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Dr. Patel's UCL Reconstruction Protocol

Ulnar Collateral Ligament Reconstruction of the Elbow Rehabilitation Protocol Methodist Sports Medicine Center, Indianapolis, IN Department of Physical Therapy

A longitudinal incision is made beginning along the medial epicondyle and extending distally. If the ulnar nerved is to be transferred, the incision begins 8 cm proximal to the medial epicondyle. The fascia covering the flexor-pronator mass is incised and the muscles retracted. The anterior band of the UCL is exposed and incised longitudinally. It is carefully inspected, and the joint is stressed. If laxity exists reconstruction is performed. Tunnels are made in the proximal ulna at the sublime tubercle and on the undersurface of the medial epicondyle. A 15 cm length graft of palmaris longus (if present) is obtained. The graft is passed through the tunnels in the ulna then through the humeral tunnel. The graft is then sutured to itself with the elbow in 45o of flexion with varus stress using horizontal mattress sutures. The native ligament is also incorporated in the repair with interrupted horizontal mattress sutures of 0 cotton Dacron. The flexor pronator mass is repaired with continuous sutures of 3-0 Vicryl. Subcutaneous tissues are closed. If the ulnar nerve is being transferred, the transfer is then performed and fascial flaps are closed using interrupted 2-0 Vicryl sutures to suture the superficial fascia subcutaneous tissue to the anterior flexor pronator mass. The subcutaneous sutures are incorporated, and the skin is closed with staples or subcuticular 3-0 Proline and Steri-Strips. A long arm splint in 90o of flexion is placed on the arm. The patient returns for therapy in 1-2 weeks.

Post-Operative Treatment Following Elbow UCL Reconstruction Phase I: 1-3 Weeks*
Clinical Goals
• Maintain shoulder ROM
• Elbow ROM of 30° extension to 120° flexion
Testing
• Elbow and forearm ROM
Exercises
• Post-op brace at 90o between exercises and at night
• AROM and light PROM exercises for the elbow within the brace

— Brace should be set at 30o extension and 120o flexion and the exercises should be performed 6 times per day
• Active and light passive pronation/supination exercises within the brace with forearm straps loosened
• Ice 3-4 times per day
• Strengthening using putty, 3 times per day for 10 minutes
• Shoulder ROM exercises to maintain motion
Clinical Follow-up
• The patient is usually seen at 3 weeks and again at 5-6 weeks.
*The rehab program is the same if Ulnar Nerve Transfer is performed.
Phase II: 3-6 Weeks
Clinical Goals
• Achieve full elbow and forearm ROM by 6 weeks.
Testing
• Elbow and forearm ROM
• Grip strength test at 6 weeks
Exercises
• Set brace at 20o of extension and 120o of flexion for exercises at 3 weeks.

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• Initiate wrist flexor and pronator strengthening exercises at 3 weeks.
• The patient may remove the brace 1-2 times per day to fully flex elbow 10 times
• Continue to increase extension in brace 100 each week to achieve full extension by 6 weeks

Clinical Follow-up

• The patient is seen at 5-6 weeks and then usually not again for 1 month to 6 weeks.

Phase III: 6 Weeks to 6 Months

Clinical Goals

• Discontinue brace at 6 weeks
• Increase shoulder and elbow strength

Testing

• Elbow and forearm ROM
• Grip strength

Exercises

• Elbow strengthening. The patient should avoid valgus stress for 4 months.
• Shoulder strengthening can begin one week after elbow strengthening is initiated.
• Functional brace may be used if needed when gradually returning to a sport other than baseball.
• For baseball: at 3 months patient can begin throwing program with nerf ball for 2 weeks and then a tennis ball for 2 weeks, according to throwing program
— At 4 months, patient can begin throwing progression program with baseball. Follow throwing program for UCL reconstruction.

Clinical Follow-up

• The patient is only seen with doctor appointments (2-3 visits) during this period unless there are problems with motion or pain.

Conservative Treatment for UCL Injuries of Elbow

Phase I: 1-3 Months

• Rest from throwing for 2-3 months
• Take anti-inflammatories as needed
• Post-op brace with elbow set at 90° at night and during the day
• AROM and PROM exercises 3-4 times per day for the elbow and forearm
• Strengthening program for flexors and pronators
• Ice 2-3 times per day

Phase II: 3-6 Months

• If pain free, patient can discontinue brace
— Elbow hyper-extension brace with lateral support may be used for throwing and lifting
• Progress UE strengthening program to all muscle groups
• Impulse machine may be used for throwing exercises
• Begin throwing progression at 3 months
— See: Throwing Progression Program