

Background

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The postoperative management of patients undergoing breast cancer surgery continues to evolve. Our institution developed an evidencebased Enhanced Recovery After Surgery (ERAS) protocol to facilitate recovery of patients undergoing mastectomy with immediate reconstruction.

The protocol included: preoperative nonopioid multimodal medications, intraoperative PECS blocks and opioid-sparing anesthetic, and postoperative scheduled nonopioid multimodal medications.

The aim of this study was to compare postoperative pain, opioid consumption, and antiemetic administration between a Traditional Recovery After Surgery (TRAS) and an ERAS cohort.

Methods

- Retrospective comparison of TRAS and ERAS for patients undergoing mastectomy with immediate reconstruction surgery
- Total sample size, determined by a priori power analysis = 102 with 51 in both TRAS and ERAS cohorts
- Subject inclusion limited to a single surgeon in both cohorts
- Cohorts sequentially derived from the time period prior to ERAS implementation (May 2013 through May 2016) and post ERAS protocol implementation in May 2016

Ultrasound-Guided PECS Blocks

- T2-T6 dermatomes.
- **PEC** Minor
- Serratus Anterior









- Chou, R., Gordon, D. B., de Leon-Casasola, O. A., Rosenberg, J. M., Bickler, S., Brennan, T., ... & Griffith, S. (2016). Management of Postoperative Pain: a clinical practice guideline from the American pain society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists' committee on regional anesthesia, executive committee, and administrative council. The Journal of Pain, 17(2), 131-157.

Enhanced Recovery after Surgery Protocol Demonstrates Improved Pain Control and Reduced **Opioid Consumption for Women Undergoing Mastectomy with Immediate Reconstruction**

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• **PECS Blocks:** Indicated for surgery involving the chest wall, including mastectomy with and without immediate reconstruction. Provide analgesia from

• **PECS | Block:** Injection between PEC Major and

PECS II Block: Injection between PEC Minor and

Res MB	SUBCUTANEOUS	- Nrv HFL
Y LIR	PECTORALIS MAJOR m.	0.1
OR RIE	PECTORALIS MINOR M. SEPRATOS MINOR M. ANTERIOR MUSCLES RIB 4 PLEURA LUNG	
A REAL PROPERTY OF THE PROPERT	PECTORALIS BLOCKS 2017 JACK	3.3 Vander Beek



ERAS Proto

Preoperative Protocol

- ERAS education during Pre-Testing visit
- Acetaminophen 1000mg PC
- •Celecoxib 200mg PO
- •Pregabalin 75mg PO

Intraoperative Protocol

- •General Anesthesia
- •TIVA (Propofol)
- PECS Blocks after induction
- Avoid/Minimize Opioids
- Dexamethasone 4-8mg
- Ondansetron 4mg
- Minimize Excess Fluid Adm

Postoperative Nutrition

 Advance as tolerated the data of surgery

Postoperative Analgesi

- Acetaminophen 1000mg PC
- •Celecoxib 200mg PO BID
- Carisoprodol or Cyclobenza PO Q8H PRN muscle spase
- •Tramadol 50mg PO Q6H P Visual Analog Scale 4-6
- Oxycodone 5-10mg PO Q4ł Visual Analog Scale >7
- •Hydromorphone 0.3-0.5mg PRN Visual Analog Scale >

Postoperative Mobilization

- •Out of bed and walking 3 times/day
- Up in chair for all meals

Beyond Discharge Protocol

- •Acetaminophen 1000 mg PO Q6 hours x 48 hours
- Physician choice over-the-counter NSAID
- •Oxycodone 5-10 mg PO Q4H PRN (#12)

• Apfelbaum, J. L., Chen, C., Mehta, S. S., & Gan, T. J. (2003). Postoperative pain experience: results from a national survey suggest postoperative pain continues to be undermanaged. Anesthesia & Analgesia, 97(2), 534-540. • Arsalani-Zadeh, ELFadl, D., Yassin, N., & MacFie, J. (2011). Evidence-based review of enhancing postoperative recovery after breast surgery. British Journal of Surgery, 98(2), 181-196.

	Results							
	Group Charact	Comparison of Variables						
	TRAS Group (n = 51)	ERAS Group (n = 51)		TRAS Group (n = 51)	ERAS Group (n = 51)	p		
Age(ye	ears) 54 ± 12	50 ± 10	Length of Hospita (total nights)	Stay 1.08 ± 0.27	1.02 ± 1.4	.17		
BMI	27.2 ± 5.1	27.7 ± 10	Post-op Antiemeti No Vos	c POD0 26 (51%) 25 (49%)	34 (67%) 17 (33%)	11		
Chronic Diagno No Yes	49(96%) 2 (4%)	46 (90%) 5 (10%)	Post-op Antiemeti No	ic POD1 42 (82%)	48 (94%)			
n Chroni No	ic Opioid Use 49 (96%)	、	Yes Episodes of Vomit (#)	9 (18%) ting POD0 .06 ± .24	3 (6%) 0 ± 0	.07		
Yes Chroni	2 (4%) c Substance	0 (0%)	Episodes of Vomit (#)	ting POD1 .02 ± .14	0 ± 0			
S Abuse No	Disorder $51(100\%)$	51 (100%)	Mean Pain Score	POD0 3.7 ± 1.3 POD1	2.2 ± 1.7	<.001		
res Maste		0 (0%)	Oral Morphine Equ POD0 (mg/day)	3.5 ± 1.76 uivalent 49 4 + 25 9	1.9 ± 1.8 20 9 + 23 1	<.001		
Unilate Bilate	eral 5 (10%) ral 46 (90%)	1 (2%) 50 (98%)	Oral Morphine Equ	uivalent 25.1 ± 25.7	20.7 ± 23.1 11 7 \pm 12 7	<.001 ∩∩1</td		
Pain S Admis	$\begin{array}{c} \textbf{core on} \\ \textbf{sion} \end{array} 0.12 \pm .5 \end{array}$	0.29 ± 1.5	Analysis & Lovel of Significan	$JJ \cdot I \pm ZJ$	II.2 I IJ./	<.UU I		
Reporte	Reported as Mean ± Standard Deviation or #(%)		independent sample t-test with Bonferroni correction, $p \le 0.05$,					

Implementation of an ERAS protocol in the surgical management of patients undergoing mastectomy with immediate reconstruction resulted in significant reductions in postoperative pain and opioid consumption. This study reinforced the use of ERAS protocols in the breast surgery population. In addition, the study supports the use of ERAS protocols as opioidsparing initiatives in this surgical setting and demonstrated successful multidisciplinary engagement in the implementation of the protocol.

• Fassoulaki, A., Triga, A., Melemeni, A., & Sarantopoulos, C. (2005). Multimodal analgesia with gabapentin and local anesthetics prevents acute and chronic pain after breast surgery for cancer. Anesthesia & Analgesia, 101(5), 1427-1432. • Hutchins, J. L. (2015). Improving Patient Outcomes Through State-of-the-Art Pain Control in Breast Cancer Surgery. American Journal of Hematology/Oncology®, 11(5). • Kulhari, S., Bharti, N., Bala, I., Arora, S., & Singh, G. (2016). Efficacy of pectoral nerve block versus thoracic paravertebral block for postoperative analgesia after radical mastectomy: a randomized controlled trial. British journal of anaesthesia, 117(3), 382-386. • Oderda, G. M., Said, Q., Evans, R. S., Stoddard, G. J., Lloyd, J., Jackson, K., ... & Samore, M. H. (2007). Opioid-related adverse drug events in surgical hospitalizations: impact on costs and length of stay. Annals of Phar

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Conclusions