



# Geriatric Co-Management Reduces Peri-Operative Complication Rates and Shortens Duration Of Hospital Stay After Lumbar Spine Surgery: A Prospective Single Institutional Experience

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## Introduction

Geriatric patients undergoing lumbar spine surgery are at risk of delirium, infection, and iatrogenic complications, and these complications, in turn, contribute to the risk of functional decline, nursing home admission, and death. Whether pre-operative geriatric co-care reduces the incidence of in-hospital complications, length of stay, and readmission rate after elective lumbar spine surgery remains unknown.

## Methods

In 2013, a model of shared care for older patients undergoing lumbar fusion surgery was implemented at Duke University Medical Center: Peri-operative Optimization of Senior Health Program (POSH). In the model, a geriatrician led team, including a social worker, a nurse and a nurse practitioner from anesthesia, evaluates elderly patients (>65 years) pre-operatively and follows these patients daily during their hospital stay to manage medical problems, assess and treat pain, prevent delirium, and coordinate rehabilitation, with neurosurgical input. We retrospectively reviewed the first 10 cases after the initiation of POSH and compared them with the immediately preceding 10 cases.

## Results

Twenty patients undergoing lumbar decompression and fusion were enrolled in this study. Baseline characteristics were similar between the cohorts. Wound infection rate was lower in the POSH cohort (0% vs. 20%). POSH patients had lower rates of post-operative urinary tract infections (20% vs. 60%, p=0.007) and pneumonia (0% vs. 20%, p=0.006). In-hospital stay was shorter in the POSH cohort (6.20±5.45 days vs. 9.80±9.55 days, p=0.045). Similarly, POSH patients were less likely to be discharged to Skilled Nursing Facilities (20% vs. 40%), and compared to Non-POSH patients, and had lower 30-day readmission rate (0% vs. 30%, p=0.08).

## Conclusions

In our initial experience, geriatric co-management reduces rates of post-operative complications, lengths of in-hospital stay, nursing home admissions, and 30-day hospital re-admission rates. Further study is needed to determine which patients benefit the most and which components of the intervention have the greatest impact.

## Learning Objectives

- By the conclusion of this session, participants should be able to:
1. Identify benefits of multidisciplinary peri-operative care for elderly patients undergoing lumbar spine surgery
  2. Discuss the role of multi-disciplinary care for elderly patients undergoing lumbar spine surgery