

Study shows uptick in at-home pediatric fractures during COVID-19 pandemic

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COVID-19 social distancing measures, including the closure of schools and parks and the indefinite cancelation of team sports, have led to a nearly 60% decrease overall in pediatric fractures but an increase in the proportion of fractures sustained at home, according to a new study by researchers at Children's Hospital of Philadelphia (CHOP). The findings,

published in the *Journal of Pediatric Orthopaedics*, suggest a need for increased awareness of at-home safety measures.

"Although the overall rate of [fractures](#) is down significantly during the COVID-19 pandemic, the proportion due to bicycle and trampoline injuries has gone up substantially," said Apurva Shah, MD, MBA, an orthopedic surgeon in CHOP's Division of Orthopaedics and senior author of the study. "It is important to remind parents about the importance of basic safety precautions with bicycles and trampolines, as many children are substituting these activities in place of organized sports and school activities."

The research team gathered data on 1,735 patients who presented at CHOP with acute fractures between March 15 and April 15, 2020 and compared that information with patients who presented with fractures during the same timeframe in 2018 and 2019. The researchers found a nearly 2.5-fold decrease in the daily incidence of fracture cases during the pandemic compared to the pre-pandemic period. Sports-related fractures saw a particularly dramatic decline, accounting for only 7.2% of fracture cases during the pandemic versus 26% of all fracture cases in the same month in 2018 and 2019.

Despite these significant declines, the researchers found an increase of more than 25% in fractures occurring at home, which was accompanied by a 12% increase in fractures caused by high-energy falls, like those resulting from trampoline injuries, and bicycle injuries. With families spending more time at home due to social distancing guidelines, the researchers suggest this shift in injury location is a natural result of families finding alternative recreational activities for their children.

The decline in fracture incidence was bigger for some age groups than others. Patients aged 12 and over saw a five-fold reduction in the monthly number of fracture cases, whereas children aged 5 and under

saw only a 1.5-fold decrease. The researchers surmise this is due to younger children substituting other active pursuits for pre-pandemic activities, like playground outings and other outdoor activities, whereas adolescents, who are more likely to play team sports, are making fewer of those substitutions.

The researchers did not find a significant uptick in the use of cast alternatives, like controlled ankle motion boots, during the pandemic, but they did see a 20% increase in the use of Velcro wrist splints for torus distal radius fractures, a buckle fracture near the wrist. The authors note these splints are a valuable option at a time when many patients are avoiding hospitals and clinics, as the splints are effective, widely available, and eliminate the need for a follow-up appointment for cast removal. Combined with an increase in telemedicine follow-up appointments, the research team said these sorts of alternatives can provide quality care for patients both now and in the future.

"This pandemic highlights new opportunities for improvement of patient care, as we observed significant increases in the use of telemedicine and prescription of generic Velcro wrist splints," Shah said. "These treatment trends may serve as the basis for more cost-effective fracture care long after the conclusion of the outbreak."

More information: Joshua T. Bram et al, Where Have All the Fractures Gone? The Epidemiology of Pediatric Fractures During the COVID-19 Pandemic, *Journal of Pediatric Orthopaedics* (2020). [DOI: 10.1097/BPO.0000000000001600](https://doi.org/10.1097/BPO.0000000000001600)

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