

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/333538709>

# A systematic review of effective preoperative and postoperative interventions for recovery after hip or knee fracture surgery

Article in *Clinical Nutrition ESPEN* · June 2019

DOI: 10.1016/j.clnesp.2019.03.103

CITATIONS

0

READS

64

15 authors, including:



**Nikica Darabos**

University Hospital Centre Zagreb

34 PUBLICATIONS 421 CITATIONS

[SEE PROFILE](#)



**Sara Medved**

University Hospital Centre Zagreb

14 PUBLICATIONS 66 CITATIONS

[SEE PROFILE](#)



**Ivan Jurak**

University of Applied Health Sciences

20 PUBLICATIONS 4 CITATIONS

[SEE PROFILE](#)



**Nicolino Žura**

17 PUBLICATIONS 9 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Comparison of grading on-site FMS test versus FMS test using kinematic methods [View project](#)

**Objectives:** To describe patient reported experience measurement (PREM) after pancreaticoduodenectomy in an enhanced recovery (ERAS) context in a Swedish setting.

**Methods:** This cross-sectional study investigate how patients undergoing pancreaticoduodenectomy (PD) experience their care. Data was collected using an assessment questionnaire, administered at discharge and consisted of 5 questions (Table 1). 131 of 243 eligible patients answered the questionnaire, 71 men and 60 women with a mean age of 70 years. Data was collected between March 2015 and January 2019.

**Results:** Overall, patient experience being treated in respectful way and felt confident/secure/trust with the staff. At the same time there was a lack in care regarding patient's possibility to participate and how information was transferred from staff to patient (Table 1).

Question	Yes, completely	Partly	No
Did you felt that you were treated in a respect full manner?	96 %	4%	0%
Did you felt that you participated in decisions regarding your care as much as you wanted?	82%	17%	1%
Did you receive information on the results of your treatment in a way that you understood?	83%	16%	1%
Did you trust staff members you came in contact with?	91%	9%	0%
Did you experienced that staff members gave you consistent information and answers to your questions?	78%	21%	0%

**Conclusion:** Even though patients had mostly positive experience with the care, some areas would benefit of improvement. To be successful in implementing ERAS patient's participation and education are a prioritized areas of intervention. However this cohort study indicates that there is need for improvement in patient participation and how information is transferred to the patient. To improve outcome of ERAS as well as patient satisfaction a person-centered care approach can be adopted focusing on shared decision making and to involve the patient as an equal partner so they can get the support they need.

**Disclosure of Interest:** None declared.

#### P066

### A SYSTEMATIC REVIEW OF EFFECTIVE PREOPERATIVE AND POSTOPERATIVE INTERVENTIONS FOR RECOVERY AFTER HIP OR KNEE FRACTURE SURGERY

N. Darabos<sup>1,\*</sup>, S. Medved<sup>2</sup>, I. Jurak<sup>3</sup>, J. Kogler<sup>4</sup>, N. Žura<sup>3</sup>, M. Skočić Hanžek<sup>2</sup>, J. Kovačević<sup>4</sup>, A. Prtorić<sup>1</sup>, L. Radovan<sup>4</sup>, T. Ehrenfreund<sup>1</sup>, N. Kalebota<sup>5</sup>, A. Krnjić<sup>1</sup>, M. Jurišković<sup>1</sup>, R. Zilinski Vrbanić<sup>1</sup>, A. Lulić<sup>1</sup>. <sup>1</sup>Department of Traumatology, Bone and Joint Surgery, Zagreb, Croatia; <sup>2</sup>Department of Psychiatry, Zagreb University Hospital Centre, Zagreb, Croatia; <sup>3</sup>Department of Physiotherapy, University of Applied Health Sciences, Zagreb, Croatia; <sup>4</sup>Department of Anesthesiology and ICU, Zagreb, Croatia; <sup>5</sup>Department of Rheumatology and Rehabilitation, Zagreb University Hospital Centre, Zagreb, Croatia

\* Corresponding author.

**Objectives:** Hip and knee fracture surgeries are followed by challenging recovery. Various interventions have been described with the intent to optimize patients' recovery. However, the effectiveness remains unclear. The purpose of this systematic review is to identify preoperative and postoperative interventions for the recovery after a hip or knee fracture surgery as well as effective multidisciplinary protocols combining various solitary enhancements.

**Methods:** A comprehensive review of the literature was undertaken following the PRISMA guidelines. We searched PubMed and Scopus databases for the published clinical trials in English which included the adult

population. The targeted timeframe was from the origin of each database up to January 2019. Search terms describing hip fracture, knee fracture, osteosynthesis, joint replacement and outcome measures were used. Studies comparing surgery techniques were excluded. Two reviewers independently screened the studies for eligibility and extracted data for analysis.

**Results:** The search found altogether 2335 papers, 332 out of which were selected in the first revision. Overall, 80 publications met the inclusion criteria. Studies showed a large heterogeneity in both interventions and outcome measures. The interventions were primarily focused on rehabilitation, anesthesiological management, pharmacological intervention, the timing of the surgery, organizational management, nutrition, and psychiatric support. Most of the studies analyzed different rehabilitation procedures using functional scores, visual analog scale, muscle strength and the range of motion outcomes. We have found altogether 13 studies that used comprehensive, multidisciplinary preoperative and postoperative protocols. The most common outcomes for these protocols were the length of stay, cost-effectiveness and complication rates.

**Conclusion:** Most of the trials are focused on single-component interventions. The data for patients' overall benefit, such as quality of life and functionality is lacking. Recovery is a multidimensional, complex process requiring comprehensive interventions with specific outcomes. A multidisciplinary team should provide a holistic approach tailored to patient needs. Further studies should be focused on patient-oriented interventions and outcomes to gain a complete understanding of how the quality of the recovery can be enhanced.

**Disclosure of Interest:** None declared.

#### P067

### HORIZONTAL AND VERTICAL IMPLEMENTATION STRATEGIES FOR ERAS ACROSS A US HEALTHCARE SYSTEM

M.J. Scott<sup>1</sup>, P. Spencer<sup>2</sup>, on behalf of VCU RAM Quality Improvement M. Fain<sup>3</sup>, on behalf of Dept of Clinical Effectiveness on behalf of VCU Dept of Clinical Effectiveness<sup>1</sup> Anesthesiology, Virginia Commonwealth University Health System, Richmond, United States; <sup>2</sup>Dept of Clinical Effectiveness, Virginia Commonwealth Health System, Richmond, United States; <sup>3</sup>VCU, Virginia Commonwealth University Health System, Richmond, United States

**Objectives:** ERAS Pathways although straight forward to map out on paper are extremely difficult to implement in practice because of the structure of modern health care systems. Siloing of finances, lack of senior executive and physician buy in, together with hospital wide education can all impede implementation. The other major issue is hard wiring the pathway into a Powerplan in the Electronic Medical Record and collecting data to audit compliance. We proposed an implementation program across the Health System that would break down all surgical pathways into the following vertical section: Preoptimization, Presurgical Unit, Operating Room, PACU and ward. We then mapped the horizontal process for each Surgical Specialty with emphasis on fluids, analgesia and surgery specific issues.

**Methods:** For each Vertical Section of the ERAS Pathway we mapped common elements that were either ERAS defined elements or modifiable risk factors for outcome. For each ERAS element or modifiable risk factor we developed an evidence based protocol algorithm and powerplan together with education for nursing staff.

**Results:** Pre-operative Clinic: Nutritional Optimization, Anemia Screening and correction, Carbohydrate Loading, Incentive Spirometer, Education materials, Opioid Screening, Frailty Screening

**PSU:** Standard oral multimodal analgesia, Hair clipping, Analgesia block and epidural administration, Prewarming

**Operating Room:** Antibiotic prophylaxis, PONV prophylaxis, Fluid and Hemodynamic optimization, Neuromuscular Block Monitoring, Opioid sparing analgesia adjuncts, Warming,

**PACU:** Warming, analgesia optimization, Fluid optimization, Early enteral intake

**Ward:** Early discontinuation of IV fluids, Early oral intake, high protein drinks, early targeted mobilization, protection of sleep where possible

**Conclusion:** A vertical as well as horizontal implementation strategy has accelerated the implementation of ERAS pathways across our Health System. It has also helped make staff aware that all patients should have ERAS principles applied at each point of their surgical pathway. This