


# Providers' Perceptions of Barriers to Optimal Communication With Patients During the Postcolonoscopy Experience

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## Abstract

**Introduction:** Colonoscopy screening is an effective method of detecting and preventing colorectal cancer. Standard procedure for most colonoscopies (98%) is to use conscious sedation, which can cause short-term cognitive impairment post-procedure, including communication difficulties. In this study, we explored providers' (gastroenterology doctors and nurses) perceptions of the barriers to optimal communication with patients immediately following colonoscopy. **Methods:** We conducted interviews with 61 providers across 5 clinical configurations. Interviews were transcribed and coded with NVivo version 11 software. **Results:** Themes emerged regarding barriers to optimal provider–patient communication postcolonoscopy: patient barriers (sedation and patient characteristics), caregiver barriers, and system characteristics. **Conclusions:** Providers' perceived barriers to communication are an important topic to study. They endorsed, in particular, interventions that target the postcolonoscopy time frame when patients may still be sedated, but providers must convey important discharge and follow-up instructions.

## Keywords

colorectal cancer, patient–provider communication, sedation, colonoscopy, screening

## Introduction

Optimizing communication between patients and health-care delivery teams across the health-care continuum is a key research priority of the Institute of Medicine and the National Cancer Institute (1,2). Optimal communication allows for information exchange, including understanding and remembering complex information, and facilitates patient involvement in medical decision-making (3,4). The importance of this communication in improving health outcomes for patients with cancer has been well established in the literature (3,4), especially its impact on increasing adherence rates of colonoscopy screening (5,6,7). However, little research has been conducted on patient–provider communication postcolonoscopy. Colonoscopy, a commonly performed outpatient procedure that allows for the detection and removal of adenomatous polyps, precursor lesions to cancer, is considered to be one of the most effective methods of colorectal cancer (CRC) screening and prevention and has been shown to decrease CRC-related mortality by up to 61% (8,9). Previous research suggests

that patients are often unaware of the purpose and implications of the colonoscopy procedure (10). Addressing barriers to communication and relatedly to patient understanding of postcolonoscopy findings and follow-up is essential due to the implications of undesirable screening results and the potential for complications should colonoscopy discharge instructions not be followed or if questions pertaining to the procedure are not answered.

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Postcolonoscopy communication between patients and providers, which usually takes place in clinical settings during the recovery period, is associated with patient satisfaction and is considered a marker of quality care (11). A survey of 409 colonoscopy patients, from a wide range of settings, found that 50% of patients received their colonoscopy results in the recovery room (12). The informational exchange that occurs postcolonoscopy may include an explanation of endoscopic findings, which could include suspected cancer or other abnormal results. Sometimes the discussion is focused on education and the importance of a repeat colonoscopy, especially in the setting of an inadequate examination due to incomplete bowel cleansing. Finally, all patients must be given discharge instructions that outline the importance of monitoring for potential complications, such as bleeding or abdominal pain that may necessitate medical care.

Optimal patient–provider communication in a postcolonoscopy context can be difficult. Unlike other cancer screenings (pap smears, mammography, and prostate-specific antigen test, among others), standard of care for colonoscopy usually involves moderate, or conscious, sedation of patients (13) to alleviate discomfort and anxiety associated with the procedure. Sedation with a variety of drugs including, most commonly, midazolam, fentanyl, and propofol can impair memory retention (14). A nationwide survey found that over 98% of colonoscopies in the United States were performed with some sedation (15) and 79% of providers in a 2001 study said they would give abnormal results immediately postprocedure, even when the patient had been sedated (16).

Despite these findings, evidence suggests these disclosure practices may be problematic. In a small survey of 45 individuals who participated in a diagnostic endoscopic procedure with conscious sedation, researchers found that 73% of the patients did not recall their postprocedure instructions the next day (17). In a similar study, researchers found that 21.1% of people ( $n = 851$ ) left their colonoscopy without knowing how to get the final results (11). Several attempts have been made to intervene postcolonoscopy to improve recall and compliance with instructions. Spodik and colleagues found that providing a written endoscopy report helped to reduce anxiety postprocedure and increase recall of findings and recommendations, but there was no significant impact on adherence to discharge instructions (18). Another study also found that providing an endoscopy report along with verbal instructions improved several domains of recall about the procedure, including recommendations for follow-up and the name of the doctor who performed the procedure (19). Apart from these distinct clinical interventions, smaller policy adjustments to ease the impact of sedation have also been implemented. For example, most clinical settings require the presence of a caregiver or driver to assist the patient after the procedure (20). These factors, including conscious sedation, caregiver presence or absence, and the postoperative setting, all make for a complicated postprocedure environment for communication.

Data for this analysis were collected as part of a 3-part study to investigate health disparities in the CRC care continuum. Part 1 utilized qualitative methods to explore the provider perspective in CRC diagnosis and treatment. Part 2 comprised of quantitative and qualitative methods of data collection from 1841 colonoscopy patients and 1492 matched caregivers. Patients were an average of 53 years old, mostly females (61%), racially diverse, and included both screening and diagnostic procedures. Population demographics reported in prior publications (10,21). Part 3 included qualitative interviews with a 5% random sample of part 2 patients, 1 to 2 months postcolonoscopy.

The purpose of the current, part 1, analysis was to explore gastroenterologists' (GIs) and nurses' perceptions of the barriers to optimal patient–provider communication postcolonoscopy. To our knowledge, this is the first qualitative study that has explored providers' perceived barriers to optimal communication with patients during this time period. Exploratory data are necessary to inform the design of future interventions to improve patient–provider communication and to improve recall among colonoscopy and other patients undergoing medical procedures requiring similar sedation. Specific research questions include (a) What are colonoscopy providers' (GIs and nurses) self-perceived barriers to communication of colonoscopy results with their patients? and (b) What individual, situational, and system-level factors make discussing colonoscopy results more or less difficult?

## Methods

### Setting

Participants were recruited from colonoscopy sites in North Central Florida that met 1 of 5 clinical configurations: (a) university hospital–clinic, (b) university outpatient clinic, (c) Veteran Affairs hospital clinic, (d) suburban free-standing outpatient clinic, or (e) rural or small-town, free-standing outpatient clinic. Configurations were based upon suspected differences in service provision (not reported here). These practices provided care for a diverse group of patients, including average-risk and high-risk patients referred for screening or surveillance procedures, individuals with GI symptoms undergoing diagnostic evaluation, and patients with established GI conditions such as eosinophilic esophagitis, celiac disease, or inflammatory bowel disease (that warrant frequent endoscopic evaluations).

### Sampling Procedure

Participants at each selected site were introduced to the research through an informal presentation by study physicians (S.S. and T.G.). We included both GIs and nurses because they encompass the spectrum of postcolonoscopy communication providers to both the patient and caregiver. Interested eligible participants gave consent, were interviewed, and provided a US\$100 gift card for participation.

**Table 1.** Descriptive Characteristics of Interviewees.

Attribute	GIs	GI Nurses
	N = 29	N = 32
Sex		
Male	23 (79%)	2 (6%)
Female	6 (21%)	30 (94%)
Age range in years (mean [SD])	31-66 (46 [11.13])	27-64 (50 [10.4])
Race		
White	18 (62%)	29 (91%)
Black	1 (3%)	3 (9%)
Asian	9 (32%)	0
Other (unspecified)	1 (3%)	0
Hispanic = yes	2 (7%)	2 (6%)
Years since terminal degree	0-39	0-46
>1 colonoscopy setting	29 (100%)	6 (19%)
Colonoscopies per month (average)	10-600 (72)	75-1025 (439)
Self-Identified Nursing Degree/Certification		
Associates in Nursing		13 (41%)
Licensed Practical Nurse		2 (6%)
Bachelor in Nursing		9 (28%)
Registered Nurse		8 (25%)
Board certification—GI	25 (86%)	
Board certification internal medicine	26 (90%)	

Abbreviations: GI, gastroenterologists; SD, standard deviation.

Participants completed a brief demographic survey before the interview. Most interviews were conducted on site (clinical location) before or after work hours. Interviews lasted an average of 27 minutes.

In total, 31 GIs and 33 nurses were recruited between November 2010 and July 2011. One GI was dropped from data analysis because, although she had 13 years of medical experience, she had less than 3 months at the recruiting site. Two other nurse providers were dropped due to missing data or incomplete interviews. The final sample for this study contained 61 providers (29 GI doctors and 32 nurses). Gastroenterologists were an average of 46 years old, were predominately male (79%), white (62%), and had diverse years of experience (range: 6-39; median = 17). Similarly, nurses were mostly female (94%), white (91%), and had diverse years of experience (range: 0-46; median = 28). Participant demographics are presented in Table 1.

### Interview Procedure

We used semistructured, in-depth interviews to elicit information on pre- and postcolonoscopy interactions with patients. Specifically, GIs and nurses were asked a series of open-ended questions as part of the larger interview: (a) Does your site require the presence of a caregiver or driver? (b) Describe

the setting where you typically provide colonoscopy results; (c) Are there ever times when a patient or caregiver seem to want you to say more about their case than you feel comfortable sharing? and (d) In general, how easy or hard is it to discuss colonoscopy findings with the patient or caregiver? Qualitative interviews allowed providers to express, in their own words, how they communicate results to their patients. Interview guides were approved by institutional review boards (IRBs) of both the University of Florida and the Department of Veterans Affairs. Informed consent was collected, and participation was voluntary and conformed to human subject requirements outlined by the above IRBs.

### Data Analysis

Interviews were digitally recorded, uploaded to a password-protected, encrypted computer server, and transcribed by a professional transcription service. Following transcription, a member of the research team de-identified and reviewed each transcript for errors. We completed thematic analysis, whereby themes were identified that emerged consistently from the interviews (22). Coding was completed using NVivo version 11 software by a primary coder (T.H.). A second coder (J.C.) reviewed and coded 10% of interviews to ensure accuracy of both the codebook and coding decisions.

### Results

Three major themes emerged with regard to barriers to communicating results. These included patient barriers, caregiver barriers, and system characteristics. Major themes and subthemes are described below and summarized in Table 2.

#### Patient Barriers

**Sedation effects.** Most providers spoke about barriers that involved the patients themselves ( $n = 20$  [69%] of 29 GIs and  $n = 21$  [66%] of 32 nurses). Many spoke about the patient's sedation during colonoscopy. They described how a patient having just woken up from sedation makes communication of results difficult for providers and retention more difficult for patients. Providers spoke about how some patients were much more cognitively impaired than others due to the amount of sedation necessary to conduct the procedure.

GI 008 (university hospital): So [with] conscious sedation—it can take . . . hours to be completely alert. . . you can be probably able to talk to the patient, but I don't think they comprehend what you are telling them. And what happens most of the time is if you talk to them, couple hours later they won't remember anything.

Some providers spoke about how they account for the patient's impaired mental state by utilizing the caregiver to communicate important discharge information and results.

**Table 2.** Summary of Major Themes for Provider-Reported Barriers to Optimal Communication Postcolonoscopy.

Theme	Description	Subtheme
Patient barriers n = 20/29 <sup>a</sup> (69%) GIs n = 21/32 <sup>a</sup> (66%) nurses	Barriers that are specific to the patient population	<ul style="list-style-type: none"> <li>● Sedation effects</li> <li>● Comprehension or education</li> <li>● Affect or emotional state</li> <li>● Mental health or cognitive status</li> </ul>
Caregiver barriers n = 28/29 <sup>a</sup> (97%) GIs n = 31/32 <sup>a</sup> (97%) nurses	Barriers due to the caregiver or “driver”	<ul style="list-style-type: none"> <li>● Relationship to patient</li> <li>● Investment in patient/procedure</li> <li>● Privacy (HIPAA)</li> </ul>
System characteristics n = 23/29 <sup>a</sup> (79%) GIs n = 11/32 <sup>a</sup> (34%) nurses	Barriers due to clinic or appointment structure	<ul style="list-style-type: none"> <li>● Privacy (clinic space)</li> <li>● Time constraints</li> <li>● Time waiting/time of day</li> </ul>

Abbreviation: GI, gastroenterologists.

<sup>a</sup>n represents aggregated totals across all subthemes under main themes.

For some providers, this meant that the caregiver was the primary means of communicating important information to the patient. This is independent of the type of relationship of the caregiver to the patient (eg, spouse, adult child, parent, neighbor, or friend).

GI 011 (non-university): [The] patient’s usually pretty much awake but the recalls not—not great. Others are so sedated you can’t really talk to them . . . Bottom line is the caregiver can make a big difference. They can be very helpful or can be . . . an impediment to getting your message across and reinforced.

### Patient Comprehension or Education

Several GIs and nurses also mentioned a number of other patient-level barriers to communicating sensitive colonoscopy findings. Specifically, providers described patient education or ability to understand results as either increasing or decreasing the difficulty of a results session.

GI 012 (VA): . . . I think it’s harder when you don’t feel like the patient is . . . understanding . . . They just kind of look at you blankly. But you say . . . ‘do you understand?’ and they’ll nod yes but you’re not convinced that they understand.

Providers also discussed their patients’ affective or emotional state as determining whether a results session would be easier or more difficult. Providers identified patients who appear anxious or emotional as less receptive to the information and, therefore, less capable of discussing colonoscopy results.

Nurse 008 (university clinic): . . . You know extremely anxious patients can make it difficult because sometimes they’re so anxious they’re not hearing you.

Less often but still noted, providers commented that communication with patients who present with mental health conditions can be especially difficult. One provider compensated for this by, again, utilizing the caregiver who is present

rather than the patient as the primary means of providing communication.

GI 022 (non-university): If the patient you know has some limited capacity . . . dementia or mental impairment, obviously then it would [make discussing findings difficult] . . . Then a lot of time I think I probably do speak more to the caregiver than to the patient themselves.

### Caregiver Barriers

Although caregivers were identified as a useful means of supporting communication with patients, they were also identified as a potential barrier by almost all providers (n = 28 [97%] of 29 GIs and 31 [97%] of 32 nurses). Providers discussed certain relationships as being easier or more difficult for colonoscopy providers to navigate. Husband–wife, parent–child, patient–friend, and patient–system–assigned caregiver relationships were discussed by providers in different capacities. For example, one provider felt that spousal relationships were easier to manage than parent–child relationships:

GI 020 (university clinic): I think it—the spouse is easier to talk about all the screening recommendations. . . . It’s a little harder if . . . it’s a young adult accompanied by their parents . . . Obviously because the parents get more worried and so on.

Eight providers described the caregiver’s investment in the patient as important during colonoscopy results sessions. “Absentee” caregivers were described as those who are not fully invested in the patient’s well-being. According to providers, these absentee caregivers can act as a significant barrier to communicating results because they are not interested in being present or investing time into the patient’s well-being. Additionally, some caregivers were identified as being overbearing, wanting providers to disclose more than they were comfortable, or even interrupting the patient during interactions.

GI 023 (university hospital): Occasionally they'll—they'll be a caregiver who . . . I guess is just a little bit more bossy and then doesn't really let the patient speak . . . The ones that make it easier are just the ones that are more supportive and sometimes will actually help explain the findings and recommendations to the patient.

Providers also spoke about how caregivers must have the patient's permission to have any medical information disclosed to them due to Health Insurance Portability and Accountability Act (HIPAA) regulations. Otherwise, providers spoke about providing only "driving" instructions to these caregivers. Driving only instructions do not include information about the results of the procedure, only essential information for ensuring the patient's safety postsedation.

### System Characteristics

Commonly, providers identified specific characteristics of the clinical setting that made discussing findings more challenging ( $n = 23$  [79%] of 29 GIs and  $n = 11$  [34%] of 32 nurses). Privacy and time constraints during busy days at the clinic were discussed as barriers. Most providers mentioned that the results were disclosed in areas only separated by curtains, making discussions of results more challenging.

GI 009 (university hospital): . . . If there's a lot going on in the recovery room—if there's a lot of activity, that makes it hard—it's not a particularly private environment. It's not a . . . really good place to deliver bad news.

Certain times of the day or week were discussed by providers as being more busy or hectic due to the influx of patients during these times. Providers mentioned that during these times, appointments become backed up, increasing the amount of time that patients had to wait before, during, and after the colonoscopy procedure, as contributing to difficulty in discussing findings.

Nurse 002 (university clinic): The first patients are probably the easiest because they haven't gotten delayed . . . As soon as you get a patient with a big polyp or needing a lot of biopsies . . . then that stacks them up in pre-op. And when you have patients who have been waiting for hours, they've been in the building for hours, they're tougher . . . and they don't want to listen . . . and those patients and families become more irritable.

At one free-standing colonoscopy site (rural), providers often made a follow-up appointment for their patients regardless if the colonoscopy results came back normal or abnormal. This allowed the providers to ensure patient's satisfaction with the procedure and clear up confusion about discharge and follow-up instructions that may have occurred due to sedation.

GI 016 (Rural): I usually make a follow up appointment to see me in the office in two weeks. Regardless of whether they had any . . . significant findings or not, to make sure that everything

went okay with the procedure, whether they were satisfied with the . . . outcome of the procedure and the way we had done everything.

## Discussion and Conclusion

### Discussion

In this exploratory study, we sought to investigate both nurses' and GI physicians' perceptions of barriers to communicating colonoscopy results to their patients. Our goal was to assess potential targets for postcolonoscopy patient-provider interventions to improve understanding of colonoscopy results. Varying levels of sedation are recommended and necessary for most colonoscopy procedures (13), and sedation is related positively to patient satisfaction with colonoscopy and other GI endoscopic procedures (23). Providers recognized patients may not be able to accurately retain information postcolonoscopy due to sedation side effects. Additionally, our results support previous research that identifies patient education and level of understanding as important factors influencing the colonoscopy process (10). Interviews indicate that providers recognized that they must carefully navigate the barriers identified in this study that may make optimal communication more challenging.

Providers identified that caregivers function as both facilitators and barriers to optimal communication postcolonoscopy. Although providers rely on caregivers when a patient may not be able to comprehend important instructions due to the effects of sedation, this may not accurately reflect the patient's wishes. A major information channel is closed off when patients request that their caregiver act only as a "driver" who receives "driving only instructions" so as to maintain personal confidentiality and/or HIPAA compliance. This has implications for how providers manage complicated caregiver relationships. One intervention may be to supplement caregiver support with nurses or patient navigators who follow-up with patients to ensure understanding and compliance to follow-up procedures.

Based on previous studies, there are a number of system-level factors that have been shown to influence patient satisfaction with endoscopic procedures. Notably, time spent waiting prior to the procedure has often been characterized by some patients as a source of dissatisfaction (23). This is consistent with providers in this study who expressed that patients are harder to communicate with when they have been waiting a long time. Several studies have looked at timing of colonoscopy and have found that colonoscopies performed in the morning have better rates of polyp and adenoma detection (24) in addition to lower rates of inadequate bowel preparation and incomplete colonoscopy (25). Results of this study also indicate that clinicians do not view the recovery room as an ideal location for delivering bad news. These findings are similar to Figg and colleagues who reported greater patient

satisfaction when a cancer diagnosis was disclosed in a personal setting rather than an impersonal one (26).

## Conclusion

Despite its strengths, there are noted limitations to this study. First, our study population lacked in diversity of interview participants. These findings may not be representative of the perceived barriers of more racially diverse providers of colonoscopy services. Second, this study relies on self-report, qualitative data to assess providers' perceived barriers to communicating colonoscopy results to their patients. This research would benefit from large-scale studies that use quantitative methods to test whether these barriers influence the quality of clinical care. This will involve exploring the association between barriers identified in this study and patients' recall, compliance with discharge instructions, and overall satisfaction with the colonoscopy procedure using quantitative measures. Qualitative interviews with caregivers and patients who have recently undergone colonoscopy and can share their perceptions of the postcolonoscopy communication experience would allow for deeper insight into the patient-provider-caregiver dynamic that is occurring during postcolonoscopy communication. Our preliminary work suggests that barriers may be different depending on the practice setting and the patient-caregiver dynamic and thus the ideal interventions may vary based on clinical context. Understanding how barriers differ between rural and urban colonoscopy sites is another avenue for future research. Future work to examine effective interventions to improve communication postcolonoscopy may help alleviate some of the barriers identified in this study. Measuring and then intervening on key barriers to communication postcolonoscopy sedation will provide the best opportunities for increased patient adherence to discharge instructions and appropriate medical follow-up.


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