

## Chewing Gum Relieves Ileus After Colorectal Surgery

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Gum chewing may kickstart bowel function after colectomy and possibly reduce hospital stay as well, according to a meta-analysis.

Patients who chewed gum after surgery passed flatus a mean of 0.66 days ( $P=0.005$ ) more quickly than those who did not chew gum and had their first bowel movement 1.10 days ( $P=0.002$ ) more quickly, reported Paris P. Tekkis, M.D., of St. Mary's Hospital here, and colleagues, in the August issue of Archives of Surgery.

Length of hospital stay tended to fall by more than a day for gum chewers compared with controls, although the difference was not statistically significant (weighted mean difference  $-1.25$ ,  $P=0.23$ ).

"The potential cost savings from the reduction of even one postoperative day compared with the cost of several sticks of chewing gum are huge," they wrote.

Early initiation of feeding has been shown to reduce hospital length of stay as well, and gum may work on the same principle regardless of whether patients are able to tolerate food early after surgery, the researchers said.

Gum chewing acts as "sham feeding" to produce saliva and pancreatic secretions and is thought to trigger gastrointestinal hormone release and cephalic-vagal stimulation, they said.

The evidence on gum chewing has been limited to small studies -- some inadequately powered to show a difference in hospital stay -- with inconsistent outcome measures.

So, Dr. Tekkis's group pooled the results from five randomized trials with a total of 158 patients who underwent colectomy.

Each trial had patients chew sugarless gum for a period ranging from five to 45 minutes three times a day after surgery. All five studies included control groups with identical perioperative treatment aside from chewing gum.

Two studies explicitly allowed oral fluids before passage of flatus, and two clearly included patients receiving end or defunctioning stomas. Only one trial had a placebo group.

Three studies were of high quality with Jadad scores of 3 or greater and included more than 30 randomized patients each. They reinforced the positive effects from gum chewing with less heterogeneity than seen in the overall meta-analysis.

The benefits compared with controls included:

Significantly shorter time to pass flatus (weighted mean difference  $-0.29$ ,  $P0.001$ ).

Significantly shorter time to first bowel movement (weighted mean difference  $-0.68$ ,  $P=0.02$ ).

A trend toward reduced postoperative length of hospital stay (weighted mean difference  $-1.29$ ,  $P=0.25$ )

Studies that included only open surgery, not laparoscopic colectomy procedures, and those that were published more recently had similar results.

The most substantial benefits of gum chewing were among patients without stomas formed during the surgery. When those patients were excluded, the reduction in hospital stay became significant.

Compared with controls, the findings were:

A 1.76-day shorter time to first bowel movement (P=0.001).

A reduction by 0.94 days in time to passing first flatus (P=0.01).

More than two days shorter postoperative length of stay (weighted mean difference -2.46, P0.001).

The researchers noted that inclusion of patients with defunctioning or end stomas in some of the studies, along with other heterogeneities, may have limited the meta-analysis.

Prior research has suggested that stoma formation counters strategies to reduce the length of hospital stay.

Given the benefits in the trial and the lack of any adverse events, a well-designed, large-scale, blinded, randomized, controlled trial is now needed to determine whether chewing gum offers more than a placebo effect, the researchers said.

They noted that a prior study estimated that spending \$0.04 per stick of chewing gum to provide this treatment for the 79,219 colectomies per year in the United States could save more than \$118 million annually.

"With increasing pressure on limited healthcare resources and continually needing to improve the quality of patients' perioperative experience," Dr. Tekkis and colleagues wrote, "interventions with the potential to limit the discomfort of postoperative ileus and reduce the length of postoperative stay are welcomed."

The researchers reported no conflicts of interest.

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Choose sugar-free gum. Health food stores have brands using Xylitol (said to be good for the gums)