

Experience Pays Dividends: Years of Training Improves Surgical Outcomes More than Fellowship Training when Treating Hip Fractures

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INTRODUCTION:

This study aims to determine whether a surgeon’s fellowship training type or years of experience have a greater impact on surgical outcomes in the setting of operative hip fracture treatment.

METHODS:

An IRB-approved prospectively collected hip fracture registry at an urban academic medical center was queried for all operative patients. Each patient was reviewed for demographics, hospital quality measures, perioperative details, radiographic parameters, surgeon information, and outcomes. Surgeon information included which fellowship training was completed (trauma, adult reconstruction, sports, spine, hand and upper extremity, or other) and how many years of attending practice they have in experience. Multivariable regressions were performed to independently assess the impact of years of experience and fellowship training on the quality of reduction as represented by the tip-to-apex distance (TAD), residual calcar step-off, and post-fixation neck-shaft angle (NSA), need for inpatient transfusion, occurrence of post-operative dislocation in the case of arthroplasty, and operative time defined as patient into the operating room and out of the operating room.

RESULTS: 2334 patients underwent operative treatment. The highest proportion of fellowships included trauma (35%), adult reconstruction (18%), and sports (10%). The average years of experience was about 19 years in attending practice. Multivariable regression analyses demonstrated that the type of fellowship training (not trauma or adult reconstruction) was independently associated with a higher need for inpatient transfusion while a higher number of years of experience was independently associated with a shorter mean operative time. Neither attending years of experience or fellowship training type were independently associated with the rate of major or minor inpatient complications, and inpatient, 30-day, and 1-year mortality.

DISCUSSION AND CONCLUSION: As a surgeon’s years of experience were found to be more important than fellowship training for surgical outcomes in the setting of hip fracture care, the choice of surgeon should not be strictly dependent upon dedicated trauma training. While trauma fellowship-trained surgeons may be more specifically equipped to triage perioperative blood loss and management, our findings support the care model for trauma call to be taken by surgeons of different sub-specialties without any drop in surgical outcomes or quality of care when accounting for years of experience.

Table 1: Multivariable Regression Analyses for Operative Time and Inpatient Need for Transfusion

Multivariable Analyses for the Overall Cohort				
<i>Operative Time*</i>	<i>Beta</i>	<i>Standard Error</i>	<i>95% Confidence Interval</i>	<i>P Value</i>
Age	-0.492	0.099	-0.686- -0.298	<0.001
Years of Experience	-0.348	0.098	-0.540- -0.156	<0.001
<i>Need for Transfusion**</i>	<i>Odds Ratio</i>	<i>Standard Error</i>	<i>95% Confidence Interval</i>	<i>P Value</i>
Age	1.048	0.017	1.014-1.083	0.006
CCI	1.238	0.077	1.065-1.439	0.005
Fellowship Training Type	1.638	0.166	1.183-2.268	0.003

CCI=Charlson Comorbidity Index

*Non-Significant Variables=Female Gender; CCI; Ambulatory Status; Fellowship Training Type;

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