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A surgical team with focus on staff education in a community hospital improves outcomes, costs and patient satisfaction

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Abstract

BACKGROUND: Outcomes, decreased costs, and patient satisfaction are the driving forces of a successful surgical practice.

METHODS: A surgical team was assembled on October 1, 2010, and educational sessions were implemented. The outcomes and costs for patients who underwent laparoscopic fundoplication and Heller myotomy before and after October 1, 2010, were compared. A Press Ganey patient satisfaction survey was mailed to all patients.

RESULTS: There were 268 procedures (103 before and 165 after October 1, 2010): 64 laparoscopic fundoplications and Heller myotomies (23 before and 41 after). There were significant reductions in median operating time (185 minutes [interquartile range {IQR}, 155 to 257 minutes] vs 126 minutes [IQR, 113 to 147 minutes]; $P = .001$), length of stay (2.0 days [IQR, 2.0 to 4.0 days] vs 1.0 day [IQR, 1.0 to 2.5 days]; $P = .05$), operating room costs ($2,407 [IQR, $2,171 to $2,893] vs $2,147 [IQR, $1,942 to $2,345]; $P = .004$), and hospital room costs ($937 [IQR, $799 to $2,159] vs $556 [IQR, $484 to $937]; $P = .044$). The survey showed significant improvements in patients' experiences in communication with nurses ($P = .025$), pain management ($P = .000$), communication about medications ($P = .037$), and discharge instructions ($P = .024$).

CONCLUSIONS: Assembling a surgical team with focus on staff education has a significant impact on outcomes, costs, and patient satisfaction.

Outcomes, decreased costs, and patient satisfaction are the driving forces of a successful surgical practice. The advancing age of patients coupled with steadily increasing acuity has resulted in an urgent need to deliver efficient, high-quality, and low-cost health care. As important as these elements are in daily surgical practice, methods for how to improve these metrics had previously remained unclear. The aim of this study was to assess improvements in outcomes,

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costs, and patient satisfaction in a community hospital as a result of assembling a surgical team focused on staff education.

Methods

A prospective study was conducted to assess the impact of assembling and educating a surgical team on outcomes, costs, and patient satisfaction in a 267-bed community hospital (1 of 11 linked hospitals in a metropolitan American city). The study population included all patients who underwent thoracic and foregut procedures from August 1, 2009, through May 31, 2012. A team of inpatient nurses (n = 32), respiratory therapists (n = 8), physical therapists (n = 6), nutritionists (n = 2), circulating operating room nurses (n = 3), scrub technicians (n = 3), surgical assistants (n = 2), anesthesiologists (n = 2), and a surgeon (n = 1) was assembled on October 1, 2010. Monthly teaching sessions with the staff, monthly multidisciplinary conferences, weekly meetings with team leaders, and daily patient rounds by the surgeon and bedside nurses were implemented. The outcomes and costs for patients who underwent laparoscopic fundoplication for hiatal hernia and laparoscopic Heller myotomy for achalasia before and after the team was assembled were compared. A Press Ganey patient satisfaction survey was mailed to all patients who underwent thoracic and foregut procedures, and the results before and after the team was assembled were compared. The study was approved by the institutional review board of our institution.

Weekly meeting with team leaders

A weekly meeting was organized with the team leaders from each key area of practice, including physical therapy, respiratory therapy, radiology, endoscopy, nutrition services, managers of the telemetry unit, the intensive care unit, and the operating room. The meeting was used to review the surgical cases for the upcoming week and allow optimal communication before the patient's arrival. Any special needs were identified, and high-risk patients were discussed in detail. The issues and concerns from the previous week were reviewed, and the processes that required improvement were identified. A plan for improvement, with input from all team members, was initiated, and the feedback and results were evaluated at the following meeting.

Methods to decrease operative time and operating room direct costs

A generic copy of each operative procedure was placed in a binder as a teaching aid for the intraoperative staff. The instruments, sutures, and required materials were recorded on a preference card according to the order of use during the surgical procedures and placed in the training binder. All necessary materials were pulled before each case to minimize the wasted time, enabling the circulating nurse to remain in the room as much as possible.

Methods to decrease length of stay and hospital room direct costs

During the preoperative assessment visit, patients were instructed on the method of use and importance of the incentive spirometer in the postoperative care. The use of the incentive spirometer was reinforced and encouraged consistently throughout the patients' stays both by nurses and by respiratory therapists. Patients were immediately weaned from oxygen after surgery. The respiratory therapists then implemented chest physical therapy with inhalers immediately after surgery, every six hours, and as needed. Early ambulation was implemented by the physical therapists on the day of the surgery. Adequate pain management was achieved as explained in the "Pain Management" section of this article. Patients were given clear liquids for breakfast and full liquids for lunch. Once the diet was well tolerated and adequate pain control was achieved on oral pain medications, patients were discharged home after lunch. The discharges were expedited as soon as patients were ready to be released.

Methods to improve patient satisfaction

After surgery, the surgeon met with the family members in a private consultation room to discuss the procedure, postoperative care, and the estimated length of stay. The critical elements of the postoperative care plan, including the importance of early ambulation, pain control, use of the incentive spirometer, and chest physical therapy, were emphasized with family members. All patients in this study were admitted to a designated telemetry unit in private rooms, where they were constantly monitored. The environment was calm, quiet, and clean. The call light was accessible to patients, and they were assured that the staff was available to address their needs at any time. The patients were attended only by the specially trained members of the surgical team. Patients were immediately evaluated by the surgeon in both the postanesthesia care and telemetry units. An explanation of how the surgery went was provided to the patients in understandable terms, and their pain levels and surgical sites were assessed. Patients were seen by a nutritionist on the day of surgery to review their diets for the following day and to answer questions. A patient-friendly nutrition handbook was given to patients and reviewed by the nutritionist. Other nursing aspects of patient care, including pain management and discharge instructions, are explained later.

Nurses' communication with patients. To achieve ideal communication with nurses, the nurse-to-patient ratio was 3:1 whenever feasible, but never >4:1. Patients were in