

David Schneider, MD

ELBOW UCL RECONSTRUCTION REHABILITATION PROTOCOL

Immediate Post-op: see post-op handout.

PHASE I- Healing (0-3weeks)

GOALS:

- Protect repair
- decrease pain/edema
- progress range of elbow motion
- maintain shoulder/scapular stabilization
- initiate light resistance as tolerated.

POST-OP WEEK 1: (day 1-7)

Precautions:

- Evaluate motion and sensation at 4th and 5th fingers, with eyes open and closed.
- If deficit in is noted, please notify Dr. Schneider's office. It is common to have mild post-operative deficits in motor and sensation; however this should gradually improve and diminish over time.
- Wear brace at all times at 90degrees elbow flexion.
- Stitch/Staple removal at 7-10 days.

Therapeutic exercise:

- Gripping
- Finger flxn/ext, thumb to finger opposition, finger Abd/Add, intrinsic
- Wrist and forearm AROM
- Shoulder isometrics (light IR)
- Biceps Isometrics
- Shoulder shrugs and shoulder blade squeezes.
- Passive ROM: 30-100
- Cryotherapy/E-stim

**If toe extensor graft was used, add ankle AROM, stretches, exercises, ice.

POST-OP WEEK 2: (day 8-14)

Precautions:

- Wear brace at all times (except when exercising or for hygiene) set at 30-105degrees.
- Remove any remaining stitch/staples.

Therapeutic Exercise:

- Initiate wrist and forearm isometrics.
- Initiate elbow flxn/ext isometrics throughout 20-110degree ROM.
- PROM 20-110.

POST-OP WEEK 3: (day 15-21)

Precautions:

- Wear brace at all times (except when exercising or for hygiene) set at 15-120 degrees
PROM: 10-120degrees

Therapeutic Exercises:

- Initiate scapular PNF elevation/depression and protraction/retraction
- Light rhythmic stabilization at end range of extension

- Progress hand intrinsic: putty, rubber band, etc.
- Initiate cardiovascular conditioning (bike, elliptical, Stairmaster); no running/impact work.
- Scar massage if scar approximated

Criteria for progression to phase II:

1. Tolerance of prescribed range of motion
2. Controlled pain and swelling

PHASE II- Intermediate Phase (week 4-8)

GOALS:

- Improve shoulder/scapular mechanics
- Increase resistance at elbow

WEEKS 4-5: (day 22-36)

Precaution:

- Wear brace at full range through the end of week four and then discharge.

Therapeutic Exercises:

- Progress PROM to 0degrees extension, 125-130degrees flexion.
- Begin light resistance exercises for arm (1lb)
 - wrist curls, extension, pronation, supination
 - elbow flxn/ext
 - rhythmic stab
- Initiate shoulder program emphasizing rotator cuff:
 - TB: IR-from neutral to full IR; ER from IR to 30degrees ER.
 - Prone scapular weights: row at 30 & 70, horizontal abd, flxn, ext.
 - Standing RTC PRE's: flxn., scaption, abduction.
 - Sidelying ER: weights and manual.
 - RS at 90deg. flexion with proximal lever arm.
 - Serratus punch: weights and manual with proximal resistance.
 - TB bicep curl, tricep extension (start with yellow)
 - UBE
 - Increase intensity of gripping exercises-may use gripper.
 - Begin lower extremity/core strengthening
- Scar massage
- Begin light load, long duration stretch if extension is a problem (forearm pronated and neutral)

WEEK 6:

Therapeutic Exercises:

- Full AROM/PROM
- Joint mobilizations as needed, begin grade 3-4 at end range with distraction.
- Progress elbow strengthening exercises
 - concentric manuals/increase weight with dumbbells.
- Progress IR/ER through full ROM
- Add Manual D2 PNF with proximal lever arm with various angles of rhythmic stabilization.
- Horizontal Abd with theraband
- Prone manuals:
 - row, horizontal abd in neutral, ER, IR, prone flexion at 105 with thumb up.
- Push-up with a plus on plyoballs (elbows straight).
- May initiate running
- Week 6-7: manual forearm supination/pronation, wrist flxn/ext and Radial/Ulnar Deviation

WEEK 7:

- Bodyblade: 0deg. ER/IR, 90deg. flexion/scaption.

- Impulse: ER/IR at 0deg.
- Progress total body strengthening through kinetic chain

WEEK 8:

- Prone row with ER: weights and manual
- 90/90 ER/IR with TB: slow...watch valgus stress.
- rows and lat pulldowns
- rhythmic stabilization at 90/90, multi D2

ADVANCED STRENGTHENING PHASE (Weeks 9-16)

Goals:

- Maintain scapular dynamic control during all activities
- Incorporate more sport specific activities

WEEK 9-10:

Precautions:

- Assess shoulder ER ROM. Progress toward functional ROM, if tight, provide pressure to stretch above elbow-turn humerus, do not press on wrist (avoid valgus stress).

Therapeutic Exercises:

- Initiate eccentric elbow flxn/ext
- Continue isotonic program
- Seated press-ups
- Progress manual resistance on diagonal patterns
- Progress weightlifting program week 10 (avoid flies)
- Rhythmic stabilization-multi D2, Abd/ER-can move more distally with lever arm, use Tband
- Bodyblade: add 90/90 ER/IR and D2 through throwing motion.
- 90/90 ER and Horizontal Abd if weak.
- Plyometrics: (begin based on strength assessment)
 - Week 10: Chest pass, Rotations L/R, Woodchop L/R, Triceps standing slam
 - Week 11: Soccer style pass, Wall dribble-semi-circle.
 - Week 12: KneelingD2 pattern.
 - Week 13: 90/90 wall dribble, TBER/IR plyo
 - Week 14: 15ft. baseball throw into wall for mechanics.

Criteria for progression to phase III:

1. Tolerance of single arm plyometrics with no residual pain or stiffness
2. Able to complete a 20 ft. baseball throw at moderate speed 30reps with no residual pain or stiffness

RETURN TO ACTIVITY PHASE (Weeks 16-26)

WEEK 16-18:

- Initiate throwing program/light golf swings if MD clears and Biodex/Microfet criteria are met.(**Interval Throwing Program initiates at approximately 4½ months)
- Continue strength program.
- Emphasize elbow and wrist strengthening/flexibility exercises.
- No throwing >120ft. to avoid medial elbow stress