychological intervention at least three days preoperatively.

• This included relaxation and guided imagery with take-home audio discs for listening to before and after surgery.
Methods

• Change in perceived stress from before the intervention to 7-day follow-up was assessed using questionnaires.

• Two polytetrafluoroethylene (ePTFE) tubes were inserted subcutaneously into the right sided port wounds. These were removed at 7 days and analysed for hydroxyproline.

• Fatigue was assessed using the identity-consequence fatigue score
# Baseline Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Control (n=30)</th>
<th>Intervention (n=30)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong> median (range)</td>
<td>51 (21-82)</td>
<td>51 (19-84)</td>
<td>0.729**</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9 (30%)</td>
<td>6 (19%)</td>
<td>0.552**</td>
</tr>
<tr>
<td>Female</td>
<td>21 (70%)</td>
<td>24 (81%)</td>
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<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>New Zealand European</td>
<td>15 (%)</td>
<td>17 (%)</td>
<td></td>
</tr>
<tr>
<td>New Zealand Maori</td>
<td>6 (%)</td>
<td>4 (%)</td>
<td>0.736*</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>4 (%)</td>
<td>2 (%)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>5 (%)</td>
<td>7 (%)</td>
<td></td>
</tr>
<tr>
<td><strong>Body mass index</strong> mean kg/m$^2$(SD)</td>
<td>32.2 (7.7)</td>
<td>29.4 (6.1)</td>
<td>0.142*</td>
</tr>
<tr>
<td><strong>ASA score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>4</td>
<td>8</td>
<td>0.063*</td>
</tr>
<tr>
<td>II</td>
<td>25</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Operation duration</strong> mean minutes (SD)</td>
<td>67 (28)</td>
<td>72 (28)</td>
<td>0.455†</td>
</tr>
</tbody>
</table>

n: number of patients, SD: Standard Deviation  
* $\chi^2$ test, ** Fisher’s Exact test, † t test, †† Mann-Whitney U test
Change in perceived stress scores from before the intervention to 7-day follow-up between groups (mean, SE).
Conclusions

• A simple preoperative psychological intervention decreases perceived stress, improves wound healing and enhances recovery in patients undergoing abdominal surgery.
Exercise

• Prehab SR (Lemanu et al WJS-2013)
  • 8 RCTS in a variety of major elective surgical procedures
  • Limited Evidence demonstrating physiologic improvement with Prehab (exercise)
  • Little correlation between physiologic status and clinical outcomes
  • Adherence to programmes often poor

• Is the problem the prescription, the adherence, the patient, or do they not actually work?

• The 6 minute walk test does not capture the heart of the surgeon
Nutrition

• Recent Nutritional Intake and Weight Loss critically important
• Radiology may be helpful (Sarcopenia/PEM)
• Short (one week) nutritional interventions are effective in decreasing surgical complications
• Surgeons are happy with nutritional assessment and short term nutritional interventions in appropriate selected patients
This is a Good Truck
The Enemy of Good is Better
Modern Periop Care-Preop

• The term prehab is unnecessary
• Modern Periop Care-Preop:
  • Nutritional Assessment and Selected Short-term nutritional intervention
  • Preop Psychology intervention probably useful
  • Stop smoking and decrease alcohol
  • Selective medical interventions
  • Exercise-sounds good but seems to make very little difference
• Lets keep it simple and selective-and not unnecessarily slow the process down