

THE YVONNE L. MUNN CENTER FOR NURSING RESEARCH

NURSING RESEARCH EXPO COMMITTEE POSTER ABSTRACT SUBMISSION

Quality Improvement

Title: Scripted Pre-operative Patient Education Module Reduces Length of Stay and Surgical Complications, Even when Added to an Existing Enhanced Recovery After Surgery (ERAS) Pathway

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To describe your research and findings please use the headings below with a **Maximum of 300 words total.**

Background/Significance: ERAS bundles have been shown to decrease LOS and complications following colorectal surgery, but the significance of individual factors within such bundles have not been well elucidated.

Objectives: Our goal was to determine whether a scripted educational telephone call by a Colorectal Surgery nurse practitioner and educational pamphlet designed to educate patients on preparing for upcoming surgery and on setting patient expectations provided a recovery benefit when added to a pre-existing ERAS bundle.

Implementation: We analyzed patient data from all colectomies performed at MGH since initiation of an ERAS protocol in September 2014 in the NSQIP database. Mortality and length of stay >30 days were excluded to prevent bias from patients that had prolonged LOS or significant morbidity/mortality due to underlying severity of disease or technical error. Patients who received preoperative education by a nurse practitioner were compared to ERAS patients who did not receive educational materials. We then evaluated for differences in LOS and surgical complications in these cohorts.

Performance Improvement Outcome: Of 1241 patients undergoing colectomy Sept 2014-Oct 2016, 505 (41%) were placed on the ERAS pathway. Patients within an ERAS pathway had an overall decrease in LOS by four days ($p<0.001$), with a significant decrease in 30 day readmissions compared with non-ERAS patients (7% vs 11%, $p<0.05$). Among those patients on the ERAS pathway, 190 patients (38%) underwent a preoperative education module consisting of a phone call and educational pamphlet. Patients receiving educational material had a significant decrease in their mean LOS when compared to standard ERAS patients (3.0 days vs 3.7 days, $P=0.005$) with a trend toward improvement in rates of postoperative complications (8.4% vs 11.4%, $p=0.28$), including a 50% reduction in SSI rates (3.2% vs 6.0%, $p=0.15$).

Implications for Nursing Practice and/or Future Research:

Scripted patient education modules may shorten LOS and postoperative complications, even when added to an already existing ERAS bundle, which may translate into significant hospital cost savings.

A

	ERAS+education	ERAS		Non-ERAS	
	n=190	n=315	p-value	n=736	p-value
PATIENT FACTORS					
Age (years +/- SD)	56.5 +/- 16.5	58.7 +/- 15.6	0.136	61.4 +/- 16.5	<0.001
BMI ≥ 30	25.8%	27.0%	0.768	23.0%	0.413
Hypertension	36.8%	40.3%	0.438	44.0%	0.060
Diabetes	5.8%	8.3%	0.303	10.7%	0.040
Smoker	9.5%	11.4%	0.491	12.3%	0.270
Severe COPD	2.1%	2.5%	0.756	4.8%	0.105
CHF	0.5%	0.6%	0.878	1.5%	0.293
Hemodialysis	0.5%	0.6%	0.878	1.5%	0.293
Immunosuppressed	21.6%	14.3%	0.035	15.2%	0.035
Independent ADL	100%	99.1%	0.406	70.2%	0.254
OPERATIVE FACTORS					
Elective	100%	100%	0.999	66.2%	<0.001
Laparoscopic	84.7%	85.4%	0.840	34.1%	<0.001
Right colectomy	37.4%	32.7%	0.285	33.3%	0.290
Low Anterior resection	37.9%	45.4%	0.099	37.4%	0.893
Procedure Time (min +/- SD)	142 +/- 62	132 +/- 76	0.134	162 +/- 98	0.007

B

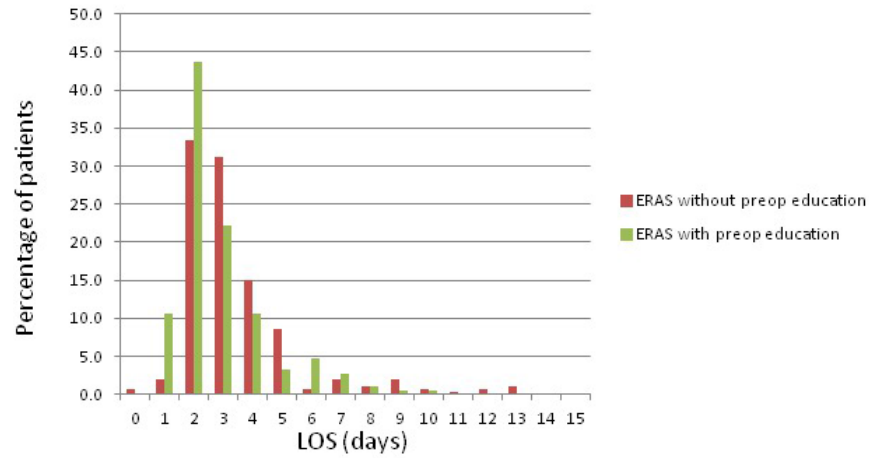


Figure 1. A) Comparison of baseline patient and operative factors between groups. ERAS with preoperative education group is used as baseline for statistical analyses. B) Histogram of length of stay (LOS) in days for all ERAS colectomy patients, with or without pre-operative education, expressed in percentage of patients discharged on a hospital day