1. Bowel Preparation Selection
Best Practice Guidelines (BPSBPG)

Quality Management Partnership

INTENDED USE OF THIS RESOURCE

This resource includes 2 components:

- A decision guide which visually depicts the logic of bowel preparation selection for different patient scenarios;
- A table summarizing more comprehensive information on additional aspects of bowel preparation including dosing, diet and hydration recommendations for adequate bowel preparation prior to a colonoscopy.

The Partnership suggests using these guidelines as an educational resource, for example:

- **For colonoscopists**, the resource may serve as a quality improvement resource for bowel preparation to enhance the quality of care. It outlines current best practice for the selection of bowel preparation;
- **For referring physicians**, the resource may be helpful to better understand bowel preparation regimens that are selected for their patients; to communicate this information to their patient as needed; and, to deliberate with the colonoscopist on their patient's behalf in the event that the bowel preparation regimen prescribed is not suitable for their patient.

Important note: The efficacy, safety, and tolerability profiles of bowel preparation regimens differ across patient subgroups. Known and possible contraindications, comorbidities, and conditions should be considered carefully for each patient during the selection of a bowel preparation regimen.

For a full list of evidence consulted in creating this resource, please see the accompanying document titled *Background and Resource Summary – The Early Quality Initiatives (EQIs) – Quality Improvement Resource Package for Endoscopy/ Colonoscopy.*

RATIONALE

Colonoscopy is performed for colorectal cancer screening and surveillance and for diagnostic evaluation of symptoms (Johnson et al, 2014). Adequate inspection of the colon requires it to be empty during colonoscopy. A bowel cleansing agent is administered prior to the colonoscopy to adequately prepare the colon for the procedure. Selecting an appropriate bowel preparation regimen for a patient is based on the efficacy, safety, and tolerability of the regimen (Johnson et al, 2014). This tool aims to assist providers (e.g., endoscopists and referring physicians) in selecting appropriate bowel preparation regimens for their adult colonoscopy patients.

The efficacy of colonoscopy for any indication depends on the adequacy of bowel preparation (Johnson et al, 2014). Inadequate bowel preparation is reported in up to 20-25% of all colonoscopies and is associated with unfavourable outcomes including longer procedural time, lower cecal intubation rates, and increased cautery risk (Johnson et al, 2014). Inadequate bowel preparation is also associated with lower adenoma detection rates. Not detecting adenomas increase the risk for developing cancer (Johnson et al, 2014). Furthermore, inadequate bowel preparation can result in repeat examinations and shorter intervals between screening and surveillance procedures which have a substantial economic burden (Johnson et al, 2014).

Dosing and timing of bowel preparation regimens are also important factors that influence its efficacy. Split-dosing regimens are strongly recommended for elective colonoscopy procedures (Johnson et al, 2014). Split-dose bowel preparations are administered in two doses over the course of two days, starting the day before the procedure. Studies have demonstrated that split-dosing regimens have superior efficacy compared to preparations that are administered the day before the procedure, including higher adenoma detection rates (Johnson et al, 2014). The efficacy, safety, and tolerability profiles of bowel preparation regimens differ across patient subgroups. Known and possible contraindications, comorbidities, and conditions should be considered carefully for each patient during the selection of a bowel preparation regimen.

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Bowel Preparation Selection Decision Guide for Colonoscopy in Adults

Note: Assess the patient's concomitant medications to determine if there are any contraindications to oral bowel preparation. Once the bowel preparation product is selected, refer to its product monograph to determine if there are other relevant medication modifications or contraindications.

HYDRATION:

All patients must maintain adequate hydration throughout bowel preparation (e.g., 4L of clear liquids per day; minimum of 250ml of clear liquids per waking hour).

PATIENTS WITHOUT ANY CONTRAINDICATIONS OR COMORBIDITIES

SCENARIO 1: In patients with no known relevant contraindications or comorbidities, consider using one of the following bowel preparation products:

1. Split-dose 2L PEG + bisacodyl
2. Spit-dose PSMC + bisacodyl
3. Split-dose 4L PEG ± bisacodyl

PEG: polyethylene glycol

PSMC: magnesium citrate, sodium picosulfate, citric acid and magnesium hydroxide

PATIENTS WITH CONTRAINDICATIONS

SCENARIO 2: In patients known to have one or more of the following possible contraindications for oral bowel preparation:

- Ileus
- Gastric retention
- Intestinal perforation
- GI obstruction
- Possibly severe colitis

Carefully consider the benefits and risks before proceeding with the procedure.

If there is concern that there may be a partial obstruction, consider using:

- Small-volume, oral solutions supplemented by IV hydration
- Slow oral trickle or nasogastric preparation delivered over longer periods rather than rapid administration of large-volume solutions

PATIENTS WITH COMORBIDITIES

SCENARIO 3: In patients known to have one or more of the comorbidities and conditions listed below:

- Significant cardiovascular disease (myocardial infarction, angina, hypertension)
- Impaired renal function
- Decompensated liver disease/ascites
- History of poor bowel preparation
- History of constipation including patients on narcotics (including methadone)
- Electrolyte imbalance (diuretic)

1. Split-dose 4L PEG ± bisacodyl

Risk of inadequate preparation (e.g., patients with prior inadequate preparation, history of constipation, use of opioids or other constipating medications, prior colon resection, diabetes mellitus, or spinal injury): Small volume preparation is not recommended. Consider using additional bowel purgatives .

SCENARIO 4: In patients known to have one or more of the comorbidities and conditions listed below:

- Diabetes mellitus
- Spinal cord injury
- GI disease (e.g., active inflammation, underlying IBD)
- History of stroke
- Elderly or weakened condition
- Pregnant/breast feeding
- Cognitive impairment (e.g., dementia)
- Swallowing impairment (e.g., Parkinson's disease)
- Post-bariatric surgery

1. Split-dose 4L PEG ± bisacodyl
2. Split-dose 2L PEG + bisacodyl

Diabetes mellitus: Consider scheduling the examination in the morning and advising that the patient resume hypoglycemic drugs or insulin as soon as eating is resumed.

Impaired swallowing function: (e.g., stroke, dementia and Parkinson's disease): Oral PEG may be contraindicated due to its large volume. Consider using a nasogastric preparation.

Post bariatric surgery: Consider using low-volume preparations or extended delivery for high-volume preparations.

Refer to Table 1 for Additional Bowel Preparation Guidance

TABLE 1: Additional Bowel Preparation Guidance

Note: Patients who are undergoing combined upper and lower procedures (e.g., Esophagogastroduodenoscopy (EGD) and colonoscopy), the bowel preparation may vary from what is recommended in this guideline. However, all endoscopy patients who will receive sedation must be NPO for at least 2 hours prior to the procedure.

Product	Split-dose 4L PEG ± bisacodyl (iso-osmolar)	Split- dose 2L PEG + bisacodyl (iso-osmolar)	Split-dose PSMC + bisacodyl (saline laxatives) (hyperosmolar)
	Large volumes of liquid		Small volumes of liquid
Dosing Recommendations	**2-Day Split-Dosing:** • Use of a split-dose bowel preparation over 2 days is strongly recommended for elective colonoscopy regardless of when the procedure is scheduled (i.e., it is recommended for morning and afternoon procedures). • For 2-day split-dosing, the first dose is taken the day before the procedure and the second dose should be taken 4-6 hours prior to the procedure. • 2-day split-dosing may be contraindicated or not possible in some cases (e.g., mechanically delayed intestinal transit (higher aspiration risk), patients who are traveling to the endoscopy clinic from afar, patients who are undergoing upper GI endoscopy and colonoscopy concurrently). In these cases, same day split-dose bowel preparation may be an appropriate alternative. • Those patients undergoing sedation or analgesia must be NPO for 2 hours after clear liquids prior to the procedure. **Same Day Split-Dosing:** • Both bowel preparation doses should be taken on the same day of the procedure. The second dose should be taken within 4-6 hours of the procedure. • Those patients undergoing sedation or analgesia must be NPO for 2 hours after clear liquids prior to the procedure. **Specific Product Regimen Instructions:** • For all other dosing and timing instructions, refer to the product monograph of the selected product.		
Diet Recommendations	A **clear liquid diet** is recommended **starting the day before the procedure** upon rising. If the procedure is scheduled for the afternoon of the next day, eating a low-fibre breakfast before initiating a clear liquid diet on the day before the procedure may be appropriate for some patients. A clear liquid diet should include more than water. In addition to water, other examples of clear liquids include tea or coffee without milk or cream, clear juice without pulp, and electrolyte drinks. For patients undergoing sedation or analgesia, the **minimum duration of fasting is 2 hours after clear liquids, prior to the procedure.**		
Hydration Recommendations	Patients must maintain adequate hydration throughout bowel preparation (e.g., 4L of clear liquids per day; minimum of 250ml of clear liquids per waking hour).		

PEG: polyethylene glycol; PSMC: magnesium citrate, sodium picosulfate, citric acid and magnesium hydroxide; NPO: nil per os (nothing by mouth)

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