Treatment of Prosthetic Joint Infection Requires Extensive Administrative Work

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INTRODUCTION:

Treatment of prosthetic joint infections (PJI) typically requires more resource utilization, and multidisciplinary attention than primary total joint arthroplasty (TJA), but the administrative work required for PJI is unknown. This study quantifies the amount of time spent in the electronic medical record (EMR) for patients with PJI requiring surgical intervention.

METHODS:

We performed a retrospective analysis of EMR activity for 100 hip and 100 knee PJI patients to capture work performed in the medical record during the preoperative and postoperative time-period (90-days or second procedure). The elapsed time between mouse-clicks in the EMR was calculated for each clinical team member. Any elapsed time greater than 5 minutes was assumed to reflect inactivity and excluded. Independent samples t tests were conducted to compare total time based on procedure, age, insurance, health literacy, gender, race, and ethnicity.

RESULTS:

The overall time period was 89.4 days (*SD* 34.1; range 4-242d), with 13.3 days (*SD* 20.4*)* in the preoperative time period. Total EMR work performed by the orthopaedic team was 362.4min (*SD* 147.4), with 128.6.min (*SD* 78.0) occurring preoperatively and 233.8min (*SD* 131.6) postoperatively. Surgeon's EMR work accounted for 103.6min (*SD* 63.1), mid-level providers 119.4min (*SD* 82.1), nurses 91.6min (*SD* 69.6), and office staff 47.4min (*SD* 47.6). Additionally, infectious disease colleagues independently performed 204.3min (*SD* 122.8*)* of work. PJI associated with total knee arthroplasty (TKA) (p=0.003) and patients ≥65years (p=0.04) required more work when compared to total hip arthroplasty (THA) and the younger cohort. There was no difference in total work based on insurance (p=0.30), health literacy (p=0.36), gender (p=0.08), race (p=0.40), or ethnicity (p=0.19).

DISCUSSION AND CONCLUSION:

Over six hours of administrative work is required for surgical management of PJI. Despite a shorter preoperative window (13 vs. 69 days), our study reveals that surgeons alone performed 566% more work for PJI during the preoperative period (7.9 vs. 44.7min) compared to primary TJA. In efforts to provide best care for some of our sickest patients, much work is required to acquire cultures, outside records, review images, and coordinate multidisciplinary care. Recognition of this substantial perioperative work burden is necessary to consider when assigning value and physician reimbursement.