

Are Orthopaedic Trauma Surgeons Adequately Compensated for Treating Acetabular Fractures? An Analysis of Operative Times and Work Relative Value Units

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INTRODUCTION: Work Relative Value Units (wRVUs) can influence physician compensation and resource allocation. They are intended to be based upon case effort and complexity. However, discrepancies have been reported between the operative time required for certain surgical procedures and allocated wRVUs. The purpose of this study was to evaluate the wRVUs attributed per minute of operative time (wRVU/min) in fixation of acetabular fractures and to evaluate associated surgical factors that influence wRVU/min.

METHODS: An institutional database of acetabular fractures treated with open approaches was retrospectively reviewed. Patients with concomitant procedures and no discrete incision to closed time for the acetabular portion were excluded. Current procedural terminology (CPT) code, fracture pattern, position, approach, incision to closed time, nonsurgical room time, concomitant procedures, and the operating surgeon were collected. Groups were categorized by their coded CPT: 27226 (isolated wall), 27227 (isolated column, transverse), 27228 (both column, T type, anterior column posterior hemitransverse, column or transverse, and wall). Work RVU per surgical minute was compared to reported values of other orthopaedic procedures.

RESULTS: Two-hundred-fifty-one acetabular fractures treated by 7 fellowship trained orthopaedic trauma surgeons between 2010 and 2019 were included. The mean total wRVU per surgical minute for each CPT code was 1) CPT 27226: 0.091 wRVU/min (range 0.047-0.247), 2) CPT 27227: 0.120 wRVU/min (range 0.075-0.282), 3) CPT 27228: 0.120 wRVU/min (range 0.047-0.244). These values were lower than reported wRVU/min for other orthopaedic procedures (Table 1). For patients with a single approach, anterior based surgical approaches generated the least amount of work RVU per surgical minute (0.0914 wRVU/min, p=0.0001). Patients requiring two positions and approaches required the most amount of surgical time and generated the lowest wRVU/min. The average nonsurgical room time was 77.2 minutes. Surgeon positioning required the longest amount of nonsurgical room time across all fracture patterns (84.8 minutes). Surgeon experience ranged from 3 to 26 years in practice with operative time decreasing as surgeon experience increased (p = 0.03). Surgeons with >20 years of experience averaged 0.122 wRVU/min across all fracture patterns.

DISCUSSION AND CONCLUSION: The wRVUs allocated per minute of operative time for acetabular fractures is less than half of other reported procedures and lowest for isolated wall fractures. The increased time required for anterior based or dual approaches further decreased wRVU/min. There was a significant amount of nonsurgical room time, which limits overall production. This information should be utilized to ensure that orthopaedic trauma surgeons are being adequately compensated and supported for managing these technically complex fractures.

Procedure (n)	wRVU	Mean Total Room Time (min)	Mean Non-Surgical Room time (min)	Mean surgical time (min)	Mean wRVU/surgical min
27226 (N=99)	15.57	254.1	82.6	171.5	0.091
27227 (N=18)	25.41	278.9	66.5	212.4	0.120
27228 (N=134)	29.33	324.1	80.6	243.5	0.120
Primary Hip Arthroplasty (Sodhi 2017)					0.26
Revision Hip Arthroplasty (Sodhi 2017)					0.249
Primary Knee Arthroplasty (Peterson 2018)					0.26
Revision Knee Arthroplasty (Peterson 2018)					0.22