

New insights in the treatment of patellar sleeve fractures in youth

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Researchers in the Division of Orthopedics and Sports Medicine and Performance Center at Children's Hospital of Philadelphia (CHOP) announced results from a large retrospective study of patients surgically

treated for patellar sleeve fractures (PSFs), rare knee fractures that occur when a piece of bone and cartilage separates from kneecap. The findings are [published](#) in the *Journal of Pediatric Orthopaedics*.

They found that in most pediatric patients with displaced fractures, surgery was effective in restoring full range of motion (ROM) and enabled them to return to their regular activities.

Historically, PSFs are often seen in developing male adolescents with normal body mass index (BMI) and usually occur during high-impact sports like basketball or accidents like falling off a scooter. However, in-depth understanding of outcomes following PSF surgery has been limited.

In this study, researchers retrospectively reviewed 38 patients with PSFs (average age of injury was 11). They found that patients who had surgery for PSFs regained their ability to straighten their legs with full range of motion (ROM) and successfully returned to sport participation at an average of just over four months from surgery.

While more than a quarter of patients experienced a postoperative complication, most were minor and only 8% required an unplanned return to the [operating room](#) after surgical stabilization. Overall, they also noted that the timing of ROM initiation and the type of brace or cast used were not associated with surgical complications.

Unlike adults, evaluating injuries in developing adolescents requires researchers to also identify factors that may make children more vulnerable as they grow. In this study, the authors identified that most patients sustained a PSF during the earliest phase of growth plate maturation. The authors also noted that evaluating patellar height is important for diagnosing and treating knee disorders, but PSFs did not occur more frequently in patients with abnormal patellar height.

Despite the study's small sample size and retrospective nature, researchers suggest their findings add value to the limited evidence regarding [surgical treatment](#) for children's knee injuries.

"These observations help us to understand this unique type of injury and provide patients and families more accurate counseling about what to expect when undergoing treatment," said Brendan A. Williams, MD, an attending pediatric orthopedic surgeon with the Division of Orthopedics and Sports Medicine and Performance Center at CHOP.

"We will continue to evaluate these issues in larger cohorts of [pediatric patients](#) to help patients and their families find the safest and most efficient means of restoring their normal knee function."

More information: Vineet M. Desai et al, Patient Characteristics and Postoperative Outcomes of Surgically Treated Inferior Pole Patellar Sleeve Fractures, *Journal of Pediatric Orthopaedics* (2024). [DOI: 10.1097/BPO.0000000000002730](#)

Provided by Children's Hospital of Philadelphia

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