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Study shows risk of prolonged opioid use in older, opioid-naïve patient populations following hip fracture surgery

SAN DIEGO, Calif. (August 31, 2021)—A new study presented at the 2021 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS) found there is a notable risk of prolonged opioid use in older patient populations following musculoskeletal injury. While numerous studies have analyzed opioid dependence in younger patient cohorts, relatively few studies examine the risk factors and prevalence associated with long-term opioid usage in patients aged 60 and older, who, despite their age, remain at risk for opioid dependence.

The retrospective cohort study, “Prolonged Opioid Usage Following Hip Fracture Surgery in Opioid-Naïve Older Patients,” followed 29,618 opioid-naïve patients (not filling an opioid prescription three months prior to the hip fracture), age 60 and older, who underwent surgical treatment of a hip fracture between 2009 and 2018. The research team, consisting of Kanu Okike, MD, MPH, FAAOS, Richard N. Chang, MPH, Priscilla H. Chan, MS, Elizabeth W. Paxton, PhD, and Heather A. Prentice, PhD, MPH, utilized Kaiser Permanente’s Hip Fracture Registry for the study. Because the registry uses a patient’s electronic medical records, the research team was also able to capture relevant factors such as demographics, preexisting comorbidities, and opioid use before, during, and after surgery.

With these data, the study looked at outpatient opioid use during three time periods — 0 to 30 days post-surgery (P1), 31 to 90 days post-surgery (P2), and 91 to 180 days post-surgery (P3) — to analyze prolonged outpatient opioid use, defined as filling one or more opioid prescriptions in all three time periods.

“Hip fractures stand alone not only in their frequency among older adults, but because they increase the risk of morbidity and mortality,” said Dr. Okike, lead researcher and orthopaedic trauma surgeon at Hawaii Permanente Medical Group in Honolulu. “Given that hip fractures are a severe injury in an already frail patient population, it would be problematic if some patients were also developing opioid dependence following their injury.

Of patients who remained alive during the time period of the study, the proportion of outpatient opioid usage was 83.7% (24,776/29,618) in P1, 69% (19,380/28,068) in P2, and 16.7% (4,435/26,481) in P3. Of note, the team found that that one in six elderly hip fracture patients were still taking opioid pain medications at three to six months following hip fracture surgery.

Additional findings include:

- Prolonged opioid usage was less commonly observed among patients who were either Asian, had an annual income of \$150,000 or greater, or had undergone regional anesthesia.
- The most common types of opioid prescriptions filled in the six months following hip fracture surgery were hydrocodone (53.9%), oxycodone (22.4%), and morphine (6.8%).
- Prolonged opioid usage was more common following fracture fixation and less common following total hip arthroplasty (both in comparison to hemiarthroplasty).

“While most of the concerns and opioid usage research in elderly individuals have centered on short term risks, such as oversedation and delirium, our findings suggest that prolonged opioid usage is an important concern in this older population, just as in the younger trauma populations,” said Dr. Okike. “Our hope is that by uncovering more data and continuing to educate patients of all ages, the orthopaedic community will be able to better aid efforts to decrease long-term opioid dependence in their patients.”

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2021 AAOS Annual Meeting Disclosure Statement

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With more than 39,000 members, the American Academy of Orthopaedic Surgeons is the world’s largest medical association of musculoskeletal specialists. The AAOS is the trusted leader in advancing musculoskeletal health. It provides the highest quality, most comprehensive education to help orthopaedic surgeons and allied health professionals at every career level best treat patients in their daily practices. The AAOS is the source for information on bone and joint conditions, treatments, and related musculoskeletal health care issues, and it leads the health care discussion on advancing quality.

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Contact AAOS Media Relations

Lauren P. Riley	847-384-4031	708-227-1773	pearson@aaos.org
Deanna Killackey	847-384-4035	630-815-5195	killackey@aaos.org