

GOC website link/appendix

<http://www.g-o-c.org/en/resources/publications.aspx>

Types of bowel preparation

The categories of bowel preparation are summarized below, including a description of mechanism of action, advantages, and principal drawbacks or adverse effects associated with each.

i) Stimulant laxatives e.g., castor oil, senna, bisacodyl, phenolphthalein, Cascara (casanthranol)

Action: Act on the intestinal nerve plexus increasing gut peristalsis and promoting fluid secretion into the intestinal lumen

Success: Low to moderate

Positives: Familiarity, cost, small volume.

Negatives: Cramping, nausea, dehydration, habit forming/dependence with long term use, colonic changes with long term use.

ii) Hyperosmotic laxatives or “saline” laxatives e.g., magnesium citrate (CitraMag™), sodium phosphate or biphosphate (Fleets Phospho Soda™), lactulose, sodium picosulfate/magnesium citrate (Picolax™ or CitraFleet™)

Action: Poorly absorbed thus draw water in to gut lumen → bowel distension → activate stretch receptors → increased peristalsis

Success: Moderate to high

Positives: Cost, lower volume than PEG, good compliance

Negatives: Hypovolemia, electrolyte imbalances, erosive colonic mucosal lesions (~3%), possible renal damage (risk may be secondary to concurrent medications, preexisting dehydration or electrolyte abnormalities).

iii) Oral gastrointestinal lavage with solutions containing polyethylene glycol (PEG) e.g., GoLytely™

Action: Large volume iso-osmotic agents: large volume in → diarrhea and large volume out

Success: High

Positives: Virtually no net absorption or excretion of ions or water, solution not absorbed, no damage to colonic mucosa

Negatives: Large volume (4L), unpalatable, cramps, nausea, anal irritation, residual colonic fluid.

iv) Rectal preparations e.g., enema

Action: Fluid solution mechanical wash out, loosening and cleaning fecal matter from bowel walls. Sometimes enhanced by osmotic differences or emollients or stimulating agents within enema solution.

Success: Low but highly variable

Positives: Cost. Believed to cause less electrolyte imbalance but severe sequelae can result.

Negatives: Patient dislike, agility required for self administration (or institution/admission for support).

v) Lubricant/emollient e.g., mineral oil

Action: 1. Non-absorbable oil ingested → through to colon → slippery stool → easier passage.

2. Decrease colonic absorption of water → soften.

Success: Low. Not routinely used for preoperative bowel preparation.

Positives: Familiarity, cost, access at any pharmacy.

Negatives: Slow. May decrease the absorption of fat-soluble vitamins and some minerals.

vi) Bulk producing agents e.g., [psyllium](#) husk ([Metamucil™](#)), methylcellulose ([Citrucel™](#)),

Action: Bulk-producing in stool → stool retains more water, as well as forming an [emollient](#) gel → easier for [peristaltic action](#) to move stool along. Take with plenty of water.

Success: Low. Not routinely used for preoperative bowel preparation.

Positives: Gentle, familiar, viewed as “natural”.

Negatives: Slow. Post-operatively the resulting bulky stools can stretch and compromise bowel anastomoses/staple lines.