

# The Impact of Scripted Pain Education on Patient Satisfaction in Outpatient Abdominal Surgery Patients

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**Purpose:** Practice guidelines for acute pain management in perioperative patients recommend providing consistent perioperative pain education that includes medication and behavioral techniques to control pain. However, literature indicates that most nurses deliver patient education based on personal preferences, time limitations, and availability of teaching aids. The purpose of this study was to evaluate patient satisfaction with scripted preoperative pain management education for patients undergoing outpatient abdominal surgery.

**Design:** A pretest and posttest design compared patient perceptions of and satisfaction with pain management education before and after the introduction of scripted education.

**Methods:** An independent t test was applied to measure differences between groups.

**Findings:** The postscribing group responses indicated that pain education was helpful in managing postoperative pain at a significant ( $P = 0.03$ ) level.

**Conclusions:** Use of scripted dialog, along with specific written patient education, has a positive impact on postoperative patient satisfaction with pain management.

**Keywords:** pain education, pain management, postoperative nursing care, ambulatory surgery.

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AN ESTIMATED 17.3 MILLION outpatient surgeries were performed in US community hospitals in 2012.<sup>1</sup> Although all patients should receive preoperative pain education, it is essential for those patients who are anticipating discharge within 24 hours of surgery to be adequately prepared to cope with and manage their pain at

home.<sup>2,3</sup> Adequate pain management has been linked to improved patient satisfaction and improved surgical outcomes.<sup>2,4-6</sup>

Nurses provide patient education as an essential part of preparing patients and their families for surgical procedures and to promote self-management

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on discharge. In a review of the literature on preoperative education's impact on postoperative anxiety, pain, and overall recovery, the benefits of preoperative education were evident, but no preferred method of educational delivery was identified.<sup>7</sup> Each nurse has an individual teaching style and method for delivering verbal and written patient instructions. Nurses may tailor their delivery of patient education by reviewing hospital-approved written materials, giving verbal instructions alone, or combining verbal instructions with supplementary written education material based on personal preferences without regard to individual patient needs. The result is often an inconsistency of information and confusion on how to manage self-care after discharge.<sup>8</sup>

The nurses in the admission-discharge area (ADA) of a community hospital identified a problem with patient satisfaction in their outpatient surgery population. The nurses varied in their approach to pain education and used a wide variety of hospital-approved written materials to supplement their verbal instructions. Some patients received no education on pain management after hospital discharge. In addition, routine follow-up phone calls revealed that patients reported pain beyond their expectations after discharge, which contributed to less than optimal postoperative recovery from their outpatient procedures. This article will describe the results of the ADA study aimed at evaluating the use of scripted pain management education on patient satisfaction in patients who underwent outpatient abdominal surgery.

## Literature Review

Patient satisfaction with pain management has been directly linked to the effectiveness of preoperative education on pain and the amount of pain the patient experienced in the first 24 hours after surgical procedure. Although researchers have reported varying outcomes related to pain severity and satisfaction, some have found that patients who perceived severe pain during the first 24 hours postoperatively were less satisfied with their pain management than patients who reported less severe pain levels.<sup>7</sup> Studies on the effect of structured preoperative pain management education on the use of patient-controlled analgesia also have conflicting outcomes regarding pain scores, but one common finding was that

structuring the education improved patient knowledge.<sup>9</sup> A consistent message from the studies was the importance of including patient education on pain management interventions in quality improvement projects.<sup>7,10</sup>

Preoperative education has been shown to have a positive impact on patients' postoperative knowledge levels, self-efficacy to assume a more active role in their own care, and overall satisfaction with their surgical experience.<sup>2,7,11-13</sup> A structured preoperative education intervention has been shown to improve patient knowledge ( $P < .001$ ) and patient satisfaction with education including expected discomfort (99% either agreed or strongly agreed).<sup>11</sup> In a group of patients who underwent surgical repair of musculoskeletal trauma, a verbal-structured preoperative education intervention that included information on pain, analgesics, and breathing relaxation exercises was shown to positively impact pain levels ( $P < .001$ ) when compared with the control group. Patients in this study who received the structured education indicated that they had confidence in their ability to manage their pain once they were discharged ( $P = .048$ ) from the hospital.<sup>6</sup>

In a study of the perceptions of ambulatory nurses on the importance and practice of preoperative patient education, nurses indicated that their method of delivery of patient education was dependent on their personal preferences. Time limitations and availability of teaching aids were identified as barriers to providing education. The study implications included a need to structure preoperative education to ensure that patients receive consistent and complete preoperative education.<sup>8</sup> One concern raised by these studies is that patients may receive inconsistent education on postoperative pain and pain management techniques, leading to less than optimal postoperative recovery and outcomes for all patients.

Current trends in patient education include providing early and frequent education sessions. These sessions may include verbal and/or written instructions, but no one method of delivering education has been shown to be more effective in achieving positive outcomes. Significant correlation of patient education to outcomes was found only in the area of retained knowledge.<sup>14</sup> In order for patient education to be effective, the education

needs to be tailored to the patient's needs, presented in a consistent manner by an educated staff, and include approaches for pain management after discharge and the expected course of recovery.<sup>4,12</sup>

The literature on the impact of structured preoperative education on postoperative pain management and patient satisfaction for patients undergoing outpatient abdominal surgery is lacking.<sup>14</sup> The purpose of this study was to answer the question: In patients who undergo outpatient abdominal procedures, how does structured (scripted) preoperative patient education, when compared with current practice of preoperative patient education, affect patient perception of and satisfaction with pain management after surgery? In addition to the routine postoperative follow-up phone call, nurses asked specific questions related to the patients' pain education.

1. Did you receive preoperative teaching on pain management after surgery? If so, where did you receive this education?
2. On a scale of 1 to 10 with 1 being not helpful and 10 being very helpful, was the pain education you received before surgery helpful with controlling your pain after surgery?
3. What could have made your pain management experience better?

## Methods

### *Project Design and Sample*

This project was framed using a pretest and posttest design that compared patient perceptions of and satisfaction with pain management education before and after the introduction of scripted perioperative pain management patient education. This scripted education included specific hospital-approved written pain education materials chosen because content specifically met the educational needs of the perioperative patient population. Applying the quality-caring model by Duffy and Hoskins,<sup>15</sup> the nurses on the ADA evidence-based practice team developed scripted pain education (Table 1) that could be individualized based on a specific questions from the patient to provide the knowledge patients need to manage their pain after discharge. The team reviewed the literature on perioperative pain management, the various pain handouts that were available within

the organization, and chose specific hospital-approved written pain education handouts to be provided to all patients. Reliability for the study was achieved by having only ADA nurses who had completed human subjects' protection training and who were trained to consent patients and provide the scripted education participated in the project. The project was given an exempt status by the hospital institutional review board.

A convenience sample of outpatient surgical patients who were prepared for surgery in the ADA and who met the inclusion criteria were included in the study. A minimum sample size (one-tailed hypothesis) of 102 (51 in each group) was calculated a priori based on a medium effect size of 0.5, power of 0.8, and probability of 0.05. The post hoc power analysis of the obtained sample ( $n = 100$ ) resulted in a medium effect of 0.5, power of 0.72 and probability of 0.03.<sup>16</sup> Adult patients (18 years and older) undergoing outpatient laparoscopic or abdominal surgeries and who were able to read and speak English language were asked to participate in the study. Patients who were cognitively impaired, who did not read or speak English language, who had an active or suspected infection, who underwent emergency abdominal surgeries, or who required admission to the hospital after surgery were excluded from the study. A total of 100 patients were enrolled in the study, exceeding the required number to achieve statistical significance at the .5 level.

### *Data Collection*

A procedure was designed to facilitate consistency in the implementation of the project (Figure 1). After enrollment of the initial group ( $n = 50$ ) of patients who received their preoperative pain education without scripting (control group), the research team nurses were educated on how to teach pain education with scripted verbiage and use of specific hospital-approved patient pain management education. Then, patients ( $n = 50$ ) were enrolled and given their preoperative pain education using the scripted process. For the control group, research team members obtained informed consent, provided their usual pain education and handouts during the preoperative, recovery, and/or discharge portion of the patient's stay. For the intervention group, the nurses used verbal scripting and presented the selected written handouts

**Table 1. Verbal Communication of Instructions**


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Pain management is an important part of any surgical procedure. Our goal is to provide you with education regarding your pain management. We want your surgical experience to be comfortable and pleasant.

I am here today to talk to you about surgical pain.

Do you think that you will experience any pain with your surgery?

Every surgery has a degree of pain, so I am here to make sure that your pain will be controlled to a level you feel is tolerable.

You must let your recovery room nurse know when you are experiencing pain. Your doctors have ordered you pain medication that the nurses can give you. And you will most likely go home with a prescription from your surgeon. I am also going to give you some alternative information on pain management for you to take home with you.

We will give you a call in a few days after your surgery to see how you are doing.

We will ask you how your pain was managed in the hospital, on a scale of poor, good, and excellent.

Thank you for participating in our pain study.

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to the patient while completing surgical preparation. Time was allotted for questions and any needed clarification of education during the preparation period. Family members were present for the education unless patients requested that they not be in attendance. Both groups received the organization's standard follow-up phone call. Patients in both groups were asked the three additional questions regarding their pain management education. All follow-up data were collected by phone by two of the study nurses using a data collection tool (Figure 2) to collect demographic data and record the responses to the research questions.

### Findings

Demographics for both the treatment ( $n = 50$ ) and control ( $n = 50$ ) groups were similar (Table 2). In response to question 1: "Did you receive preoperative teaching on pain management after surgery?"

an independent  $t$  test revealed no statistical difference between groups ( $t = 5.23$ ;  $P \leq .001$ ), with 24 of the prescribed education (control) patients as compared with 44 of the intervention group reporting receiving preoperative pain education in the hospital setting. Other patients reported that they received pain education in the surgeon's office (control  $n = 9$ ; intervention  $n = 0$ ), both hospital and office (control  $n = 1$ ; intervention  $n = 1$ ) or that they did not remember if they received pain education in any location (control  $n = 0$ ; intervention  $n = 1$ ). One patient reported that they received education with my fiancée but did not indicate the location of the education. A total of 18 patients (control  $n = 16$  and intervention  $n = 2$ ) did not indicate a location where they received pain education.

In response to question 2: "On a scale of 1 to 10 with 1 as not helpful and 10 as very helpful, was the pain education you received before surgery

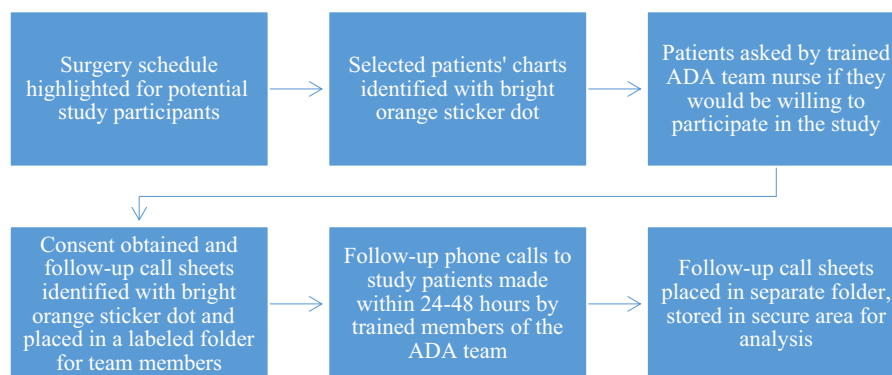


Figure 1. Procedure for consenting patients, providing pain education, and follow-up phone calls for the pain education study. This figure is available in color online at [www.jopan.org](http://www.jopan.org).

		Patient # _____	Pre Education Intervention
		Patient # _____	Post Education Intervention
Age Range	Marital Status	Ethnicity	Highest Grade Completed
18-26	Single	African – American	Less than primary
27-40	Married	Caucasian	Primary level
41-60	Divorced	Hispanic	Secondary level
> 61		Asian	University level or above
		Other _____	
<b>Surgical Procedure</b>			
<p>1. Did you receive preoperative teaching on pain management following surgery?</p> <p style="padding-left: 40px;">Yes    No</p> <p>If so, where did you receive this education?</p> <p style="padding-left: 40px;">Physician Office    Hospital    Other _____</p>			
<p>2. On a scale of 1-10 with 1 being not helpful and 10 being very helpful, was the pain education you received before surgery helpful with controlling your pain following surgery?</p> <p style="text-align: center;">1   2   3   4   5   6   7   8   9   10</p>			
<p>3. What could have made your pain management experience better?</p>			

Figure 2. Data collection tool. *Source:* Novant Health post procedure follow-up phone call with added questions for the pain education study.

helpful with controlling your pain after surgery?,” an independent *t* test indicated that there was a significant difference ( $t = 1.82$ ;  $P = .03$ ) between groups. The postscribing pain education group responses indicated that their pain education was helpful in managing postoperative pain at a significant ( $P = .03$ ) level. Patients in the scripted education group reported a higher scale of helpfulness (scale of 1 to 10) of any pain education (control mean score = 7.42; scripted education score = 8.48).

Question 3, an open-ended question: “What could have made your pain management experience better?” was analyzed by having the patient rate the helpfulness of the education on a scale of 0 to 10 and by coding narrative comments according to themes. Responses of patients who did not remember or who did not answer the question were assigned a number and included in the statistical analysis. Analysis did not reveal statistical differences between the groups ( $t = 0.21$ ;  $P = .42$ ). Three themes emerged from the responses to

**Table 2. Participant Demographics by Group**

Demographics	Pre-education Scripting Group (n = 50)	Post-education Scripting Group (n = 50)
Gender		
Male	24	26
Female	26	24
Age range (y)		
18 to 26	3	2
27 to 40	13	11
41 to 60	25	21
Older than 61	9	16
Marital status		
Single	10	6
Married	35	36
Divorced	3	6
Separated	2	1
Widowed	0	1
Ethnicity		
Caucasian	41	42
African American	6	6
Hispanic	2	2
Native Hawaiian	1	0
Education level		
Less than primary	1	0
Primary	0	1
Secondary	23	24
Some college	0	1
University level or above	26	24
Location of pain education		
Hospital	24	44
Office	9	0
Both (hospital and office)	1	1
Does not remember	0	2
Other	0	1
Not answered	16	2
Type of surgery		
Hernia repair	19	28
Laparoscopic cholecystectomy	17	12
Soft tissue excision (includes lipoma)	2	3
Robot-assisted prostatectomy	0	1
Tubal ligation/coagulation	0	4
Appendectomy	1	0
Hysteroscopy	6	0
Robot-assisted hysterectomy	1	1
Endometriosis	2	1
Other	2	0

**Table 3. Themes From the Question: What Could Have Made Your Pain Management Experience Better?**

Themes	Quotes
Education	“I was nervous before surgery, right before surgery is not the best time for pain education” “Receive education from anesthesia, none remembered from staff” “More specific pain education”
Rushed	“Questions felt rushed” “Go over it slower, time to ask questions” “IV insertion at same time, do not multitask with education, especially IV”
Managing pain	“I did not think I would be in pain this long” “Additional options for pain control”

IV, intravenous.

this question: education, feeling rushed, and managing pain. The most common response for both groups indicated that nothing about the pain education needed to be improved (scripted n = 30 and control n = 26). One patient reported that she felt much better knowing what to expect, but others felt that the education was rushed, they needed more time to ask questions, and they did not have enough information to manage their pain after discharge (Table 3).

## Discussion

The similarities in demographics between groups suggest that expectations of the pain education experience of each group would be comparable and that any differences in response to the research questions were a result of the scripted pain education. Most education for both groups was provided on the day of surgery when patients are anxious about their upcoming surgical procedure. Patients in both groups identified areas for improvement in pain education and reported feeling that education was rushed and that the nurses needed to be more patient focused, rather than multitasking preoperative preparations along with teaching. This finding is supported by the literature that consistent and focused pain

education is needed to support self-care in pain management after surgery.<sup>6,8</sup> An important consideration for perioperative nurses is to develop uniform and structured education that only covers those things that are most important and to deliver this education in a manner that patients will retain.<sup>12,14</sup>

In the prescribed education (control) group, some patients (n = 17) reported receiving pain education in the hospital, whereas some patients (n = 26) reported not receiving any pain education but responded a location (n = 8) where their education occurred. Most patients in the scripted education (intervention) group (n = 44) reported receiving their pain management education in the hospital setting, whereas only two patients in this group did not answer the question. This disparity in responses may be indicative of inconsistency in verbal and written pain education and in a lack of understanding of what constituted preoperative pain management education. This highlights the importance of structuring pain education to improve knowledge on how to manage patient pain.<sup>2,7,9,11-13</sup>

### Limitations

Two limitations emerged during analysis of the study results. The first limitation was related to response regarding the question of whether the patient received preoperative pain management education and the location of that education, raising the concern if patients understood the

question during the survey. Another limitation of this study was that the process and length of time required to complete the study had to be adapted because of a conversion to an electronic medical record across the facility. Although enrollment continued during the documentation system conversion period, the extended enrollment period may have contributed to inconsistencies in patient responses to the survey on pain education. However, this limitation provided an unexpected benefit of individualized education because the learning style of each patient was readily available in the electronic record for nurses to apply to teaching situations.<sup>12</sup>

### Conclusion

This study involving evidence-based scripted pain management education demonstrated that patients who received scripted pain management education felt that their pain education was helpful in managing postoperative pain ( $P = .03$ ). However, patients also articulated a need for a less rushed education with time to understand information and ask questions. Nurses should reflect on their personal preferences and methods of delivering patient education and adapt their personal teaching styles to include scripted and consistent information that is delivered in a relaxed and patient-focused manner. Because the literature on pain education for patients undergoing outpatient abdominal procedures is limited, studies that replicate or expand on this study are needed.

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