ACGME Case Volume in Shoulder and Elbow: Trends Over Past 10 Years

Akhil Katakam, Tej Joshi, Ari J Clements, Amanda Azer, Daniel Calem, Emma Sage Trasatt, Joshua Lerman, Eitan Kohan, Francis G Alberta

INTRODUCTION: For orthopaedic residents, the ACGME case log system categorizes procedures by anatomy and case type. With shoulder and elbow surgery emerging as a growing subspeciality, the purpose of this study is to evaluate how graduating orthopaedic residents' shoulder and elbow case volumes have evolved from 2014-2024.

METHODS: Using the ACGME case log database, we performed a retrospective review of orthopaedic surgery resident case logs 2014-2024. For each graduating resident cohort, we computed the mean number of cases per resident in three categories (repair/revision/reconstruction, fracture/dislocation, and arthroscopy) for shoulder elbow procedures. Trends for overall case volume and within each category were then analyzed using logistic and linear regression.

RESULTS:

The number of residency programs increased from 151 in 2014 to 199 in 2024, with resident count rising from 684 to 871 (Table 1).

The mean number of shoulder procedures per resident rose from 120.2 in 2014 to 167.0 in 2024 (39%). This growth was evident across all subcategories: shoulder arthroscopy cases increased from 63.6 to 81.8 (28.6%), and repair/revision and fracture/ dislocation cases also trended upward (Figures 1-4, Table 2). Corresponding regression coefficients were highly significant: repair/revision B=2.1 (0.8, $p<0.001$); fracture/dislocation B=0.4 (0.0, $p<0.001$); arthroscopy B=2.1 (0.3, $p<0.001$); overall shoulder volume B=4.9 (0.3, $p<0.001$).

Similarly, mean number of overall elbow cases rose from 45.0 in 2014 to 67.2 in 2024 (49.3%). This was driven by increases in fracture/dislocation cases and repair/revision cases, whereas mean elbow arthroscopy remained decreased (Figures 5-8, Table 3). All trends were statistically significant, with regression coefficients as follows: repair B=0.6 (0.0, $p<0.001$); fracture B=1.2 (0.0), $p<0.001$; total elbow B=2.3 (0.1, $p<0.001$); and arthroscopy B= -0.04 (0.01, $p<0.001$).

DISCUSSION AND CONCLUSION: Shoulder and elbow procedure exposure increased steadily for graduating orthopaedic surgery residents between 2014 and 2024. The greatest increases were observed in fracture/dislocation and repair/reconstruction categories, contributing to the overall rise in case volumes. In contrast, elbow arthroscopy case volumes decreased.