Operative Management of Hip Fractures within 24 Hours of Admission in the Elderly is Achievable and Associated with Reduced Opiate Use and Shorter Hospital Length of Stay
Mohammad Roostan¹, Sachin Allahabadi, Stephanie Rogers, Derek Ward², Candace Jennifer Kim
¹Medicine, University of California San Francisco, ²University of California

INTRODUCTION: National guidelines recommend urgent (within 24-48 hours) operative management of hip fractures due to the associated reduction in mortality, pain, hospital-associated complications, and length of stay. Although surgical timing is often influenced by preoperative medical evaluation and optimization, delays in surgery may be preventable. The purpose of this study was to 1) investigate factors contributing to prolonged time to surgery (>24 hours from admission) in geriatric patients with hip fractures and 2) evaluate the relationships between time to surgery and patient outcomes, including length of stay, pain, and incidence of delirium.

METHODS:
A retrospective review of the hip fracture database identified all patients >65 years-old who underwent hip fracture surgery at our medical center from 12/2018 – 12/2019. The following data were collected: time to surgery, length of stay, total and postoperative oral morphine equivalents, and days of delirium. Data were stratified by time to surgery (<24 hours versus >24 hours). Subsequently, a more detailed chart review was performed to determine the etiology of prolonged time to surgery (>24 hours from admission). The etiologies were then categorized as preventable or nonpreventable. Descriptive statistics were used to summarize data and two-tailed t-tests for independent samples were used to compare continuous variables with level of significance set at < 0.05.

RESULTS:
During the study period, 159 patients underwent surgery for hip fractures at our institution. Thirty-six (22%) of these patients were transferred from outside hospitals and were excluded due to inability to accurately assess time to surgery. Of the remaining 123 cases included in analysis, 35 (28.5%) had prolonged time to surgery >24 hrs. Total length of stay was significantly longer (median 117 hours vs. 86 hours, p = 0.025) in the prolonged surgery group but the postop length of stay was not different (median 70 vs. 79 hours, p = 0.20). Total morphine equivalents (median 155 vs. 45, p = 0.0064) was greater in patients who underwent surgery >24 hours from admission compared to within 24 hours. There was no difference in incidence of delirium (20 vs. 22%). In some cases, prolonged time to surgery was caused by potentially preventable and modifiable factors such as delays for obtaining advanced imaging, difficulties in obtaining consent, issues with operating room scheduling, and delays in coordinating consulting services for medically complex patients.

DISCUSSION AND CONCLUSION: Operative management of hip fractures can be performed within 24 hours of admission for the majority of patients over 65 years-old. Surgical treatment of hip fractures performed greater than 24 hours after admission is associated with increased length of stay and greater opiate requirements. Even in medically complex patients, surgery within 24 hours is attainable and many surgical delays may be preventable. Given improved patient outcomes with shorter time from admission to surgery, interventions to address preventable surgical delays present an opportunity to improve care.