

# Factors linked to racial disparities in chronic pain after injury

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Chronic pain is a top cause of disability in the United States, with the costs of medical care and lost productivity exceeding \$500 billion, according to an Institute of Medicine report. Many people who suffer an

acute traumatic injury—such as from a car crash or violence—continue to experience pain in the year after injury.

Past research has independently established the existence of racial disparities in [injury](#) outcomes and in the severity and treatment of [chronic pain](#) but not which factors impact chronic pain after an injury. But a collaborative [new study](#) led by researchers at the University of Pennsylvania School of Nursing and published in the journal *Injury Prevention* provides new insights into when and why an injury progresses to chronic pain.

The study enrolled a cohort of 650 adult participants—38% white, 33% Black, and 26% Hispanic—from two Level 1 trauma centers in Pennsylvania and Texas. Researchers collected data from [medical records](#) and patient interviews within days of injury, three months after injury, and 12 months post-injury. The researchers also assessed pre-injury pain, perceived pain control, post-traumatic stress disorder symptoms, depression symptoms, discharge with an opioid prescription and follow-up provider visits.

The study found that among seriously injured adults, racial and ethnicity-based disparities in chronic pain may be most driven by differences in the nature of and health care response to acute injuries. Factors associated with disparities include mechanism of injury, severity of injury, pain in the hospital, and length of hospital stay. As an example of differences in mechanisms of injury, Black participants—who reported the highest chronic pain severity in the year after injury—were more likely to be injured by violence when compared to white and Hispanic participants.

"I think that the takeaway, for me, was that you can't take prevention out of the picture when thinking about intervening on racialized disparities in long-term recovery," says Sara Jacoby, associate professor of nursing

and the first author on the study.

"The absolute best targeted response is to prevent the injury from happening, and that is our responsibility. Just like we want to do preventative care to prevent a [heart attack](#) or stroke, we want to prevent injury from happening," says senior author Therese Richmond, the Andrea B. Laporte Professor of Nursing. She says the second-best targeted response is optimally and equitably treating acute pain during hospitalization.

Jacoby notes that stereotypes and stigma can play into whether patients are believed about their pain and what treatment they receive. The paper cites [recent research](#) showing that minority patients in the U.S. receive less analgesia for acute pain, regardless of condition, when receiving emergency medical care.

Preinjury pain did not differ across race and ethnicity, but Black participants had higher pain severity on average relative to white participants three and 12 months after injury. The group of factors most associated with outcome disparities at three and 12 months were those related to acute hospitalization: injury mechanism and severity, [pain](#) in the hospital, and length of hospital stay.

Richmond says that, while this research is a big step forward, it does not fully explain the disparities, and other factors remain unknown, so there is still more work to be done.

**More information:** Sara F Jacoby et al, Factors associated with racial and ethnic disparities in chronic pain after acute traumatic injury, *Injury Prevention* (2023). [DOI: 10.1136/ip-2023-044876](https://doi.org/10.1136/ip-2023-044876)

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