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Posterior cruciate ligament reconstruction with Internal Brace augmentation. A two-year minimum. Cohort Study.

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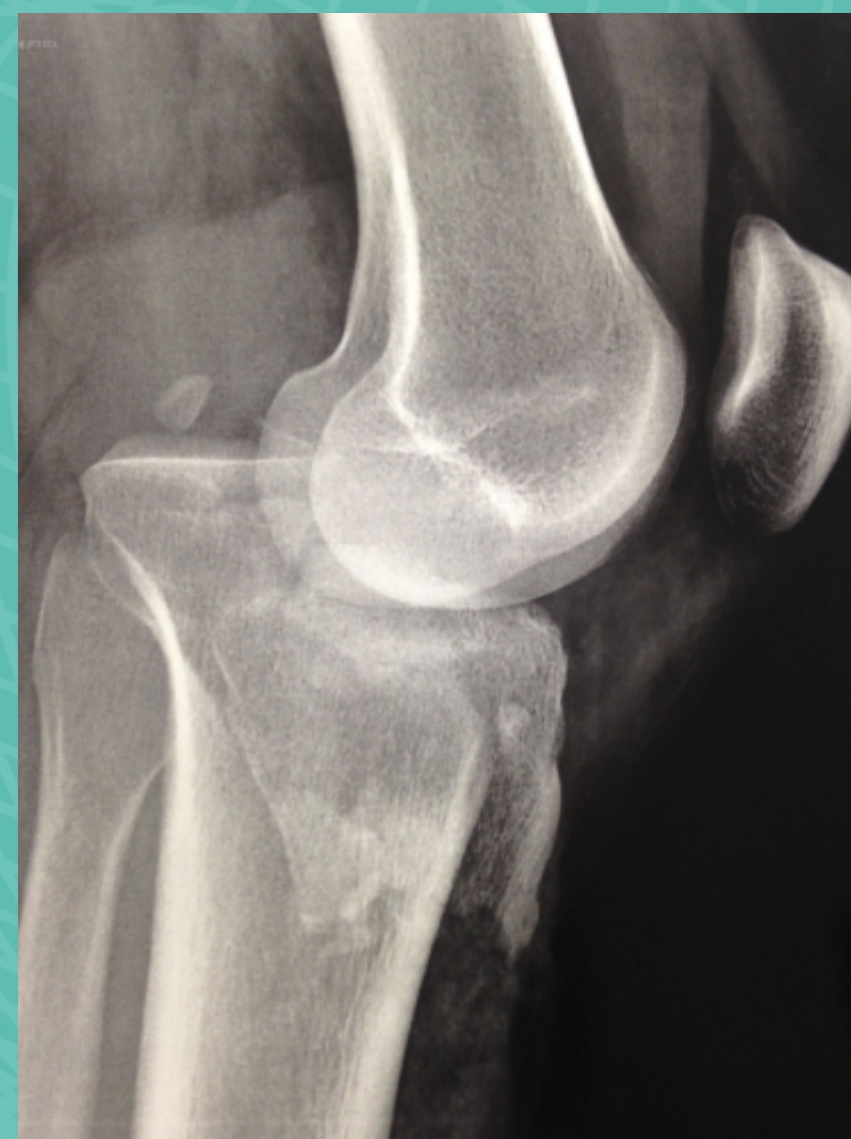
Disclosures:

Ramos L.A. - Medical Education - Arthrex



Introduction

The posterior cruciate ligament (PCL) is the primary restraint to posterior tibial translation in the knee. PCL injuries account for up to 20% of all ligament injuries around the knee. However, there is still no consensus on the optimal technique for PCL reconstruction. A lack of consensus in the scientific literature remain regarding the timing of surgery, graft selection, reconstruction type (single-bundle vs. double-bundle), and technique (transtibial vs. tibial inlay)



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Persistent knee laxity after reconstruction is commonly reported, and the graft failure rate of PCL reconstruction is relatively high, with approximately 5–21% of patients requiring PCL revision.



Recent scientific studies have explored the use of high-strength suture tapes for PCL reconstruction. However, none of these studies evaluated the use of quadriceps tendon autograft reinforced by an ultra-resistant tape. The theoretical advantage of using InternalBrace reinforcement is that it enhances the biomechanical characteristics of PCL reconstruction.

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ORIGINAL PAPER



Posterior cruciate ligament reconstruction with independent internal brace reinforcement: surgical technique and clinical outcomes with a minimum two year follow-up

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The Knee



Biomechanical evaluation of PCL reconstruction with suture augmentation

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Posterior Cruciate Ligament Reconstruction With Internal Brace Augmentation Reduces Posterior Tibial Translation Under Cyclic Loading

Nicholas A. Trasolini, MD, George F. Hatch, MD, David Wright, MD, Bruce A. Levy, MD, Michael J. Stuart, MD, Michelle H. McGarry, MS, and Thay Q. Lee, PhD

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The objective of this study is to evaluate a prospective cohort of patients with a minimum of 2 years of follow-up, assessing the objective results through knee stress radiographs and the subjective results through quality of life questionnaires.



Method

This study evaluated 45 patients who underwent a single bundle posterior cruciate ligament reconstruction using the quadriceps tendon with patellar bone plug as a graft.

Only individuals classified as KD1 by the Schenk classification or with isolated LCP injury were included.

75% of the injuries occurred due to motorcycle accidents, 82% of the associated peripheral injuries were in the lateral compartment. Autologous grafts were used for all cases, and ipsilateral hamstrings tendons were used for collateral ligaments.

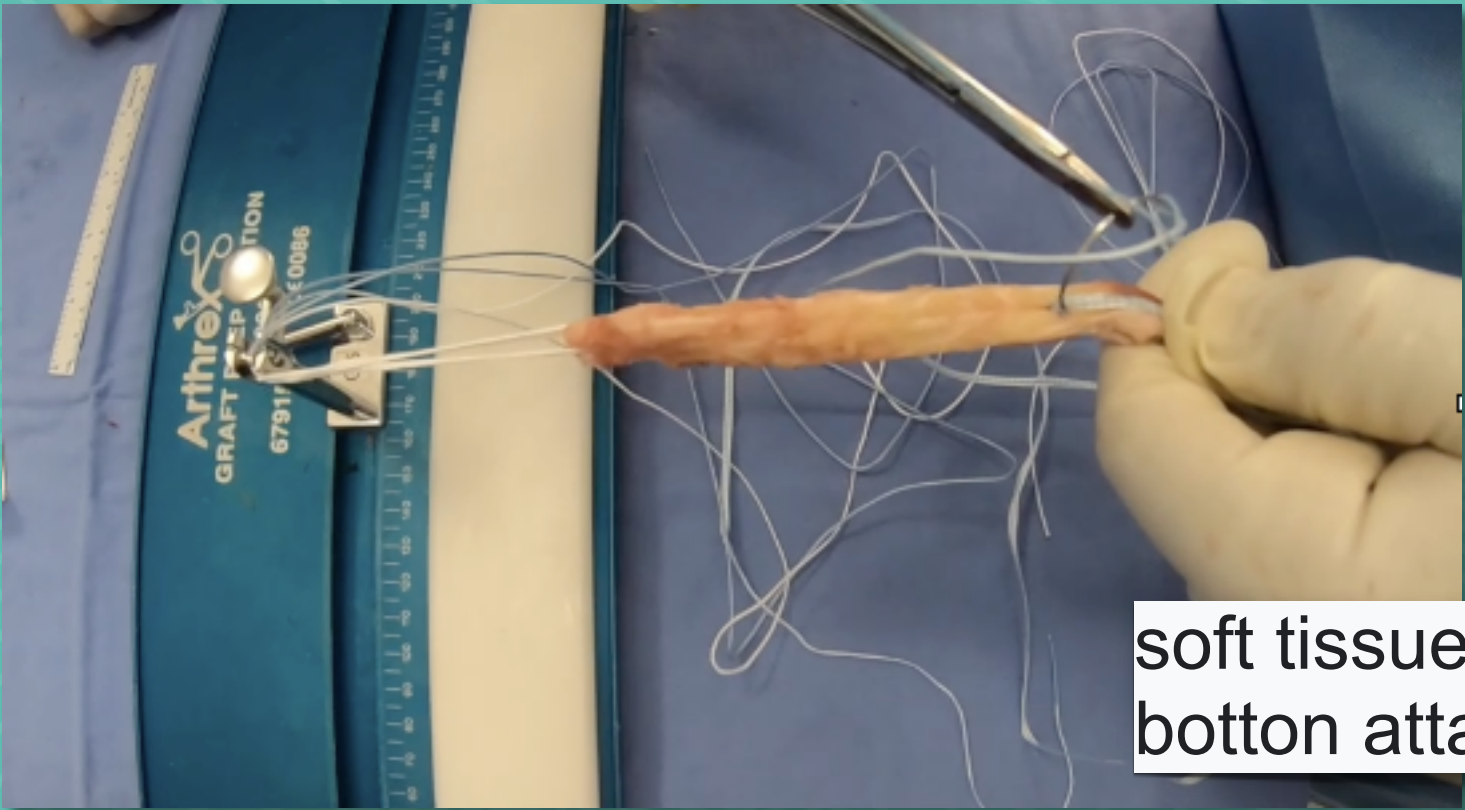


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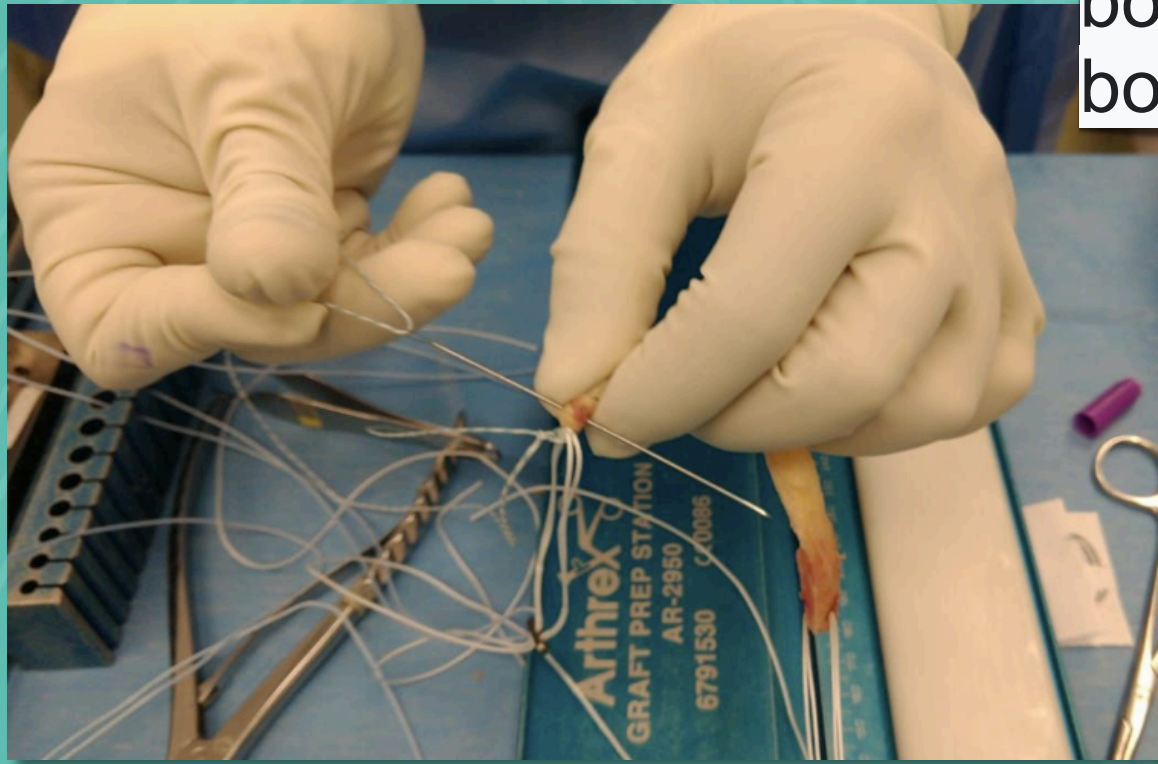


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Graft Preparation

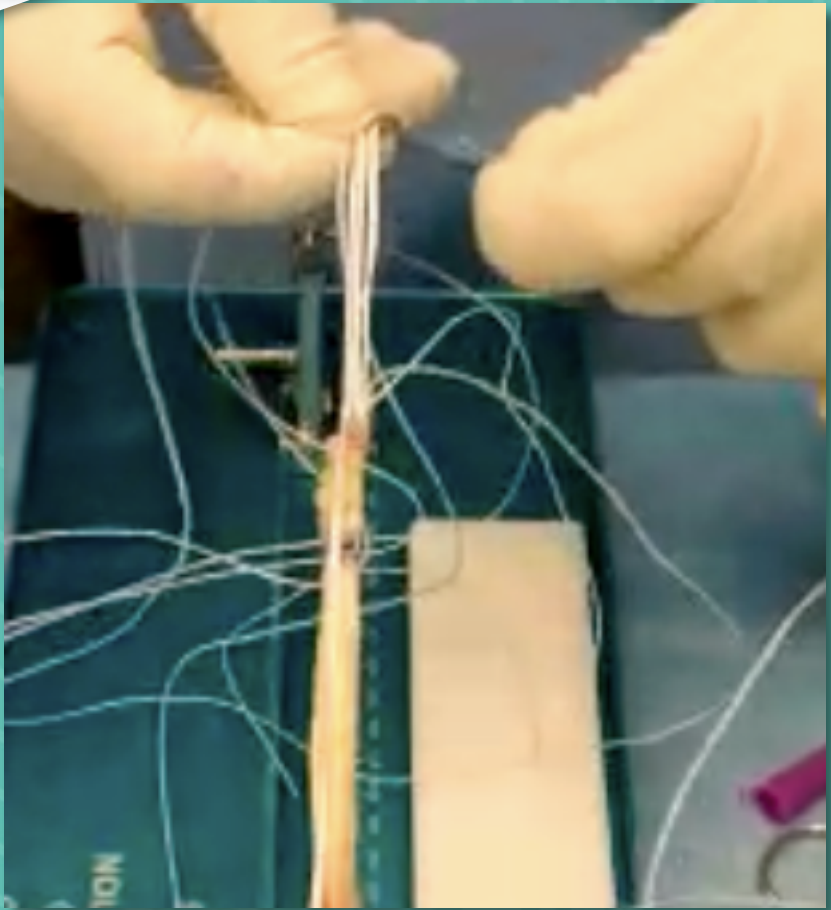


soft tissue end preparation using Fiber Tape for adjustable bottom attachment (ACL-RT)



making the fixation of the bone plug with a button for bone grafts (ACL-BTB)

FiberTape tape passes freely along the length of the graft independently



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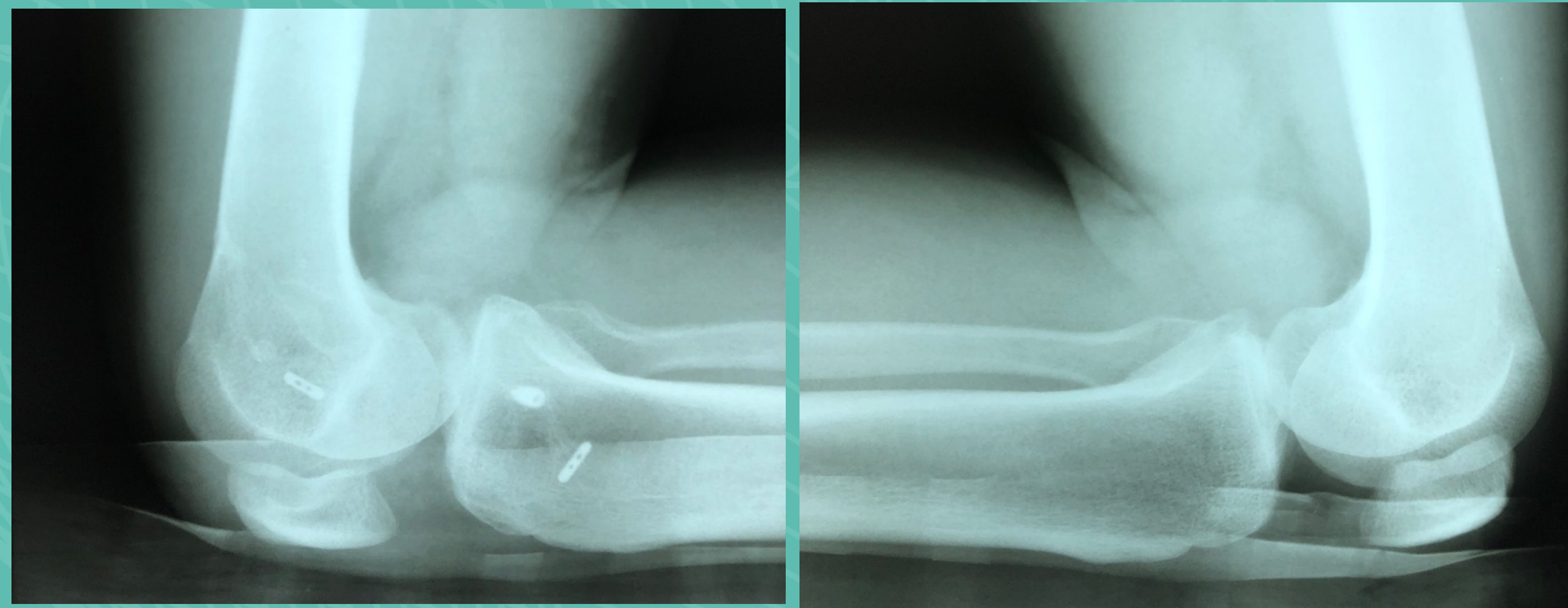


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At the end of a 2-year follow-up, all patients had returned to their work activities. The subjective evaluation of quality of life was recorded through the Lysholm questionnaire, and the average value was 78 points with a standard deviation of 4.



The objective evaluation of posterior knee translation was performed using stress radiographs with the patient kneeling. For these radiographs, differences were observed compared to the contralateral side. The mean difference between pre- and postoperative radiographs was 1.8 mm ($p < 0.001$).



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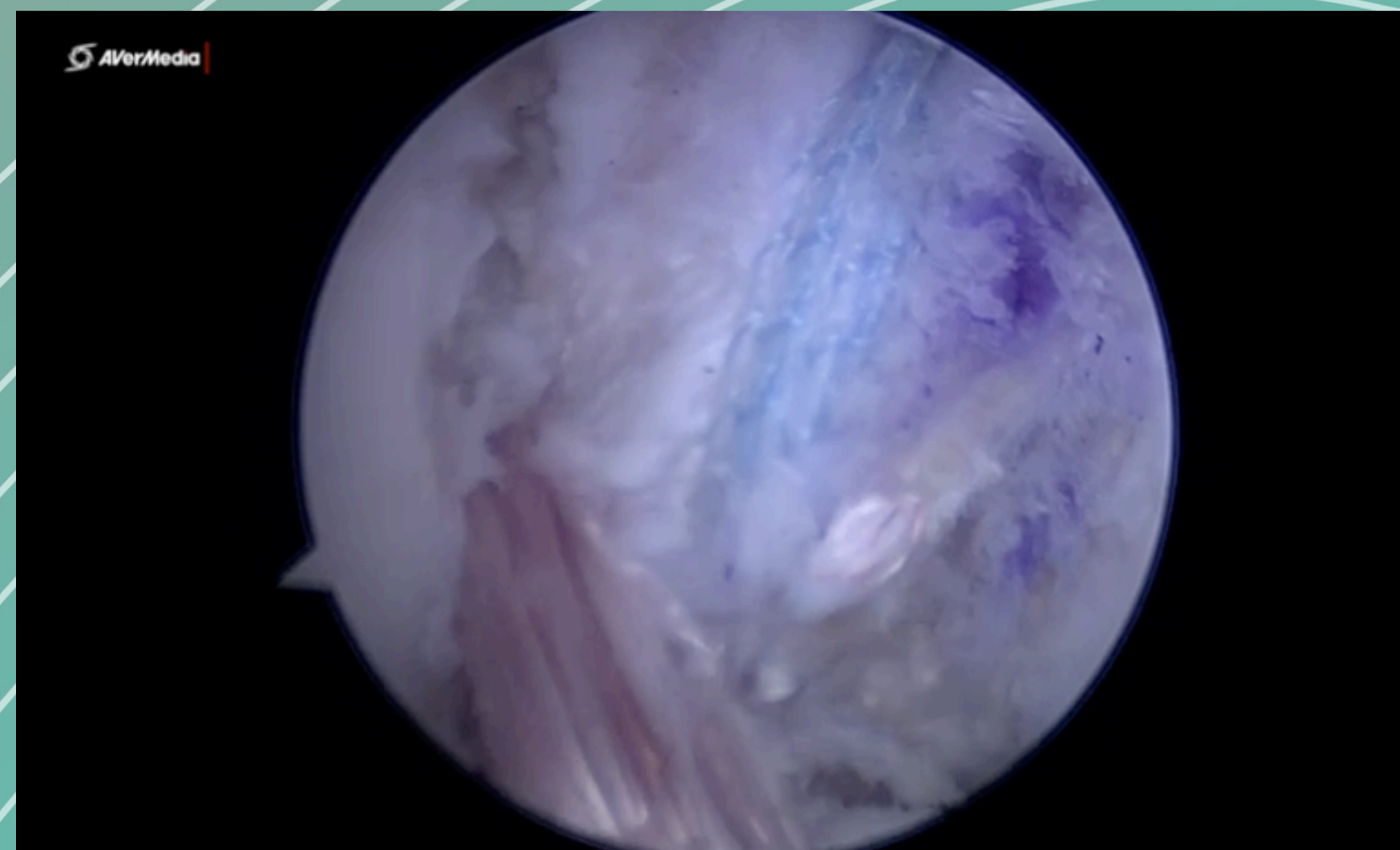


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Only one patient experienced mobility limitations at the end of the 2-year follow-up period, and no patients reported an inflammatory reaction due to the presence of the tape intra-articular.





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All subjects were able to return to sports after 2 years,
but only 45% returned to their pre-injury level.





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Conclusion:

Posterior cruciate ligament reconstruction using internal brace augmentation is a promising option for treating PCL injuries. This technique has the potential to improve the outcomes of PCL reconstruction, and future studies should be conducted to compare it to other techniques for PCL reconstruction.



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