Medical Collateral Ligament Repair With Allograft Augmentation in Multiligamentous Knee Reconstruction

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Background
Medial collateral ligament (MCL) tears are common injuries, accounting for approximately 7.9% of all athletic knee injuries. These injuries typically occur after valgus stress to a flexed knee and may be associated with concomitant ligamentous knee pathology, most frequently involving the anterior cruciate ligament. Although most MCL injuries can be managed nonsurgically, surgical treatment often is indicated in patients with a multiligament knee injury. MCL repair and reconstruction are effective treatment options, and the addition of graft augmentation to primary repair may decrease failure rates associated with primary repair.

Purpose
This video and case presentation demonstrate the surgical technique for medial collateral ligament repair with augmentation as part of staged reconstruction in a patient with a complex multiligament knee injury.

Methods
The characteristics of MCL injuries and management via primary repair with graft augmentation are discussed. The case presentation of a 15-year-old boy with a distal MCL avulsion and injuries to the posteromedial corner, anterior cruciate ligament, and posterior cruciate ligament is reviewed. The patient was treated in a two-stage fashion, beginning with MCL repair with allograft augmentation and posteromedial corner repair, which was later followed by anterior cruciate ligament and posterior cruciate ligament reconstruction.

Results
The patient progressed through a standardized rehabilitation protocol. He demonstrated consistent improvements in knee range of motion. At 3 months postoperatively, the patient returned to the operating room for planned anterior cruciate ligament and posterior cruciate ligament reconstruction.

Conclusion
Many MCL tears occur in patients with a multiligament knee injury and often are challenging to manage. The addition of graft augmentation to MCL repair may decrease failure rates and improve outcomes, with early evidence suggesting comparable radiographic and clinical outcomes compared with reconstruction.