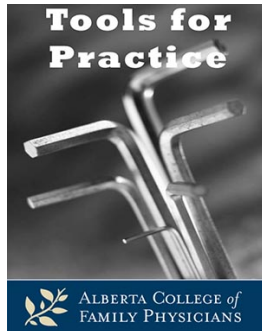


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March 8, 2017



Chew on This: Why gum is good for your post-operative bum

Clinical Question: Does chewing gum after surgery improve bowel function?

Bottom Line: Chewing gum in post abdominal surgery patients shortens time to first flatus (by 10 hours), time to first bowel motion (by ~1/2 day), and length of hospital stay (by ~0.7 days). For every five patients treated, one fewer will develop ileus. Chewing gum in non-post-surgical constipation has not been studied.

Evidence:

- Use in colorectal, gynecological, and other abdominal surgeries:
 - Systematic review of 81 Randomized Controlled Trials (RCTs) comparing post-operative chewing gum to any intervention (9,072 patients):¹
 - Chewing gum resulted in statistically significant decreases in:
 - Time to first flatus (TFF): By 10 hours.
 - Time to first bowel motion (TFBM): By 13 hours.
 - Length of stay (LOS): By 0.7 days.
 - Other post-operative complications (like nausea/vomiting) similar.¹
 - Limitations: Majority small studies, open-label, patients with previous abdominal surgery or intra-operative complications often excluded.
 - Recent high quality RCT (after systematic review): 112 Dutch patients, open colorectal surgery randomized to chewing gum or placebo dermal patch.² Chewing gum significantly:
 - Improved number of patients with first bowel motion within three days: 85% versus 57%: Number Needed to Treat (NNT)=4.
 - Decreased ileus at Day 5 (27% versus 48%, NNT=5) and LOS (9.5 versus 14 days).
- Use with Enhanced Recovery after Surgery (ERAS) programs: Four RCTs (571 patients) post-colorectal surgery, decreased TFBM by 21 hours, but no significant difference in TFF or LOS.¹
 - Limitation: High quality and largest study (>72% of above patients) measured outcomes in days (not hours).³
- Cesarean sections:⁴ Seventeen RCTs (3,149 patients), chewing gum versus usual

care significantly decreased: TFF (7 hours), TFBM (9 hours), and hospital LOS (9 hours).

Context:

- Timing of intervention, type, frequency, and duration of gum use varied across studies.^{1,4} Commonly, patients chewed gum 3-4 times per day, starting 2-3 hours after surgery.
- ERAS interventions, including early feeding, venous thromboembolism, antibiotic prophylaxis, laparoscopic surgery when appropriate, early mobilization, adequate analgesia, and anti-emetics⁵ reduce post-operative colorectal surgery complications, hospitalizations (~1-3 days),⁶⁻⁸ and health care costs.⁹
- Chewing gum for idiopathic constipation has not been studied.

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Disclosure:

Authors do not have any conflicts of interest to declare.

References:

1. Short V, Herbert G, Perry R, *et al.* Cochrane Database Syst Rev. 2015; 2:CD006506.
2. van den Heijkant TC, Costes LMM, van der Lee DGC, *et al.* Br J Surg. 2015; 102:202-11.
3. Atkinson C, Penfold CM, Ness AR, *et al.* Br J Surg. 2016; 103:962-70.
4. Pereira Gomes Morais E, Riera R, Porfirio GJM, *et al.* Cochrane Database Syst Rev. 2016; 10:CD011562.
5. Kehlet H. Lancet. 2008; 371:791-3.
6. Spanjersberg WR, Reurings J, Keus F, *et al.* Cochrane Database Syst Rev. 2011; 2:CD007635.
7. Charoenkwan K, Matovinovic E. Cochrane Database Syst Rev. 2014; 12:CD004508.
8. Paton F, Chambers D, Wilson P, *et al.* BMJ Open. 2014; 4:e005015.
9. Nelson G, Kiyang LN, Crumley E, *et al.* World J Surg. 2016; 40:1092-1103.

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