

# InternalBrace™ Technique for Collateral Ligament Injuries

A review of the design rationale, techniques, and outcomes



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The *InternalBrace* technique, which has been proven efficacious,<sup>1</sup> can be applied in various ways throughout the knee. This augmentation helps prevent excess range of motion during the healing phase and may reduce the chances of secondary injury.<sup>2,3</sup>

Use the *InternalBrace* technique to augment collateral ligament repairs and reconstructions and provide improved biomechanics, including greater stiffness and maximum load.<sup>4</sup> Anatomic repair with augmentation may allow for early treatment using native tissues while still providing a biomechanical environment conducive to early rehabilitation and motion.<sup>2</sup> Compared to reconstruction techniques, there are several additional benefits of augmenting collateral ligament repairs including smaller drill holes and implants, no harvest-site morbidity with allograft, and no risk of tunnel convergence in multiligament procedures.

## In Vitro Studies: Biomechanical Validations

[Suture tape augmentation improves laxity of MCL repair in the ACL reconstructed knee.](#) *Knee Surg Sports Traumatol Arthrosc.* 2021;29(8):2545-2552. doi:10.1007/s00167-020-06386-7

- This study compared the biomechanical effects of MCL repair with suture tape using the *InternalBrace* procedure to standalone MCL suture repair in the setting of a concomitant ACL reconstruction using a 6-degrees-of-freedom robotic system.
- Compared to isolated MCL repair, MCL repair with suture tape augmentation demonstrated improved valgus and external rotation laxity without evidence of over constraint on the joint.

### Takeaway

The authors note that these findings suggest that including MCL repair with suture tape augmentation in a combined ACL-reconstruction-MCL-repair procedure may result in lower failure rates and less residual laxity, shorter immobilization times, and faster return to play when compared to MCL with suture repair alone.

The *InternalBrace* surgical technique is intended only to augment the primary repair/reconstruction by expanding the area of tissue approximation during the healing period and is not intended as a replacement for the native ligament. The *InternalBrace* technique is for use during soft tissue-to-bone fixation procedures and is not cleared for bone-to-bone fixation.



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[Biomechanical analysis of internal bracing for treatment of medial knee injuries.](#) *Orthopedics.* 2016;39(3):e532-e537. doi:10.3928/01477447-20160427-13

- The authors evaluated posteromedial anatomic repair using the *InternalBrace*™ ligament technique and compared it with the intact state, repair alone, and allograft reconstruction.
- 3 groups of 9 cadaveric, fresh-frozen matched pairs (54 knees) were tested to failure at 30° under valgus load in a biomechanical testing apparatus.

#### Takeaway

The authors concluded that posteromedial anatomic knee repair with suture tape augmentation is superior to isolated repair and similar to allograft reconstruction for all parameters measured. No evidence of overconstraint was identified, suggesting repair with suture tape augmentation is a safe and reasonable option for addressing medial sided knee injuries.

## Technical Note Citations

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Surgical technique publications describing the *InternalBrace* technique for collateral ligament injuries.

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