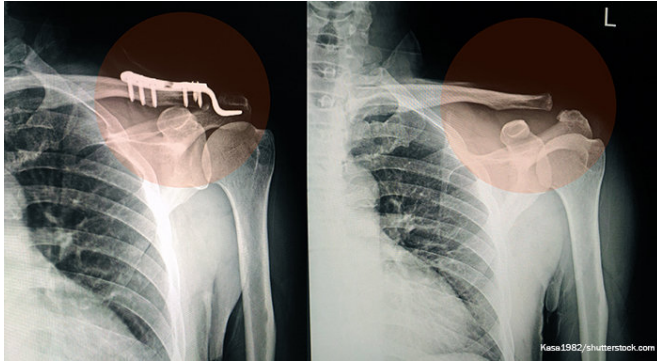


Study with implications for opioid crisis finds opioids raise risk of fracture nonunion

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Dr. Robert Zura, Professor and Chair of Orthopaedic Surgery at LSU Health New Orleans School of Medicine, was part of a research team reporting that not only may opioid use increase the risk of bone fractures, but opioids may also impair healing. The authors also question their effectiveness in controlling pain. Dr. Zura is a coauthor of the "Article in Press" available online in the journal, *Injury*.

The authors suggest that chronic use of certain medications may be a significant and substantial risk factor for fracture nonunion. Overall, 49.2% of [opioid](#)-naive patients receive an opioid prescription for post-operative pain control at hospital discharge after major surgery. Yet they report there is no evidence that opioids are more effective than non-opioids for acute extremity pain in the Emergency Department. The authors add that their data suggest that there is an inherent risk in use of most opioid analgesics and emphasize the importance of multimodal, non-opioid analgesic techniques at fracture.

The team studied 309,330 of the 18 most common bone [fractures](#), as well as medication use, including antibiotics, anticoagulants, diabetes

medications, osteoporosis medications, cardiac medications, diuretics, immunosuppressants, steroids, anticonvulsants, and non-opioid analgesics in addition to opioid analgesics. They found that opioid medications as a class significantly increased the risk of fracture nonunion following both acute and chronic administration.

"Chronic opioid use roughly doubled the risk of nonunion among all patients, and this effect was fairly consistent across all ages and both genders," noted Dr. Zura.

The researchers report that Schedule II opioids, as a group, create a greater nonunion risk than non-opioid analgesics. Certain of these medications produce a significant risk, including acetaminophen/oxycodone, hydromorphone, acetaminophen/hydrocodone, oxycodone and meperidine. Of the Schedule III-V opioids, tramadol and naloxone/pentazocine were also associated with increased risk. Acetaminophen/codeine and buprenorphine were not associated with increased risk of nonunion. Prescription NSAID use also increased the risk of nonunion among chronic users.

"It is interesting that recent opioid policy discouraging the use of high-potency opioids appears to be increasing use of lower-potency opioids such as tramadol, a Schedule IV opioid," says Zura. "Our data suggest that this trend may not increase medication safety to the degree desired. It is critical that trauma surgeons and other practitioners be aware of the nonunion risk created by [medication](#) use."

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acute extremity pain in the Emergency Department. They add that their data suggest that there is an inherent risk in use of most [opioid analgesics](#) and emphasize the importance of multimodal, non-opioid analgesic techniques at fracture.

More information: Thomas Buchheit et al, Opioid exposure is associated with nonunion risk in a traumatically injured population: An inception cohort study, *Injury* (2018). DOI: [10.1016/j.injury.2018.05.004](https://doi.org/10.1016/j.injury.2018.05.004)

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