

Surgeons find over-the-counter medications control pain after elbow surgery as effectively as opioids

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Children who take only ibuprofen or acetaminophen after routine elbow surgery report similar pain control to patients who take opioids, according to a new study by researchers at Children's Hospital of Philadelphia (CHOP). The study, [published](#) in the *Journal of Bone and Joint Surgery*, suggests surgeons can confidently recommend over-the-counter medications to patients after elbow and discontinue the routine prescription of opioids.

"Pain is an important indicator of post-surgical recovery, and we want to make sure kids are not suffering needlessly, but we also want to make sure we are controlling pain in a responsible way," said senior author Apurva S. Shah, MD, MBA, an attending orthopaedic surgeon at CHOP. "This study provides support for recommending acetaminophen and ibuprofen to [patients](#) after elbow fracture surgery, which will improve opioid stewardship for this common surgery and potentially for others like it."

Supracondylar humerus (SCH) fractures are the most common elbow fracture in children and are repaired through a procedure called closed reduction and percutaneous pinning (CRPP), which allows surgeons to repair the fracture without an incision. Multiple studies have questioned the need for [opioids](#) following this procedure, including a study by CHOP researchers that found patients used less than 25% of the opioids they were prescribed, raising a potential risk of opioid misuse, diversion into communities, and accidental poisonings.

Promoting opioid stewardship without compromising patient comfort is key to ensuring safe, [quality care](#), but prior to this study, there was little information on the efficacy of opioid versus non-opioid pain control in patients receiving orthopaedic procedures like CRPP.

To help develop evidence-based guidelines for this population, the researchers enrolled 157 children from four tertiary hospitals in the

United States between May 2021 and August 2022. The children, who were between the ages of 3 and 12, all had SCH fractures that were being repaired via CRPP.

Approximately half (52%) of the patients enrolled in the study were prescribed the opioid oxycodone, as well as ibuprofen and acetaminophen, whereas the other half (48%) were prescribed only ibuprofen and acetaminophen. Using text messages, participants reported on the children's medication use and daily pain using the Pain FACES Scale for a week after the surgery, as well as on days 10, 14 and 21.

The researchers found no significant differences in pain ratings between opioid and non-opioid groups at any timepoint. Notably, 35% of patients who were prescribed opioids never took them, and 49% took only one to three doses over the entire postoperative period. Patients who did take opioids rarely took them for more than two days after [surgery](#). Only one patient in the non-opioid group (1%) asked for a prescription of opioids after presenting to the ED with postoperative cast discomfort.

"Given that this study shows no significant benefit to opioid use in controlling [pain](#) in patients undergoing CRPP for elbow fractures, providers and institutions should consider discontinuing the routine prescription of opioids following this procedure—and potentially for other upper extremity fractures repaired using CRPP," Dr. Shah said.

"Research into more invasive pediatric orthopaedic procedures and adolescent populations may demonstrate additional areas for opioid stewardship. Investment into these areas will ultimately improve the quality, safety, and value of surgical care in pediatric orthopaedics."

More information: Opioid Analgesia Compared with Non-Opioid Analgesia After Operative Treatment for Pediatric Supracondylar

Humeral Fractures, *Journal of Bone and Joint Surgery* (2023). DOI: [10.2106/JBJS.23.00223](https://doi.org/10.2106/JBJS.23.00223) , [journals.lww.com/jbjsjournal/a ...non_opioid.931.aspx](https://journals.lww.com/jbjsjournal/a...non_opioid.931.aspx)

Provided by Children's Hospital of Philadelphia

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