Campbell Clinic ORTHOPAEDICS

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Elbow Ulnar Collateral Ligament Reconstruction Protocol

Date of Surgery: _____

The following elbow MCL reconstruction guidelines were developed by Hospital for Special Surgery Rehabilitation and are categorized into five phases with the ultimate goal for returning the overhead athlete to full competition. Classification and progression are both criteria-based and time based due to the healing constraints of the human body. The first phase is focused on post-operative recovery and healing. Phases two and three are focused on building foundational strength and stability which will allow the athlete to progress to phase four which includes plyometric exercises. With the completion of phase four the athlete will be able to start the final phase which includes interval sports programs. Cardiovascular endurance, hip, core and lower extremity strength should be addressed throughout recovery. The clinician should use their skilled judgement and decision making as the athlete advances as all progression may not be linear.

BRACE INSTRUCTIONS

- WEEK 1: Posterior splint and sling (no brace)
- WEEKS 2-3: Remove splint at 2 weeks postoperative
  Brace unlocked to limits of: Flexion: 60°, Extension 30°
- WEEK 4: Brace unlocked to limits of: Flexion: 90°, Extension 30°
- WEEK 5: Brace unlocked to limits of: Flexion: 90°, Extension 15°
- WEEK 6: Brace discontinued (pending MD clearance)

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Phase	Precautions	Treatment Recommendations	Emphasize
Phase 1: Postoperative Recovery **Weeks 1-4** *Criteria for Advancement:* *-Reduced irritability* *-15°-90° elbow AROM*	▪ Avoid pain provoking activities ▪ Avoid any painful exercises ▪ Monitor healing for signs and symptoms of infection	▪ Gripping and hand AROM ▪ Elbow AROM in brace (no further than brace allows) ▪ Wrist AROM: flexion/extension immediate post-op ▪ Scapular protraction/retraction, scapular isometrics	▪ Reduction of tissue irritability ▪ Protection of graft site ▪ Prevention of muscle atrophy ▪ Full wrist/hand mobility
Phase 2: Intermediate **Weeks 5-6** *Criteria for Advancement:* *-ROM: 15°-115°* *-Reduced tissue irritability*	▪ Avoid valgus stress ▪ Avoid aggressive PROM: Do not force motion ▪ Avoid any painful exercises	▪ Continue elbow AROM ▪ Begin pain-free isometrics o Bicep isometrics/Tricep isometrics o Deltoid ▪ Wrist activation: Minimize muscle atrophy o Flexion/extension o Pronation/supination ▪ AROM shoulder ▪ o Full can ▪ o Lateral raises ▪ o Elbow flexion/extension ▪ Manual scapula stabilization with proximal resistance ▪ Assess and treat graft site if needed (hamstring or palmaris)	▪ Elbow AROM 15°-115° ▪ Reduction of tissue irritability ▪ Maintenance of shoulder flexibility
Phase 3: Advanced **Weeks 7-13** *Criteria for Advancement:* *-Full shoulder and elbow ROM* *-Pain-free at rest and during exercise* *-All upper extremity strength 5/5*	▪ Minimize valgus stress ▪ Avoid aggressive PROM by clinician ▪ Avoid painful exercise ▪ No external rotation/internal rotation (ER/IR) isotonics for 8 weeks	▪ Continue AROM ▪ Low intensity/long duration stretch for extension ONLY if needed ▪ Isotonics for scapula, shoulder, elbow, forearm, wrist ▪ Begin all shoulder tubing exercises at 6 weeks except for ER/IR ▪ Begin ER/IR at 8 weeks ▪ UE ergometry (if ROM allows) ▪ Neuromuscular drills ▪ Throwers Ten exercises ▪ Progress to Advanced Throwers Ten exercises ▪ Modalities as needed ▪ Serratus activation	▪ Restoration of full AROM/PROM ▪ Upper extremity strength 5/5 ▪ UE endurance
Phase 4: Plyometric Progression **Weeks 12-15** *Criteria for Advancement:* *-Complete all plyometrics without symptoms* *-Normal upper body extremity strength, mobility and flexibility*	▪ Pain-free plyometrics	▪ Continue to progress all thrower's ten exercises ▪ Plyometric progression (over 4-week period) o Double hand chest pass (week 12) o Double hand overhead soccer pass (week 12) o Double hand chops (week 13) o Single hand IR at 0° abduction (week 13) o Eccentric catch (week 14) o Single hand 90/90 IR (week 14) ▪ Endurance progression ▪ o Double hand overhead wall taps ▪ o Single arm 90/90 wall taps ▪ o Single arm 12 o'clock to 3 o'clock wall taps o Exercise blade in multiple positions	▪ Restoration of full strength and flexibility ▪ Restoration of normal neuromuscular function ▪ Preparation for return to sport specific activity

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Phase	Precautions	Treatment Recommendations	Emphasize
Phase 5: Return to Sports Activity **Weeks 16+** *Criteria for Return to Participation:* *- Pain-free progression through interval sports program* *-Independent with all arm care exercises* *-Assess need for Video Throwing Analysis program*	▪ All progressions should be pain-free ▪ Monitor for loss of strength and flexibility	▪ Initiate interval sports program ▪ Begin interval throwing at 4 months per MD clearance ▪ Begin hitting program at 5 months ▪ Continue with all upper and lower extremity mobility/flexibility exercises ▪ Continue with advanced shoulder and scapular strengthening exercises ▪ Monitor workload	▪ Initiation of interval sports programs ▪ Return to sport participation

Protocol adapted from Hospital for Special Surgery Elbow Medial Collateral Ligament Reconstruction guidelines