

Ulnar Collateral Ligament Hybrid Reconstruction: UCL Repair, Palmaris Autograft Reconstruction, Suture Tape Augmentation, and Ulnar Nerve Transposition

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Background: The ulnar collateral ligament (UCL) is the primary restraint to valgus motion of the elbow during between 30 and 120 degrees of elbow flexion, and many overhead athletes, both amateur and professional, experience an increasing number of injuries to the UCL as a result of overuse or trauma. As a result of this increasing frequency, multiple techniques have been developed to reconstruct or repair the UCL with good success and faster return to sport for athletes who are ideal candidates for a repair. However, a large proportion of UCL tear patients cannot undergo repair due to chronic injury leading to poor tissue quality, midsubstance tears, or older age that predisposes them to slower healing and a more difficult path to total rehabilitation. The senior author's "hybrid" reconstruction combines a palmaris longus autograft for reconstruction with a repair style suture brace augmentation that allows for increased load-to-failure strength that parallels the native UCL, while allowing for native anatomic motion of the ligament when ranging the elbow.

Indications: This technique is indicated for patients with a UCL tear confirmed via magnetic resonance imaging (MRI), poor to moderate UCL tissue quality, midsubstance tears, and older patients who have a palmaris longus tendon to harvest and persistent ulnar nerve paresthesias.

Technique Description: This video demonstrates the senior author's technique of harvesting a palmaris autograft, drilling proximal and distal UCL graft passage tunnels, augmenting the graft with an internal suture brace, fixation of the graft, and finally an ulnar nerve transposition to alleviate ulnar nerve paresthesia.

Results: Outcomes of retrospective studies demonstrate good to excellent outcomes of UCL hybrid reconstructions with suture brace augmentation and return to sport rates of at least 85%. Complication rates are low with the most common complication being graft failure (14%) and the next most common being temporary ulnar nerve paresthesia (2%).

Discussion/Conclusion: Overall, this video demonstrates a highly effective technique at restoring the UCL to native-like biomechanics and function for patients with tears that are too complex to repair. Patients have good to excellent outcomes and return to play rates, although time to return to sport may take 12 months or longer.