



Monday, Monday—I Can't See Clearly Now: How to Improve Bowel Preparation

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Accepted: 29 April 2021 / Published online: 24 June 2021

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In the USA, colorectal cancer (CRC) is the third most common cancer and the second most common cause of cancer-related death. Colonoscopic surveillance and screening are the cornerstones of current early CRC and prevention strategies. In order to be effective, colonoscopy must be preceded by an optimal bowel preparation in order to facilitate the detection and removal of neoplastic polyps and to diagnose cancers [1]. Though there has been a great deal of study regarding the optimization of the recommended bowel preparation protocols, relatively less attention has been paid to identifying patient factors impacting compliance with and the effectiveness of bowel preparation.

In this issue of *Digestive Diseases and Sciences*, Dr. Rabun and colleagues report a retrospective study addressing the effect of the day of the week during which bowel preparation occurs, specifically weekend, on bowel preparation quality for outpatient colonoscopies [2]. They reviewed adult patients undergoing outpatient colonoscopy during a 4-year period assessing the adequacy of bowel preparation for over 4000 examinations. Looking at the day of the week, Monday, compared with other days of the week, had the highest rate of inadequate preparation (defined as a Boston Bowel Preparation Scale [BBPS] of < 6). Interestingly, post-holiday procedures (generally 3-day weekends) were not associated with poorer bowel preparation. Secondary observations included that African-Americans were less likely and women were more likely to have an adequate bowel preparation.

Though the authors used the BBPS, the current standard for measuring and reporting the quality of bowel preparation [3], the BBPS is still inherently qualitative and subjective,

with marked inconsistencies among endoscopists. This may be particularly pertinent in this study as most endoscopy units in academic medical centers have endoscopists who primarily scope on preassigned days. Gastroenterologists performing colonoscopies on Monday may judge the quality of bowel preparation differently than those that perform procedures on other days. Since there was no reported process for ensuring or optimizing the consistency of bowel preparation assessment, this variable could not be adjusted for in this retrospective study. Nevertheless, the observation that Monday is associated with increased risk of inadequate preparation is intriguing and valuable as it stands, worthy of further exploration and consideration.

To help explain the reported findings, one might hypothesize that dietary restrictions that are often recommended prior to colonoscopy, which may include a low-residue or clear liquid diet, are less stringently adhered to over the weekend, with resultant poor preparation for a Monday colonoscopy. While an attractive hypothesis, this is inconsistent with the authors own observation that preparations on a day following a three-day weekend were indistinguishable from those on the other days of the week. The reasons for this discrepancy, which may be related to the relatively small number of post-holiday colonoscopies performed, deserve to be further explored.

Although probably impractical in a retrospective study, it would have been valuable to glean specific information regarding the patients' understanding of the process of bowel preparation and an assessment about how well they were able to comply. Indeed, the observation in Rabun et al. that women had superior preparations and African-Americans had a higher risk of inadequate bowel preparation may provide a basis for further studies that explore how bowel preparation instructions are communicated to and understood by patients. Many patients struggle with colonoscopy preparation, which is a complex process that is widely understood to be the most objectionable part of the colonoscopy. Split preps, while well documented to improve adequacy of bowel

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preparation [4], are more complex than single preps, with most patients questioning the value of the additional effort. As such, compliance can be a struggle for many. The confusion and anxiety resulting from the bowel preparation process may lead patients to delay their colonoscopy or skip it altogether, arriving to their procedure unprepared, incurring substantial additional costs for the provider, the facility, and the patient. Patient engagement with the program is an essential factor for appointment adherence and optimal preparation. Our programs have begun a communication program using text messaging to remind patients about their colonoscopy, texting daily reminders of the process of bowel preparation. The authors found patients rated this as an improved communication vehicle for the complex process of bowel preparation, noting that there was a statistical improvement in decreasing no-shows and late cancellations [5]. Others have observed that proactive educational interventions such as patient navigation improve overall screening grades and attendance and quality of preparation [6]. This is particularly salient among low-income and minority populations in which rates of CRC screening remain low [7]. Analysis of a program aimed at increasing CRC screening rates among these groups found that the most common reason for nonadherence to colonoscopy was related to patient readiness (60.7%) [8]. For non-native English speakers, it is necessary to deploy a multifaceted approach such as SMS messaging or video navigators to increase comprehension of the written instructions. Although innovative technologies improve patient attendance and preparation, there is ample opportunity for improvement, which should be guided by assessing patient experience [9].

The take-home message from this helpful study is certainly not to stop doing colonoscopies on Monday. Rather, the findings of this study should encourage GI practitioners to further engage their patients in the process of bowel preparation while endeavoring to understand their perspective while helping them surmount the impediments. Though the reason why the poorest preparations occurred on Mondays remains elusive, further patient education about the diets and cathartic regimens that are keys to effective bowel preparation is a good starting point. Future studies conducted across diverse socioeconomic, geographic, and multicultural populations may help further refine the ability to clearly convey the bowel preparation process to patients in order to further drive down rates of incident CRC through effective endoscopic screening.

Take-Home Points

- Preparing for colonoscopy is difficult and complex.
- Weekends may not be a good time to prepare for a colonoscopy.
- Providers need to listen to their patients in order to help them navigate the complexities of bowel preparation.

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