

UT★ORTHO

A Part of UT Physicians

UCL Reconstruction Surgery

Post-Operative Rehabilitation Protocol

Ironman Sports Medicine Institute

1st Edition

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A Part of UT Physicians

UCL Rehabilitation Protocol

PHASE 1 (1-4 Weeks): MOTION, MOBILITY & PROTECTION

**PHASE GOALS: PROTECT GRAFT, CONTROL PAIN & INFLAMMATION, MAINTAIN
CONDITIONING & LE STRENGTH, RESTOR ROM PER PROTOCOL**

RANGE OF MOTION

0-1 WEEKS - WRIST & HAND ONLY, NO ELBOW MOTION ALLOWED

1-2 WEEKS - 30-90 DEG

2-4 WEEKS - 10-120 DEG

BRACE USE

0 - 1 WEEKS - POSTERIOR SPLINT

1-2 WEEKS - BRACE 30-90

2-4 WEEKS - BRACE 20-120

STRENGTHENING

**SINGLE LEG BALANCE, LIGHT RESISTED WRIST & HAND, SCAPULAR
RETRACTIONS & STABILITY**

PHASE I CRITERIA

- **< 3/10 PAIN (WORST)**
- **≥ -15 DEG ELBOW EXTENSION 8 WEEKS**
- **≥ 110 DEG ELBOW FLEXION 8 WEEKS**
- **SINGLE LEG BALANCE OF 20+ SEC – UNSTABLE SURFACE (BESS)**

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PHASE II (WEEK 4-8): MUSCULAR ENDURANCE

PHASE GOALS: PROTECT GRAFT, MINIMIZE PAIN SWELLING, PROGRESS LOADING, SCAR MANAGEMENT & MOBILITY

RANGE OF MOTION - (PROGRESS PAIN-FREE/NOT AGGRESSIVELY)

4-6 WEEKS - 10-130 DEG

6+ WEEKS - FULL ACTIVE & PASSIVE ROM

BRACE USE - (PROGRESS PAIN-FREE/NOT AGGRESSIVELY)

4-6 WEEKS - 10 DEG - FULL

6-8 WEEKS - OPEN TO FULL

8+ WEEKS - DISCHARGE BRACE WHEN MOTION IS FULL

STRENGTHENING (MINIMIZE VALGUS STRESS)

ROTATOR CUFF STRENGTHENING (LIGHT FOR IR), PROGRESS SCAPULAR STABILITY, LIGHT BAND ROWS

PHASE II CRITERIA

- **≥ -10 DEG ELBOW EXTENSION 8 WEEKS**
- **≥ 125 DEG ELBOW FLEXION 8 WEEKS**
- **SINGLE LEG BALANCE OF 20+ SEC – UNSTABLE SURFACE (BESS)**
- **SINGLE LEG BALANCE DEFICITS (≤ 4 CM FOR ALL DIRECTIONS)**

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PHASE III (WEEK 8-12): MUSCULAR STRENGTH

PHASE GOALS: PROTECT GRAFT, PROGRESS LOADING, SCAR MANAGEMENT & MOBILITY

RANGE OF MOTION (PROGRESS PAIN-FREE/NOT AGGRESSIVELY)

8+ WEEKS - FULL ACTIVE & PASSIVE ROM

****EMPHASIZE SYMMETRY FOR TOTAL ARC OF ROTATION AT SHOULDER***

BRACE USE

8+ WEEKS - DISCHARGE BRACE WHEN MOTION IS FULL PER MD

STRENGTH & CONDITIONING - (MINIMIZE VALGUS STRESS)

8-10 WEEKS - SEATED ROWS/PULLDOWNS, BAND EXERCISES 90/90, PRONE BALL DROPS (2LBS), LIGHT BICEPS CURLS & TRICEPS EXTENSIONS WITH BANDS, BODY BLADE BY SIDE, CORE PLANKING

10-12 WEEKS - WALL DRIBBLES, CHEST PASSES REBOUNDER, BODY BLADE OVERHEAD, SIDE PLANKING, LOWER BODY STRENGTHENING, BEGIN JOGGING PROGRAM

PHASE III CRITERIA

- **FULL MOTION – BONY OR CAPSULAR ENDFEEL WITH OVERPRESSURE**
- **TOTAL ARC OF ROTATION SYMMETRY WITHIN 5 DEG FOR SHOULDER**
- **SHOULDER HORIZONTAL ADDUCTION DEFICITS \leq 10 DEG**
- **SINGLE LEG BALANCE DEFICITS \leq 4 CM FOR ALL DIRECTIONS**

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PHASE IV (WEEK 12-16): THROWING PREPARATION

**PHASE GOALS: PROGRESS LOADING, RESOLVE INJURY RISK FACTORS,
INITIATE LIGHT PLYOMETRICS & THROWING STRESS**

RANGE OF MOTION

MAINTAIN FULL ACTIVE & PASSIVE MOTION

****EMPHASIZE SYMMETRY FOR TOTAL ARC OF ROTATION AT SHOULDER***

STRENGTH & CONDITIONING

**12-14 WEEKS - SINGLE ARM PLYOTOSSES, DOUBLE ARM OVERHEARD
TOSSES (LIGHT), PUSH-UPS, CONTINUE UE STRENGTHENING**

**14-16 WEEKS - TOWEL DRILLS, HAT DRILLS, LIGHT TENNIS BALL
TOSSES 15-20 FT (PROGRESS TO BASEBALL), CONTINUE UE
STRENGTHENING & PLYOMETRICS**

PHASE IV CRITERIA FOR INTERVAL THROWING PROGRAM

- **FULL MOTION – BONY OR CAPSULAR ENDFEEL WITH OVERPRESSURE**
- **TOTAL ARC OF ROTATION WITHIN 5 DEG OF SYMMETRY AT SHOULDER**
- **AT LEAST 66% RATIO OF ER TO IR STRENGTH AT 90/90**
- **90% SYMMETRY FOR SHOULDER INTERNAL & EXTERNAL ROTATORS**
- **90% SYMMETRY FOR GRIP STRENGTH**
- **AT LEAST 1 MIN FOR CLOSED KINETIC CHAIN STABILITY TEST**

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PHASE V (WEEK 16+): INTERVAL THROWING PROGRAM (ITP)

The physical therapist or athletic trainer should facilitate guidance and progression through the throwing program. Surgeon approval prior to beginning a throwing program is strongly recommended.*

Week 16+: Emphasize proper posture and position nodes, then progress to an interval-throwing program (ITP). This “off-mound” program requires 6 to 8 weeks to slowly normalize throwing mechanics, control, accuracy and velocity.

Week 28+: Mound progression and position specific drills are allowed after successful completion of an “off-mound” ITP. Once the ITP is initiated from the mound, completion typically takes another 6-8 weeks.

Months 9-12: Return to competitive throwing

Guidelines for your interval-throwing program:

1. Perform interval-throwing program under the supervision of a physical therapist or athletic trainer.
2. Always emphasize **proper throwing mechanics**
3. Perform a complete and thorough body warm-up and stretching routine before throwing. Perform interval throwing program before engaging in a strengthening program
4. Allow one day of rest between throwing sessions
5. Throwing should begin at 50% effort for each distance and progress to 75% effort while being pain-free prior to advancing to the next step/phase
6. The athlete should throw **2 or 3 times for each step** of the interval throwing program and without complications before advancing to the next step/phase
7. **NEVER CONTINUE THROWING THROUGH PAIN!**
8. If pain and swelling persist, discontinue throwing until examined by the referring surgeon

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PHASE V (WEEK 16+): INTERVAL THROWING PROGRAM (ITP)

OFF-MOUND PROGRAM		
60 Foot Phase (2-3x's per week within the phase)		
Warm up Toss	30 feet	
Level ground	60 feet	25 throws
Rest	5 min	
Level ground	60 feet	25 throws
Stretch	Posterior shoulder stretch	3 reps (30 sec holds)
90 Foot Phase (2-3x's per week within the phase)		
Warm up Toss	30 feet	
Level ground	90 feet	25 throws
Rest	5 min	
Level ground	90 feet	25 throws
Stretch	Posterior shoulder stretch	3 reps (30 sec holds)
120 Foot Phase (2-3x's per week within the phase)		
Warm up Toss	60 feet	
Level ground	120 feet	25 throws
Rest	5 min	
Level ground	120 feet	25 throws
Stretch	Posterior shoulder stretch	3 reps (30 sec holds)
MOUND PROGRAM		
Mound Phase 1 - 2-3x's per week within the phase		
Warm up Toss	60 feet	20-30
Mound	Fastballs Only	25 pitches
Rest	5 min	
Mound	Fastball Only	25 pitches
Stretch	Posterior shoulder stretch	3 reps (30 sec holds)
Mound Phase 2 - 2-3x's per week within the phase		
Warm up Toss	60 feet	20-30
Mound	Fastballs & Breaking Balls	25 pitches
Rest	5 min	
Mound	Fastballs & Breaking Balls	25 pitches
Stretch	Posterior shoulder stretch	3 reps (30 sec holds)

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PHASE V (WEEK 16-20+): POWER DEVELOPMENT & RETURN TO SPORT

PHASE GOALS: PREPARE ATHLETE FOR RETURN TO SPORT PHASE

RANGE OF MOTION

MAINTAIN FULL ACTIVE & PASSIVE MOTION

****EMPHASIZE SYMMETRY FOR TOTAL ARC OF ROTATION AT SHOULDER***

STRENGTH & CONDITIONING

16-20 WEEKS – INITIATE INTERVAL THROWING PROGRAM AT 16 WEEKS, CONTINUE UE STRENGTHENING, HEAVY PLYO-TOSSES, SINGLE ARM CLOSED CHAIN STABILITY,

20-24+ WEEKS – INITIATE MOUND PROGRESSION AT 24 WEEKS, FULL GYM ROUTINE, UPPER EXTREMITY STABILITY, STRENGTH & ENDURANCE ACTIVITIES

RECOMMENDED RETURN TO SPORT GOALS

- **PAIN \leq 2/10 & \geq 24 WEEKS POST-SURGERY**
- **\leq 5 DEGREES OF TOTAL ARC OF SHOULDER MOTION (ER, IR, HORIZ AD)**
- **\geq 90% STRENGTH: ER, IR, SCAPTION WITH HAND HELD DYNAMOMETER**
- **\geq 90% HANDGRIP STRENGTH USING GRIP DYNAMOMETER**
- **\geq 90% ER REP SYMMETRY FOR 1-MINUTE ENDURANCE AT 0° AND 90°**
- **\geq 90% ON SINGLE ARM SHOT PUT TEST, & 1-MIN FOR DAVIES UECKCST**
- **\leq 4CM DEFICITS FOR Y-BALANCE TEST (ALL DIRECTIONS)**
- **MD OR PT APPROVAL**