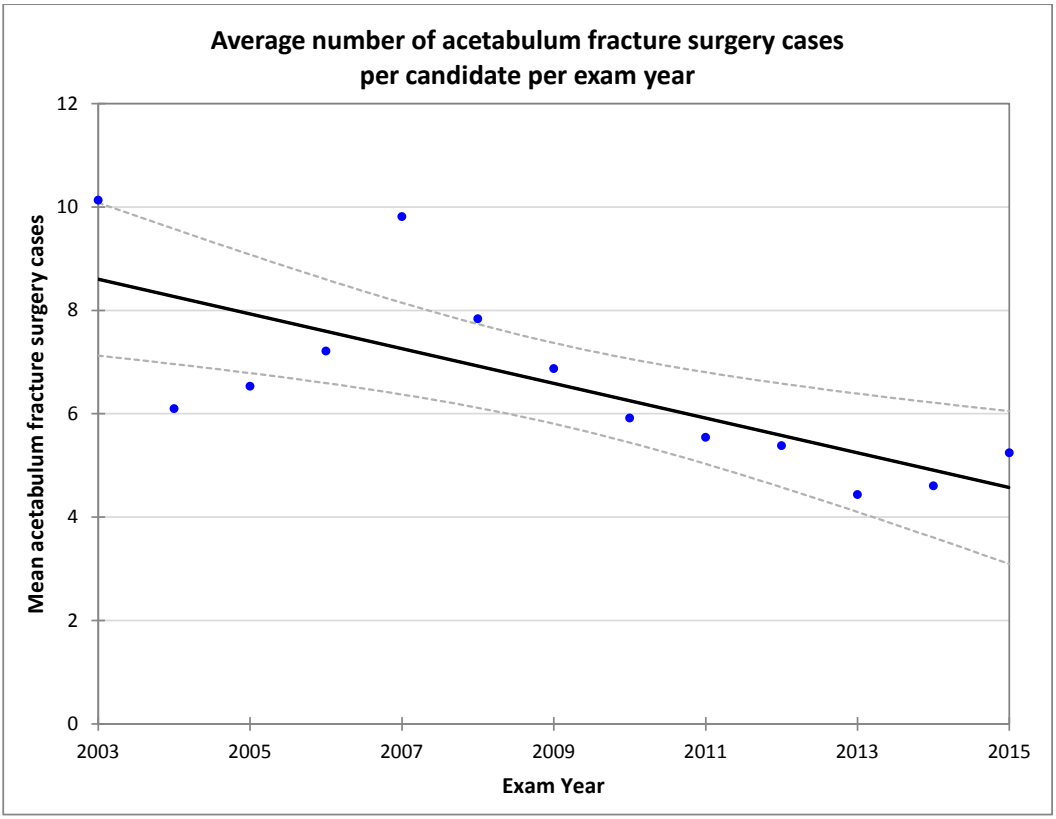
Are Early Career Orthopaedic Trauma Surgeons Performing Enough Complex Trauma Surgery?

Jacob Gire, MD; *Michael J. Gardner, MD; Alex Harris, PhD; Julius Bishop, MD*
Stanford University Department of Orthopaedic Surgery, Redwood City, California, USA

Purpose: There has recently been a sharp increase in the number of fellowship-trained orthopaedic trauma surgeons, raising concerns that the surgical experience of early career surgeons may be diluted, particularly of less common but more complex and technically demanding fracture cases. The purpose of this study was to evaluate the change in complex trauma case volume of orthopaedic trauma surgeons sitting for Part II of the American Board of Orthopaedic Surgery (ABOS) certification examination for years 2003 through 2015.

Methods: The case log data from all surgeons taking Part II of the ABOS examination over a 13-year period (2003-2015) were evaluated. Any surgeon who examined in the trauma subspecialty was included and Current Procedural Terminology (CPT) codes were used to identify surgical procedures. We defined pelvis, acetabulum, and periarticular fracture surgeries as complex trauma procedures and evaluated changes in case volume over time using mixed-effects linear regression analysis.



See pages 49 - 106 for financial disclosure information.

Results: 8911 ABOS candidates reported 1,116,811 procedures during the data collection period. From this group we included 468 candidates who examined in the trauma subspecialty and performed 90,261 procedures. The number of candidates testing in trauma ranged from 15 to 65 and increased significantly over time (ß = 4.05 (.37), P <.0001). Trauma candidates reported on average 193 cases during their collection period and this case volume was stable over time (ß =-1.7 (1.1), P = 0.16). The number of acetabulum fracture surgeries performed per candidate per year decreased significantly over time from a mean of 10.1 cases in 2003 to 5.2 cases in 2015 (ß = -0.34 (0.08), P = 0.0015, Fig. 1). There was no significant change in the number of pelvic fracture surgery cases per candidate per test year (ß = -0.1 (0.1), P = 0.285). There was a trend toward less periarticular fracture surgery cases per candidate per test year (ß = -0.3 (0.1), P = 0.072).

Conclusion: The number of orthopaedic trauma candidates taking Part II of the ABOS examination has increased significantly over time. Although pelvic ring and periarticular fracture surgery volume has remained steady, these early career surgeons have experienced a significant decrease in acetabular fracture case volume. The implications of this decreased surgical experience warrants careful consideration as the orthopaedic trauma workforce continues to evolve.