Does Immediate Postoperative Opioid Consumption Correlate with Long-term Outcomes in Patients Undergoing One and Two Level Instrumented Posterior Lumbar Fusions?

Emmett J. Gannon  
*University of Nebraska Medical Center*

Evan P. Larson  
*University of Nebraska Medical Center*

Zachary C. Bailey  
*University of Nebraska Medical Center*

Sydney Powers  
*University of Nebraska Medical Center*

Scott A. Vincent  
*University of Nebraska Medical Center*

Tell us how you used this information in this short survey.

Follow this and additional works at: [https://digitalcommons.unmc.edu/gmerj](https://digitalcommons.unmc.edu/gmerj)

Part of the [Higher Education Commons](https://digitalcommons.unmc.edu/gradmededu/), and the [Medicine and Health Sciences Commons](https://digitalcommons.unmc.edu/medicine)

**Recommended Citation**

https://digitalcommons.unmc.edu/gmerj/vol2/iss1/37

This Conference Proceeding is brought to you for free and open access by DigitalCommons@UNMC. It has been accepted for inclusion in *Graduate Medical Education Research Journal* by an authorized editor of DigitalCommons@UNMC. For more information, please contact digitalcommons@unmc.edu.
Does Immediate Postoperative Opioid Consumption Correlate with Long-term Outcomes in Patients Undergoing One and Two Level Instrumented Posterior Lumbar Fusions?

Creative Commons License

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 License.

Authors

This conference proceeding is available in Graduate Medical Education Research Journal: https://digitalcommons.unmc.edu/gmerj/vol2/iss1/37
**Case Report**

**Title:** Rare Case of Traumatic Tricuspid Valve Injury in Patient with Sinus Venosus Atrial Septal Defect (ASD)

**Authors:** Rishi Batra¹, Laura Newton¹, Nicholas Markin², Samuel Cemaj¹, Zachary Bauman¹

**Affiliations:**
1. University of Nebraska Medical Center, Department of Surgery
2. University of Nebraska Medical Center, Department of Anesthesiology

**Mentor:** Zach Bauman

**Program:** General Surgery

**Type:** Case Report

**Background:** A 69-year-old male with a history of congenital ASD repair as a child, atrial fibrillation and left ventricular dysfunction, presented as the restrained passenger of a motor vehicle crash. Initially complaining of left-sided chest pain, he was found to have left rib fractures 5-8 with flail physiology as well as a left tibial plateau and ulnar fracture. Due to flail chest physiology, open reduction and internal fixation (ORIF) of the ribs was scheduled.

**Methods:** After transthoracic echocardiogram (TTE) was completed, he was taken for ORIF. Upon intubation, he became acutely hypoxic. Immediate left chest tube was placed, however, his clinical status remained unchanged. Emergent bronchoscopy was performed without resolution of the hypoxemia. Intraoperative transesophageal echocardiogram (TEE) was completed, he was taken for ORIF. Upon intubation, he became acutely hypoxic.

**Results:**
- **Figure 1A:** Transesophageal echocardiogram showing the midesophageal modified right ventricular inflow view. There is severe tricuspid regurgitation (marked with arrow).
- **Figure 1B:** Transesophageal echocardiogram showing a lower esophageal view of the inferior sinus venous atrial septal defect. This image shows a high-velocity jet with right-to-left shunting. This is the result of the traumatic severe TR and the jet is directed at the sinus venous atrial septal defect causing the right-to-left shunting (measuring 75mm2 & <10mm2).

**Conclusion:** The amount of opioid analgesics consumed in the immediate postoperative period may be helpful in predicting patient outcomes at 6 months and 1 year following 1-level posterior lumbar fusion. These findings, however, must be interpreted in context with the limitations inherent to a retrospective study.

https://doi.org/10.32873/unmc.dc.gmerj.2.1.036

---

**Does Immediate Postoperative Opioid Consumption Correlate With Long-Term Outcomes in Patients Undergoing One and Two Level Instrumented Posterior Lumbar Fusions?**

**Authors:** Emmett J. Gannon¹, Evan P. Larson¹, Zachary C. Bailey¹, Sydney Powers², Scott A. Vincent¹, Chris A. Cornett¹, Liz Lyden²

**Affiliations:**
1. University of Nebraska Medical Center, Department of Orthopaedic Surgery and Rehabilitation
2. University of Nebraska Medical Center, College of Medicine

**Mentor:** Chris Cornett

**Program:** Orthopaedic Surgery and Rehabilitation

**Type:** Original Research

**Background:** Opioid analgesics are routinely used following spine surgery. Preoperative and chronic postoperative use are associated with worse postoperative pain control and functional outcomes. Little is known about the effects of immediate postoperative use on long term outcomes. The purpose of this study is to investigate the potential relationship between increased opioid use immediately postoperatively and patient outcomes.

**Methods:** A retrospective review of patients undergoing instrumented 1 or 2-level posterior lumbar fusion surgery by a single surgeon was performed. Pearson correlation coefficients were used to evaluate associations between patient outcomes and immediate postoperative opioid use. Exclusion criteria included previous lumbar surgery, indications other than degenerative, and patients <19 years old. A total of 152 patients were included.

**Results:** Among 94 patients undergoing 1-level fusion, there was a significant inverse relationship between six month Short Form-36 Bodily Pain and postoperative day (POD) 1, 2 and total opioid use (p=0.0328, p=0.0283, and p=0.0205). A significant inverse relationship was also found between 1 year Short Form-36 Physical Function and POD 1 and 2 opioid use (p=0.0415, p=0.0200) and between 1 year Short Form-36 Bodily Pain and POD 2 opioid use (p=0.0099). No correlation existed between amount of opioids consumed and outcomes after 2-level posterior lumbar fusion procedures.

**Conclusion:** The amount of opioid analgesics consumed in the immediate postoperative period may be helpful in predicting patient outcomes at 6 months and 1 year following 1-level posterior lumbar fusion. These findings, however, must be interpreted in context with the limitations inherent to a retrospective study.

https://doi.org/10.32873/unmc.dc.gmerj.2.1.036

---

**Case Report**

**Title:** Does Immediate Postoperative Opioid Consumption Correlate With Long-Term Outcomes in Patients Undergoing One and Two Level Instrumented Posterior Lumbar Fusions?

**Authors:** Emmett J. Gannon¹, Evan P. Larson¹, Zachary C. Bailey¹, Sydney Powers², Scott A. Vincent¹, Chris A. Cornett¹, Liz Lyden²

**Affiliations:**
1. University of Nebraska Medical Center, Department of Orthopaedic Surgery and Rehabilitation
2. University of Nebraska Medical Center, College of Medicine

**Mentor:** Chris Cornett

**Program:** Orthopaedic Surgery and Rehabilitation

**Type:** Original Research

**Background:** Opioid analgesics are routinely used following spine surgery. Preoperative and chronic postoperative use are associated with worse postoperative pain control and functional outcomes. Little is known about the effects of immediate postoperative use on long term outcomes. The purpose of this study is to investigate the potential relationship between increased opioid use immediately postoperatively and patient outcomes.

**Methods:** A retrospective review of patients undergoing instrumented 1 or 2-level posterior lumbar fusion surgery by a single surgeon was performed. Pearson correlation coefficients were used to evaluate associations between patient outcomes and immediate postoperative opioid use. Exclusion criteria included previous lumbar surgery, indications other than degenerative, and patients <19 years old. A total of 152 patients were included.

**Results:** Among 94 patients undergoing 1-level fusion, there was a significant inverse relationship between six month Short Form-36 Bodily Pain and postoperative day (POD) 1, 2 and total opioid use (p=0.0328, p=0.0283, and p=0.0205). A significant inverse relationship was also found between 1 year Short Form-36 Physical Function and POD 1 and 2 opioid use (p=0.0415, p=0.0200) and between 1 year Short Form-36 Bodily Pain and POD 2 opioid use (p=0.0099). No correlation existed between amount of opioids consumed and outcomes after 2-level posterior lumbar fusion procedures.

**Conclusion:** The amount of opioid analgesics consumed in the immediate postoperative period may be helpful in predicting patient outcomes at 6 months and 1 year following 1-level posterior lumbar fusion. These findings, however, must be interpreted in context with the limitations inherent to a retrospective study.

https://doi.org/10.32873/unmc.dc.gmerj.2.1.036

---

**Conclusion:** Perioperative TXA administration was associated with reduced mean operative time and decreased intraoperative estimated blood loss. While not statistically significant, these results may be clinically significant. Larger, higher level studies are required for further investigation.

https://doi.org/10.32873/unmc.dc.gmerj.2.1.035