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**Abstract Title: Time from End of Surgery Until Discharge Following Total Knee Arthroplasty: Implications for Same Day Discharge**

**Background:**

Total knee arthroplasty (TKA) has been removed from the Centers for Medicare Services inpatient only list and is now eligible for outpatient reimbursement rates. The vast majority, however, of TKAs are still performed in community hospital settings. This change has inadvertently placed financial pressure on surgeons to consider lower cost outpatient ambulatory surgery centers (ASC). Many ASCs have limited hours of operation and it is important for surgeons considering transitioning to an ASC to understand the time needed to discharge patients following surgery. Therefore, the purpose of this study was to evaluate the average time required for same day discharge following unilateral TKA to determine how late in the day surgeries can be performed in an ASC with limited hours of operation.

**Methods:**

A retrospective review of patients who successfully achieved same day discharge from a high-volume community hospital following TKA was conducted. Patient demographics, time of surgical procedure and time of actual discharge from the hospital following surgical closure were recorded. Descriptive statistics were created for patient demographics and surgical variables, including mean and standard deviations. Independent t-tests were performed to compare time to discharge between patients having an incision time prior to and after noon.

**Results:**

Overall, 27 patients achieved same day discharge and were included for analysis. Of those patients, 19 (70.4%) were male and eight (29.6%) were female, with an age of  $64.5 \pm 10.3$  years and  $65.1 \pm 6.1$  years, respectively ( $p=0.880$ ). The average surgical time from incision to application of dressings was  $67.7 \pm 18.0$  minutes (range: 43-127 minutes) and the average time required for discharge following the end of surgery was  $374.9 \pm 77.7$  minutes (range: 187-537 minutes). Of the 27 patients, 22 patients started surgery prior to noon, with 18 patients finishing surgery prior to noon. The time required for discharge was significantly longer for patients ending surgery prior to noon ( $401.9 \pm 67.1$  minutes) compared to finishing after noon ( $320.7 \pm 71.4$  minutes) ( $p=0.008$ ). Only five patients (18.5%) started surgery prior to 9:30am, indicating that the majority of patients in the current study were not the first or second surgical case of the day. Discharge times ranged from 2:00pm to 8:00pm, with 21 patients (77.8%) being discharged after 5:00pm.

**Conclusions:**

Patients require approximately five to seven hours following elective unilateral TKA to discharge from a high volume community hospital. Surgeons considering transitioning TKA cases to an ASC should appreciate this potential time requirement when scheduling cases at an ASC which may have limited operational hours. Average times required for discharge from a particular ASC should be studied to understand how to maximize efficient use of such facilities.