1-Day vs 3-Day Low Residue Diet for Colonoscopy Bowel Cleansing: A Systematic Review

Hermant Goyal MD
Syed Ali Amir Sherazi MD
Shweta Gupta MD
Smit Deliwala MD
Pardeep Bansal MD

See next page for additional authors

Follow this and additional works at: https://researchrepository.parkviewhealth.org/other

Part of the Gastroenterology Commons

Recommended Citation
Goyal, Hermant MD; Sherazi, Syed Ali Amir MD; Gupta, Shweta MD; Deliwala, Smit MD; Bansal, Pardeep MD; Perisetti, Abhilash MD; Tharian, Benjamin MD; and Thosani, Nirav, "1-Day vs 3-Day Low Residue Diet for Colonoscopy Bowel Cleansing: A Systematic Review" (2021). Other Specialties. 34. https://researchrepository.parkviewhealth.org/other/34
Authors
Hermant Goyal MD, Syed Ali Amir Sherazi MD, Shweta Gupta MD, Smit Deliwala MD, Pardeep Bansal MD, Abhilash Perisetti MD, Benjamin Tharian MD, and Nirav Thosani
**Abstracts**

**[S589]** Figure A. Outline of therapies used for both escalation and de-escalation of Crohn’s Disease. B. Study outline.

**S590**

**1-Day vs 3-Day Low Residue Diet for Colonoscopy Bowel Cleansing: A Systematic Review**


1Wright Center for Graduate Medical Education, Scranton, PA; 2John H. Stroger, Jr. Hospital of Cook County, Chicago, IL; 3Michigan State University at Hurley Medical Center, Flint, MI; 4St. Vincent Mercy Medical Center, Toledo, OH; 5University of Arkansas for Medical Sciences, Little Rock, AR; 6University of Texas Health Science Center, Houston, TX.

**Introduction:** Colonoscopy is the best method for colon cancer screening and to evaluate bowel abnormalities, including cancer. However, good bowel preparation is essential for a successful colonoscopy. Several studies have shown Low Residue Diet (LRD) to be better tolerated without any negative effects on bowel cleansing compared to Liquid Diet. Several studies have compared 1-day vs. 3-day LRD for bowel cleansing. This study aims to compare the impact of the duration of LRD for colonoscopy bowel cleansing in adult patients.

**Methods:** We studied the Cochrane and MEDLINE/Ovid databases from inception to November 2020 with keywords “colonoscopy,” “bowel preparation,” “bowel cleaning,” “1-day,” and “3-day.” Initially, 107 studies were identified, which were further screened with title and abstracts. Seven studies were selected for full-text review. Two studies were also excluded as one of them had included pediatric patients, and another was a post-doc analysis. Four studies were included in the full analysis.

**Results:** All studies were single-institution studies conducted in Spain (2), Portugal (1), and Turkey (1) on elective patients only. Patients with significant comorbidities were excluded from all 4 studies, with 2 specifically excluding inflammatory bowel disease patients and one excluding patients with a history of poor bowel preparation in the past. Two studies included only morning colonoscopies, one from 8AM-4PM, and one did not specify the timing. Experienced endoscopists performed the procedure in 3 studies. All studies showed that 1-day LRD was not inferior to 3-day LRD to achieve adequate bowel cleansing, polyp detection, adenoma detection, and cecal intubations. Patients reported tolerating the 1-day LRD significantly better in 2 studies, with the other 2 showing equivalence between the groups (Table 1).

**Conclusion:** 1-day LRD is not inferior to 3-day LRD for a select population of patients undergoing elective outpatient screening colonoscopies. However, there is no data to support or negate this finding in patients with significant comorbidities, specifically in patients with IBD who need serial screening colonoscopies. This group requires specific investigation in future studies.

**Table 1. Study characteristics, outcomes and their limitations.**

<table>
<thead>
<tr>
<th>Study Year</th>
<th>Country</th>
<th>Design</th>
<th>Sample Size</th>
<th>Procedure Details</th>
<th>Outcomes</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Spain</td>
<td>Prospective, Randomized Single-Blind Trial</td>
<td>204</td>
<td>Electrolyte Colonoscopy, Morning preparation only</td>
<td>Experienced endoscopists</td>
<td>1-day LRD did not offer any advantage over 3-day LRD for bowel cleansing or polyp detection. Excluded patients with uncontrolled hypertension, heart failure, liver failure, ESRD, past history of inadequate bowel prep</td>
</tr>
<tr>
<td>2019</td>
<td>Portugal</td>
<td>Prospective, Randomized Single-Blind Trial</td>
<td>812</td>
<td>Electrolyte Colonoscopy, Morning preparation only</td>
<td>Experienced endoscopists</td>
<td>3-day low fiber diet associated with added benefit compared to a 1-day diet for bowel preparation and significantly harder to perform. Excluded patients with IBD and cirrhosis</td>
</tr>
<tr>
<td>2019</td>
<td>Turkey</td>
<td>Prospective, Randomized Single-Blind Trial</td>
<td>286</td>
<td>Electrolyte Colonoscopy, 8AM-4PM</td>
<td>Experienced endoscopists</td>
<td>1-day LRD non-inferior to 3-day LRD to achieve adequate colon cleansing before average risk colonoscopy. Excluded patients with IBD, previous colon surgery, and severe complicated systemic diseases</td>
</tr>
<tr>
<td>2020</td>
<td>Spain</td>
<td>Prospective, Randomized Controlled Trial</td>
<td>855</td>
<td>Electrolyte Colonoscopy, Morning preparation only</td>
<td>Positive FIT</td>
<td>1-day LRD non-inferior to 3-day LRD to achieve adequate colon cleansing before average risk colonoscopy. Excluded patients with IBD, previous colon surgery, and severe complicated systemic diseases</td>
</tr>
</tbody>
</table>

**S591**

**Adherence to the SPIRIT-AI Standardized Reporting Guidelines in Artificial Intelligence Clinical Trials in Gastroenterology**


1Tufts University Medical Center, Malden, MA; 2Minnesota VA Health Care System, Minneapolis, MN; 3Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA.

**Introduction:** In recent years there have been several published clinical trials evaluating the role of various aspects of artificial intelligence (AI) in gastroenterology. New guidance from the CONSORT (Consolidated Standards of Reporting Trials) and SPIRIT (Standard Protocol Items: Recommendations for Interventional Trials) Steering Group represents an important step forward concerning the quality of AI trial reporting. However, all currently available clinical trials in gastroenterology were performed before these guidelines were developed. Therefore, we sought to evaluate the adherence to the SPIRIT-AI standardizing reporting guidelines in AI clinical trials in gastroenterology.

**Methods:** Multiple databases were searched (from inception to June 2021) and clinical gastroenterology trials applying AI and machine learning (ML) were identified. Only prospective trials were included. The studies were evaluated to determine if they met each of the 13 core recommendations of the SPIRIT with AI extension guidelines. Each recommendation was given 1 point if they met criteria and 0 points if they did not. Proportion of adherence to the SPIRIT-AI recommendations was reported as percent value.

**Results:** A total of eight prospective clinical trials evaluating the role of AI/ML in gastroenterology were identified. Six of these focused-on AI for colon polyp/adenoma detection, while one was pertaining to Barrett’s esophagus and another evaluating blind spots during esophagogastroduodenoscopy. The adherence to the SPIRIT-AI extension ranged from 84.6% to 100%, with five of the studies scoring 100%. The mean was 95.62%. The most commonly missed recommendations out of the 13 included specifying the procedure for acquiring and