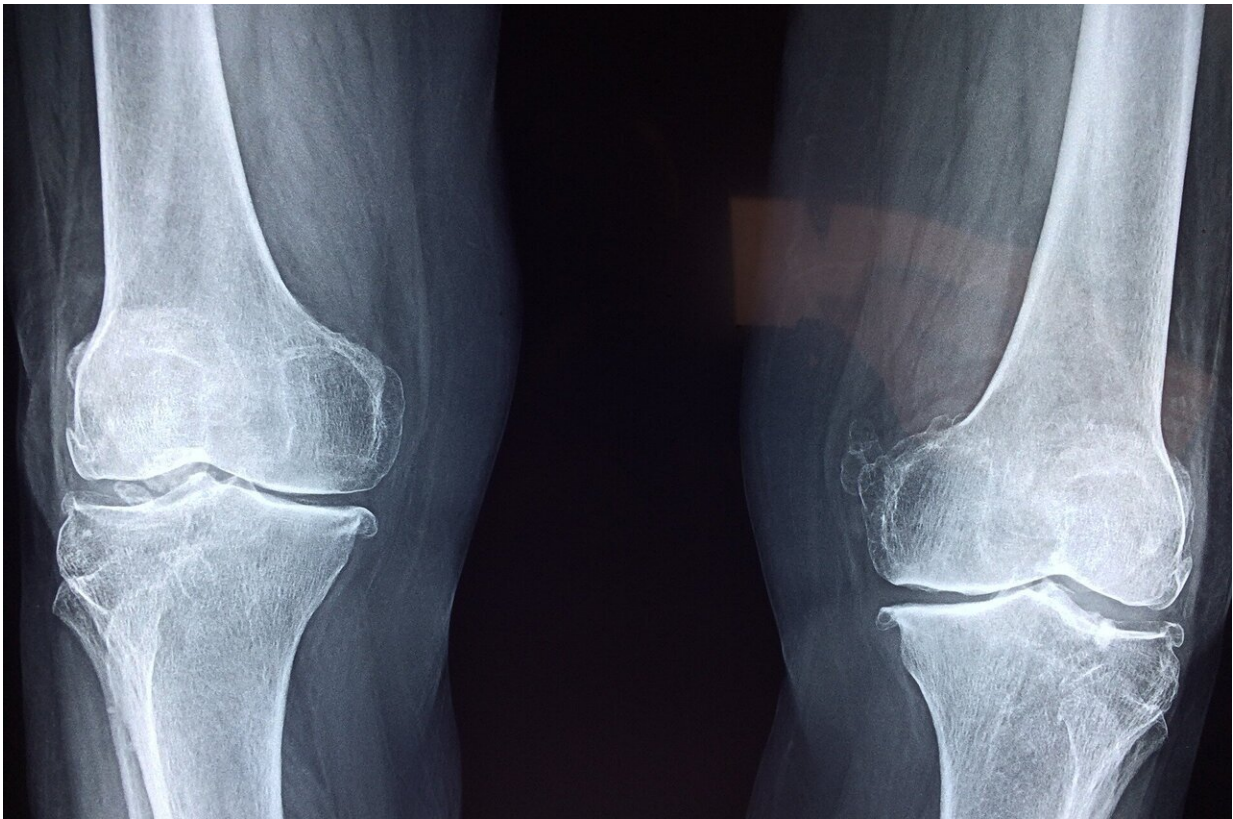


For anterior displacement of tibial spine fractures, does anatomic reduction matter?

July 14 2022



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Young patients who undergo surgery for displaced tibial spine fractures, and who had both an extension and flexion contracture, had 2.2 times the odds of having a complication compared to patients who did not have

any contractures, according to research presented today at the American Orthopaedic Society for Sports Medicine's 2022 Annual Meeting.

Tibial spine fracture is a break at the top of the [tibia](#) bone in the lower leg near the knee. This type of injury is most common in children between the ages eight to 14. A flexion contracture is a bent (flexed) joint that cannot be straightened actively or passively. Surgery for displaced tibial spine fractures consists of suture or screw fixation to reduce the fragment in addition to restoring tension of the anterior cruciate ligament. But, it is unknown whether this surgery impacts healing, range of motion, or looseness of the limb (laxity).

To investigate this further, Shannon A. McGurty, Boston Children's Hospital in Boston, created a study to determine whether residual displacement of the anterior portion of a tibial spine fragment affects the range of motion or laxity in post-operative and non-operatively treated tibial spine patients and to assess whether anterior lip displacement (ALD) predicts complications in these patients.

McGurty and colleagues gathered data on 578 patients treated for tibial spine fractures from an institutional review board-approved multicenter retrospective cohort of patients treated for tibial spine fractures between January 1, 2000, and January 31, 2019, at 10 institutions.

The researchers examined range of motion and anterior lip displacement measurements and compared these from pre-treatment to the patient's final visit. Anterior lip displacement measurements were categorized into four groups: 0 to less than 1 mm, excellent; 1 to less than 3 mm, good; 3 to 5mm, fair; and greater than 5mm, poor.

Of the 578 patients reviewed, 82 % (474/578) had an operative treatment while only 18% of patients (104/578) had a non-operative treatment. There was a higher proportion of patients who had a positive

Lachman test in the non-operative group (12%; 12/104) compared to the operative group (4%; 18/474; $p=0.001$). The surgical group had a median time of 3.4 months from [surgery](#) (range, 0.10 to 91.86 months) to final displacement measurement, while the non-operative group had a median time of 2.6 months from initial treatment to final displacement measurement (range, 0.07 to 61.37 months). Overall, there was no significant difference in the final range of motion measurements between these groups. The median anterior lip displacement measurement prior to treatment was 6.1mm and decreased to 0.7mm after treatment (p

Citation: For anterior displacement of tibial spine fractures, does anatomic reduction matter? (2022, July 14) retrieved 24 April 2024 from <https://medicalxpress.com/news/2022-07-anterior-displacement-tibial-spine-fractures.html>

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