

ORIGINAL RESEARCH

Effect of Pre-Surgical Education on Patient Satisfaction and Surgical Experience: A Quality Improvement Initiative

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ABSTRACT

Purpose: Surgical procedures for malignant and benign cutaneous diseases are commonly performed in the outpatient dermatology clinic. For patients, these procedures can be accompanied by significant uncertainty, angst, and feelings of unpreparedness. In some instances, this uncertainty may contribute to adverse events such as the development of deep venous thrombosis or pulmonary emboli due to unnecessarily held anticoagulants.

Methods: We performed a prospective cohort study evaluating the impact of pre-surgical informative phone calls on patient satisfaction with their surgical experience. Surgical patients scheduled at our academic dermatology clinic for excision or Mohs surgery were randomly assigned to a “call”/intervention group or “non-call”/control group. Patients in the intervention group were called by their resident surgeon one evening prior to their procedure. The resident discussed a pre-written script of expectations and preparations for the surgical day and post-operative period, and allotted time for patients to ask questions. Patients from both groups were given identical five-point Likert scale surveys to complete on the day of their suture removal, which varied from 7-14 days after the procedure. Data analysis was performed using SPSS. Means and one-tail t-test for each question were calculated to compare the call group to the non-call group.

Results: Patients in the call group reported higher rates of overall satisfaction, satisfaction with answers to questions, overall preparation, and overall rating of surgical experience while also reporting lower levels of fear and anxiety. Of these findings, differences in level of preparedness were statistically significant.

Conclusions: The results suggest that presurgical phone calls to patients may improve patient education, help address their concerns and questions, improve their satisfaction with care, and can potentially limit adverse events.

INTRODUCTION

Patient satisfaction is an ever-important aspect of providing patient-centered medical care. Prior research has repeatedly demonstrated the effect of physician-directed communication on patient satisfaction and therapeutic efficacy of treatment^{1,2}. In the past two decades,

patient satisfaction has become increasingly important in medical reimbursement models utilizing Hospital Consumer Assessment of Healthcare Provider and Systems (HCAHPS) scores³. HCACPS is a scoring system that rates hospitals on aspects of clinical care including satisfaction with staff, facilities, and perception of care quality. Hospital systems with higher HCAHPS scores are reimbursed at a higher rate

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through the hospital value-based purchase program. Importantly, higher HCAHPS scores have also been associated with higher quality care and lower re-admission rates³. Intentional efforts towards patient communication and treatment regimen clarification can lead to a higher efficacy of treatment and a lower rate of adverse events². In our academic dermatology clinic, patients are often scheduled for surgical treatment of malignant or benign cutaneous lesions via phone after having previously been seen in person for their initial evaluation. This scheduling pattern occurs because treatment is often dictated by biopsy results, which are not available until after the patient's in-person visit. As such, there may not be an opportune time for a physician-patient discussion of the procedure and expectations until the day of the procedure itself. The purpose of this quality improvement initiative was to evaluate the effect of conducting pre-surgical informative phone calls focused on patient preparedness, anxiety, fear, and overall satisfaction. In addition, although not directly measured, secondary objectives included increasing patient understanding of their surgical procedure and medical necessity and limiting adverse events by clarifying presurgical antibiotic and anticoagulant use.

METHODS

A prospective cohort study was developed in which patients scheduled for surgical intervention at our academic dermatology office were randomized into intervention and control groups. Surgical procedures that met inclusion criteria included Mohs micrographic surgery and standard surgical excision of benign and malignant lesions. Patients undergoing cosmetic procedures including neurotoxin injections, injectable

dermal fillers, microneedling procedures, chemical peels, and laser therapies were excluded. Patients in the intervention group were called via phone by their assigned resident surgeon one evening prior to their procedure. During this phone call, the resident was instructed to read a predetermined script (Addendum 1) discussing details of the surgical procedure and postoperative period. Patients were allotted time to ask questions and clarify information provided by the physician. In the event that a patient in the intervention group was unable to be reached by phone, they would, by default, become part of the control group. Subsequently, when patients presented for suture removal and postoperative evaluation, they were given a voluntary postoperative survey (Addendum 2) including six short questions written in basic English with five-point Likert scale answer choices. These questions evaluated the patients' preoperative questions, overall preparedness, fear, apprehension, or anxiety and overall surgical experience. Means and standard deviations were calculated for each question by group and the p-values of the t-tests were determined.

RESULTS

During the study period from 10/26/2020 to 1/22/2021, 87 patients were enrolled with 61 in the intervention group and 26 in the control group. The overall level of satisfaction for both groups was similar, with a mean 4.48 ($SD = 1.05$) for the control group and 4.51 ($SD = 1.13$) for the intervention group ($p = 0.915$). The intervention group had a slightly higher rating of how well their questions were answered with a mean of 4.85 ($SD = 0.57$) compared to 4.58 ($SD = 0.64$) for the control group ($p = 0.051$). The intervention group also felt more prepared for their procedure

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than those in the control group ($M = 4.87$ vs. 4.62 respectively). This difference was statistically significant ($p = 0.0249$). The level of fear/anxiety was slightly lower for the intervention group, with mean of 2.25 ($SD = 1.22$), compared to 2.5 ($SD = 1.21$) for the controls ($p = 0.375$). Patients in the intervention group rated their surgical experience more highly with a mean overall rating of 4.66 ($SD = 0.54$) as opposed to 4.46 ($SD = 0.71$) for the controls ($p = 0.168$). Table 1 shows the means and standard deviations by group as well as the p-value of the t-test for responses to each question.

Table 1. Intervention vs. Control Group Responses

	Mean (SD)		p-value
	Not Called (N=26)	Called (N=61)	
Overall Satisfaction	4.48 (1.05)	4.51 (1.13)	0.915
Questions Answered	4.58 (0.64)	4.85 (0.57)	0.051
How Prepared	4.62 (0.64)	4.87 (0.39)	0.0249
Level of Fear/Anxiety	2.5 (1.21)	2.25 (1.22)	0.375
Rate Experience During Surgery	4.46 (0.71)	4.66 (0.54)	0.168

DISCUSSION

This quality improvement initiative reveals that patients who received a presurgical phone call had a significantly higher rate of overall preparedness for their surgical procedure. Additionally, patients reported higher rates of overall satisfaction, satisfactorily answered questions, overall experience rating, and lower levels of fear and anxiety, though these were not statistically significant. The lack of statistical significance in these categories may be attributed to a limited sample size. These findings, however, suggest a trend toward improvement in many areas of the patient experience surrounding dermatologic

surgical procedures. While not directly quantified in this initiative, some resident physicians involved in making phone calls reported incidents of clarifying the need to continue anticoagulation without interruption. In these instances, without the presurgical phone call, patients may have inappropriately discontinued their anticoagulants and increased the risk of severe adverse events including potential for DVTs and PEs. There were several limitations to this study. There was a large discrepancy in group sizes; many patient demographics were missing, including history of prior skin procedures, which could cause bias in those who have had multiple Mohs or skin cancer excisions; patients may have been influenced to respond more positively or negatively as a result of their initial encounters receiving the diagnosis and discussing treatment rather than only as a result of the intervention; finally, patients were not randomized into intervention and control groups. Future studies would be beneficial to elucidate a mechanism of reducing adverse events with a similar physician-led approach to presurgical patient education. Additionally, these trends toward increased patient satisfaction may be further examined on a larger scale with various aspects of clinical care to optimize HCAHPS scores and subsequent reimbursement while simultaneously improving outcomes².

CONCLUSION

Pre-surgical phone calls made by resident physicians can increase patient satisfaction with their dermatologic surgical experience. This practice may also limit adverse events, improve outcomes, and secondarily optimize reimbursement in the era of patient-satisfaction-based reimbursement.

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SUPPLEMENTAL MATERIAL

Addendum 1

Pre-Surgery Preparation Provider Script

1. You can eat and take all your medications including your blood thinners prior to your surgery.
2. You will not need any pain medications prior to the surgery and you should not need any prescription pain medications after the surgery.
3. Plan to wear loose fitted clothing for easy access of the surgical site.
4. You should be able to drive yourself to and from the surgical appointment. You may bring a support person, but during Covid they will need to wait in the car.
5. Appointment Length:
 - a) Excisions: your appointment will be approximately 1 hour long.
 - b) Mohs: your appointment will be approximately 2 hours long. This will vary depending on what we see under the microscope when we remove your skin cancer.
6. Your surgery will take place in the office under local anesthesia, you will not be “asleep”, but alert and oriented during the entirety of the surgery. You will not feel pain.
7. The surgical site may be inflamed and bruise for a few days after your surgery, which is normal. Plan to reduce your physical activity for 1-2 weeks after your surgery.
8. There will be stitches placed which will need to be removed at a follow up appointment in one to two weeks.
9. You will have a scar that should heal, but redness of the area may remain for months.

Addendum 2

Post-Operative Survey

1. Overall, how satisfied are you with your recent surgical experience?

1	2	3	4	5
Very Dissatisfied	Somewhat Dissatisfied	Neither	Somewhat Satisfied	Very Satisfied

2. Were your questions adequately addressed prior to your surgery?

1	2	3	4	5
Not At All	Somewhat	Neutral	Mostly Addressed	Thoroughly Addressed

3. How prepared did you feel for your procedure and after procedure care?

1	2	3	4	5
Very Unprepared	Somewhat Unprepared	Neither	Somewhat Prepared	Very Prepared

4. How would you rate your level of fear, apprehension or anxiety prior to your surgery?

1	2	3	4	5
None	Barely	Any Mild	Moderate	Severe

5. How would you rate your experience during your surgery?

1	2	3	4	5
Terrible	Not good	Neutral	Good	Excellent

6. Did you receive a phone call from your resident surgeon the day prior to your surgery? YES NO

- a. If so, how satisfied were you with the information received during this phone call?

1	2	3	4	5
Very Dissatisfied	Somewhat Dissatisfied	Neither	Somewhat Satisfied	Very Satisfied