Evaluating Patient Education Efforts in a New Surgical Protocol

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Background:

Enhanced Recovery After Surgery (ERAS) protocols are comprehensive, multimodal perioperative care pathways focused on accelerating surgical recovery times by enabling earlier mobilization, feeding, and return to normal bowel function.[1] "By formulating standardized protocols utilizing evidence-based best practices, ERAS protocols are designed to maintain pre-operative organ function and attenuate the body's stress response."[2] In doing so, ERAS protocols decrease length of stay without increasing readmissions, reduce overall complications, and in many cases decrease costs.[3,4] Figure 1, taken from the ERAS Society website, illustrates the multitude of care components that affect recovery times and complication rates in ERAS protocols.

ERAS protocols are not a novel idea; they were pioneered in the 1990s in Denmark and have been used in the US for the past decade. However, adoption has been slow; so much so that research has examined why.[5] However, experts see these protocols as the now fast-coming future of surgical care.[6]

This April, as part of a pilot program by the American College of Surgeons National Surgical Quality Improvement Program, LVHN began operating in its own ERAS protocol for a small group of colorectal surgeries. Its major tenets are: creating a non-starved state prior to surgery, utilizing goal-directed fluid management intraoperatively, providing adequate pain control with avoidance of opioids, encouraging early mobilization and ambulation postoperatively, and educating and empowering the patient and family to actively participate in the care process. Specifically, these tenets were developed into a process outlined in Fig. 2.

Patient education, with its benefits to patient satisfaction and clinical outcomes,[7-10] has been a strong focus of healthcare since being mandated by the Joint Commission on Accreditation of Healthcare Organizations in 1993.[11] This emphasis has only continued to grow in today's era of patient-centered, values-based care. Printed educational materials are generally viewed among the most effective and economical forms of educational materials.[12,13] As such, a group of ERAS project leaders across all disciplines involved in the protocol determined all pertinent information, and with the help of patient education experts, they created an educational booklet. This booklet, given to patients during their initial surgical consult, details each and every aspect of the ERAS patient's care.

Given that the LVHN ERAS protocol is part of the ACS NSQIP, it is being rigorously studied through a large number of metrics. However, there was not yet any formal evaluation of the patient education efforts. Considering the resources and time spent creating this booklet, one was certainly necessary.

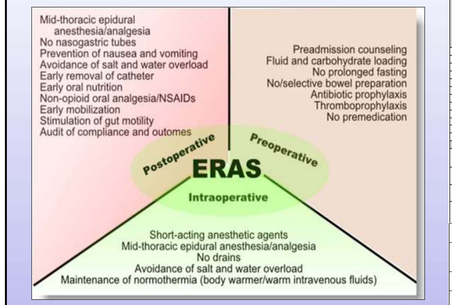
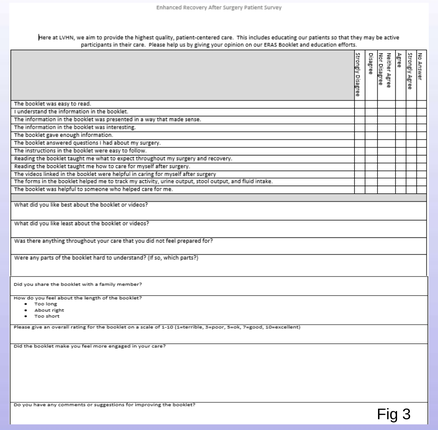


Fig 1


Enhanced Recovery After Surgery Patient Survey

Here at LVHN, we aim to provide the highest quality, patient-centered care. This includes educating our patients so that they may be active participants in their care. Please help us by giving your opinion on our ERAS Booklet and education efforts.

	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree	No Answer
The booklet was easy to read.						
I understand the information in the booklet.						
The information in the booklet was presented in a way that made sense.						
The information in the booklet was interesting.						
The booklet gave enough information.						
The booklet answered questions I had about my surgery.						
The instructions in the booklet were easy to follow.						
Reading the booklet taught me what to expect throughout my surgery and recovery.						
Reading the booklet taught me how to care for myself after surgery.						
The videos linked in the booklet were helpful in caring for myself after surgery.						
The forms in the booklet helped me to track my activity, urine output, stool output, and fluid intake.						
The booklet was helpful to someone who helped care for me.						

What did you like best about the booklet or videos?

What did you like least about the booklet or videos?

Was there anything throughout your care that you did not feel prepared for?

Were any parts of the booklet hard to understand? (if so, which parts?)

Did you share the booklet with a family member?

How do you feel about the length of the booklet?
- Too long
- About right
- Too short

Please give an overall rating for the booklet on a scale of 1-10 (1=terrible, 3=poor, 5=ok, 7=good, 10=excellent)

Did the booklet make you feel more engaged in your care?

Do you have any comments or suggestions for improving the booklet?

Fig 3

Methods:

Booklet Evaluation:

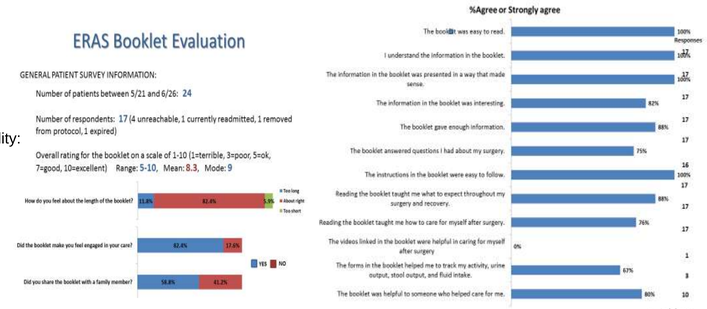
- Peer Review – for content and style
- Analysis by validated tests of educational materials
  - Reading grade level analysis
  - Suitability Assessment of Materials instrument[14]
  - Patient Education Materials Assessment Tool (Printed Materials)[8]
- Patient Survey (Fig 3)
  - Developed based on prior research[12,13,15,16] and with the assistance of the CMS's Toolkit for Making Written Material Clear and Effective[17]
  - Administered via telephone interview post discharge
  - Attempted to interview all patients who underwent the ERAS protocol between 5/21/15 and 6/26/15

Discussion:

- Results were very positive, both objectively and subjectively.
- Results are limited by small sample size (small number of patients have participated in ERAS protocol to date) and no comparison group.
- Questioning patient engagement
  - Q10 and 11 with nearly no responses vs 82.4% saying they felt engaged in care
- Additional question raised:
  - Purpose of project was to justify the cost of production of the booklet. Need to clarify what satisfies this goal. Does patient education solely for the purpose of patient-centered care do this? Or does education need to be linked to better clinical outcomes or cost savings?
- Future Directions:
  - Continue to collect data to increase sample size; stratify results based on Length of Stay
  - Lack of responses to Q10,11 has been addressed – patient participation in completing charts will be stressed: review of pre- and post-intervention results may be beneficial.
  - Further study utilizing hospital surveys measuring patient satisfaction may also be helpful in comparing pre- and post-implementation of the ERAS protocol.
  - Research needed to evaluate effect on clinical outcomes

Results:

- Average Grade Level: 6.3
- SAM: 88.6%
- PEMAT-P
  - Understandability: 94%
  - Actionability: 100%



- Was there anything throughout your care that you did not feel prepared for? 4/17 said yes – caring for ostomy, extent of surgery, complications, odor or colostomy
- Were any parts of the booklet hard to understand? (If so, which parts?) No responses
- *PATIENT COMMENTS*
  - 88% (15/17) said "no comments or suggestions ", or they wouldn't change anything
  - contradictions between booklet and what surgeon said regarding drinking the Gatorade before surgery
  - change Estimate– wasn't in order, had to flip back and forth in the "days after surgery" section ; confused as to what could or could not eat after D/C

What did you like best about the booklet or videos?

- able to take it home and prepare ahead of time
- easy to read
- how detailed it is
- taught you what to expect
- explained what to expect
- helped you get things done yourself
- presentation, design, resources if you had questions
- taught what to do, what to eat, etc.
- knew what to expect and what was expected of me
- explained what foods to eat
- clear instructions
- gave good overview of process
- answered most of my questions
- had the information available to reference
- orderly progression of booklet

What did you like least about the booklet or videos?

- a little redundant
- wanted more info on diet instructions, eating/fluids
- some confusion between booklet and surgeon's instructions (drinking RED Gatorade before)
- felt the booklet wasn't always ordered as best as it could
- no interest in filling out charts at end of booklet
- hard to use while medicated (laughing)

Question	N	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree	Not Applicable	Total:
Q1	17	65%	35%	0%	0%	0%	0%	100%
Q2	17	53%	47%	0%	0%	0%	0%	100%
Q3	17	41%	59%	0%	0%	0%	0%	100%
Q4	17	41%	41%	18%	0%	0%	0%	100%
Q5	17	35%	53%	0%	12%	0%	0%	100%
Q6	17	29%	41%	18%	6%	0%	6%	100%
Q7	17	41%	59%	0%	0%	0%	0%	100%
Q8	17	41%	47%	6%	6%	0%	0%	100%
Q9	17	29%	47%	12%	12%	0%	0%	100%
Q10	17	0%	0%	6%	0%	0%	94%	100%
Q11	17	0%	18%	0%	0%	0%	82%	100%
Q12	17	18%	35%	6%	0%	0%	41%	100%

Test	Grade Level	Reader Age	Scale Value
Flesch Reading Ease			79
FORCAST	9.2	14-15	
Fry	6	11-12	
Gunning Fog	7.3	12-13	
New Dale-Chall	4	9-10	
New Fog Count (Kincaid)	3.9	8-9	
Raygor Estimate	5	10-11	
SMOG	8.6	13-14	
Average (Mean)	6.3	11.5	N/A

Conclusions:

- Validated tests of educational materials widely endorsed the ERAS patient booklet**.**
  - Reading grade level average of 6.3 is certainly comprehensible to the vast majority of patients (several health agencies recommend readability should not be higher than 6th to 8th grade level[18])
  - SAM score of 88.6% is safely viewed as superior material (>70% is considered superior)
  - PEMAT-P results of 94% for understandability and 100% for actionability are both outstanding
- Survey results also extremely positive
  - Booklet generally viewed as of appropriate length, easy to read, and well-organized with good quality content that sufficiently taught patients about their care
  - Very few complaints or suggestions for improvements

Fig 2

Literature cited:

1. Miller TE, Thacker JK, White WD, et al. Reduced Length of Hospital Stay in Colorectal Surgery After Implementation of an Enhanced Recovery Protocol. *Anesth Analg*. 2014; 118(5): 1052-61.
2. Melnyk M, Casey RG, Black P, et al. Enhanced Recovery After Surgery (ERAS) Protocols: Time to Change Practice? *Can Urol Assoc J*. 2011 Oct; 5(5): 342-348.
3. Geltzeiler CB, Rotramel A, Wilson C, et al. Prospective Study of Colorectal Enhanced Recovery After Surgery in a Community Hospital. *Jama Surg*. 2014; 149(9): 955-961.
4. Varandhan KK, et al. The Enhanced Recovery After Surgery (ERAS) Pathway for Patients Undergoing Major Colorectal Surgery: a Meta-Analysis of Randomized Trials. *Clin. Nutr.* 2010.
5. Gottumakkala V, Kehlet H. Optimized Perioperative Care: Why is Change so Difficult? And What Can We Do to Overcome Barriers? *ASA Newsl*. 2014 Dec; 78(12): 14-16.
6. Mackey DC, Schweitzer MP. Optimized Perioperative Care and the Perioperative Surgical Home. *ASA Newsl*. 2014 Dec; 78(12): 13-165.
7. Badarudeen S, Sabharwal S. Assessing Readability of Patient Education Materials: Current Role in Orthopaedics. *Clin Orthop Relat Res*. 2010; 468(10): 2572-80.
8. Agency for Healthcare Research and Quality. U.S. Department of Health and Human Services Web site. Literacy and Health Outcomes. Available at: http://www.ahrq.gov/clinic/epcsums/litsum.htm.
9. Bill-Harvey D. Rippey R, Abeles M, et al. Outcome of an Osteoarthritis Education Program for Low-Literacy Patients taught by Indigenous Instructors. *Patient Ed and Counsl*. 1989; 13:133-142.
10. Nielsen-Bohlman L, Panzer AM, Kindig DA. *Health Literacy: A Prescription to End Confusion*. Washington, DC: Institute of Medicine, National Academies Press; 2004.
11. JCAHO, 1993, 103.
12. Johansson K, Salantera S, Katajisto J, et al. Written Orthopedic Patient Education Materials From the Point of View of Empowerment by Education. *Pat Ed and Counsl*. 2004; 52:175-181.
13. Bernier, MJ. Developing and Evaluating Printed Education Materials: A Prescriptive Model for Quality. *Ortho Nursing*. 1993 Dec; 12(6): 39-46.
14. Doak C, Doak L, Root J. *Teaching Patients with Low Literacy Skills,* 2nd Edition, Philadelphia: Lipincott 1996.
15. Dunn J, Stegninga S, Rose P, et al. Evaluating Patient Education Materials About Radiation Therapy. *Pat Ed and Counsl*. 2004; 52:325-332.
16. Ryhanen AM, Johansson K, Virtanen H, et al. Evaluation of Written Patient Educational Materials in the Field of Diagnostic Imaging. *Radiography*. 2009; 15:e1-e5.
17. Centers for Medicare and Medicaid Services. Available at: https://www.cms.gov/Outreach-and-Education/Outreach/WrittenMaterialsToolkit/
18. Badarudeen S, Sabharwal S. Assessing readability of patient education materials: current role in orthopaedics. *Clin Orthop Relat Res*. 2010;468(10):2572-80.

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