



Sports & Orthopaedic Specialists

UCL Reconstruction Protocol

This protocol provides appropriate guidelines for the rehabilitation of patients following UCL reconstruction. The protocol draws evidence from the current literature and accounts for preferences of the surgeons at Sports & Orthopaedic Specialists. The program may be modified by the referring provider for an individual patient. If questions arise regarding the utilization of the protocol or the progress of the patient, contact Sports & Orthopaedic Specialists:

Main line: (952) 946-9777

Physical therapy: (952) 914-8631

PRECAUTIONS

- Avoid full elbow extension for 8 weeks.
- Avoid valgus stress at the elbow for 4 months.

PT FREQUENCY & DURATION

- Ten to sixteen physical therapy visits over 5-6 months
- Begin physical therapy 4+ weeks after surgery or as instructed by surgeon

REHAB PRINCIPLES

- Focus on active engagement of the patient through patient education and therapeutic exercise. Establish a home exercise program that can be progressed throughout the postoperative period.
- Respect tissue healing. The surgeons at Sports & Orthopaedic Specialists uniformly prefer a slow progression of postop patients with minimal postoperative pain.
- Postoperative pain may be experienced however physical therapy, including the home exercise program, should result in minimal to no symptom exacerbation. The patient should call the PT for recommendations if pain increases during or after exercise.
- The therapeutic exercises listed in this protocol convey the appropriate load for the elbow given the time elapsed since surgery in regards to tissue healing. It is acceptable for a patient to progress more slowly. However, it is not acceptable for a patient to progress more quickly unless directly indicated by the physician.
- Recommend max of 6 exercises for home exercise program. Select a well-rounded program that targets each area of insufficiency identified during physical exam.

MODALITIES

Cold Therapy / Ice: Instruct patient to use ice daily until pain free or 8 weeks after surgery.

Other Modalities: **DO NOT USE**

- | | |
|----------------|-----------------|
| -Ultrasound | -Infrared laser |
| -Phonophoresis | -NMES/TENS |
| -Iontophoresis | -Hot packs |



MANUAL THERAPY

- No** passive range of motion (physiologic/long arc).
- Joint mobilization to address posterior shoulder hypomobility **after 12 weeks ONLY if prescribed by surgeon**
- Soft tissue techniques to upper trapezius/levator scapula/pect minor are permitted

THERAPEUTIC ACTIVITY AND PATIENT EDUCATION

Patient education is very important in getting the patient to take an active role in therapy and recovery. Educate the patient at the appropriate level regarding:

- Anatomy of the elbow and upper quarter
- Basics of surgical procedure in layman's terms
- Surgical precautions
- Elbow & shoulder girdle mechanics: Typical and pathomechanical
- The inhibitory effect of pain
- Avoidance of pain provoking activities
- Throwing mechanics

THERAPEUTIC EXERCISE

-Free Weights: Use the following age guidelines to establish a maximum weight for proximal (rotator cuff) strength/conditioning **ONLY** when the protocol calls for the use of free weights.

For patients aged 40+:

Progress from two ounces to four, then a max of eight ounces for rotator cuff strength/conditioning.

For patients under 40 years old:

Progress from two ounces to four, then eight ounces. A max of 16 ounces can be used for rotator cuff strength/conditioning.

-Exercise Band: **DO NOT USE**

The use of Yellow Theraband®, the least resistive color in the Theraband series, results in 2.9 pounds of resistance when elongated by 100%. In addition, length-tension principles of muscle function do not align with exercise band properties; the muscle is asked to provide maximum force at a shortened and inefficient length. Therefore, exercise band use is not permitted for use during rotator cuff conditioning.

-Pulleys: **DO NOT USE**

UCL RECONSTRUCTION PROTOCOL



Page numbers below reference the **THERAPEUTIC EXERCISE HANDOUT**. A PDF of this handout containing instructions and pictures for each exercise can be printed from the Sports & Orthopaedic Specialists website:

www.sportsandortho.com Click on Rehabilitation Center.

The therapeutic exercises listed in this protocol convey the appropriate load for the patient given the time elapsed and the functional progress made since surgery. This is not a complete listing of rehabilitation strategies.

DAY 0 – FIRST POSTOP VISIT WITH SURGEON:

- Patient receives postop instructions after surgery that include:
- Wear postop splint continuously
- AROM of the wrist and hand.
- Application of ice daily.

FIRST POSTOP VISIT WITH SURGEON – WEEK 3:

- Continuous wear of hinged elbow brace locked at 60-80 degrees as per MD orders. Removed only for showering and self cares.
- AROM of the wrist and hand.
- Application of ice daily.

WEEK 4-5:

- Continuous wear of hinged elbow brace unlocked from 45-90. Removed only for showering and self cares.
- Begin physical therapy:
 - AROM of the wrist and hand
 - Early/gentle scapular stability (Scap set, Supine protraction (p12))
 - Early/gentle activation of rotator cuff (Seated ER (p 17), Wings (p18))
 - Early/gentle proprioception (Reverse codman (p 22), Table circles (p22))
- Stationary recumbent bike for fitness
- Application of ice daily.

UCL RECONSTRUCTION PROTOCOL



WEEK 6-7:

- Continuous wear of hinged elbow brace unlocked from 20-110. Removed only for showering and self cares.
- Continue physical therapy:
 - Light isotonics of wrist (0-8oz)
 - Submaximal grip strengthening
 - AROM of elbow with brace off (Elbow flex/ext (p28), Supination/pronation (p28))
 - Scapular stability (Scap set, Supine protraction (p12))
 - Rotator cuff strength with no external resistance (SLER (p 17), Wings (p18))
 - Proprioception (Reverse codman (p 22), Table circles (p22))
 - Core exercises with no load through elbow (Dead bug (p24))
- Stationary recumbent bike for fitness
- Application of ice daily.

WEEK 8-9

- Hinged elbow brace unlocked from 0-120. Gradually wean out of brace for ADL's by completion of week 9.
- Continue formal physical therapy:
 - Gradually restore symmetrical elbow ROM. Alert surgeon if deficits in elbow extension.
 - Isotonics of wrist (8-16oz)
 - Submaximal grip strengthening
 - Gentle elbow strengthening with up to 1 pound (Elbow flex/ext (p28), Supination/pronation (p28))
 - Scapular stability (Supine protraction (p12), Table Press (p13), Lower Trap Retraining (p14))
 - Posterior rotator cuff strength with 0-8 ounces (SLER (p 17))
 - Proprioception (Reverse codman (p 22), Wall circles (p23))
 - Core exercises with no load through elbow (Dead bug (p24))
- May begin running for fitness.
- Lower extremity strengthening as desired with no load through upper extremity
- Application of ice as needed.

UCL RECONSTRUCTION PROTOCOL



WEEK 10-12

- Patient should demonstrate full/symmetrical elbow ROM.
- Continue formal physical therapy:
 - Eccentric wrist strengthening with max 2 pounds or patient-applied manual resistance
 - Moderate effort grip strengthening
 - Light elbow strengthening with up to 3 pounds (Elbow flex/ext (p28), Supination/pronation (p28))
 - Scapular stability (Prone W (p 15), Prone Superman (p 15), Wall Protraction (p 12))
 - Posterior rotator cuff strength with 0-8 ounces (SL ER (p 17))
 - Address posterior shoulder mobility if needed (Sleeper Stretch (p 4))
 - Proprioception (Wall Circles with Ball (p 23))
 - Upper extremity partial weight bearing on table top progressing to quadruped
 - Core exercises with no load through elbow (Dead Bug (p24))
- May begin running for fitness.
- Lower extremity strengthening as desired with no load through upper extremity
- Application of ice as needed.

WEEK 13-15

- Continue formal physical therapy:
 - Eccentric wrist strengthening with max 2 pounds or patient-applied manual resistance
 - Full effort grip strengthening
 - Elbow strengthening
 - Scapular stability (Prone T (p 16), Prone Y (p 16), Wall Protraction (p 12))
 - Posterior rotator cuff strength with 0-8 ounces (SLER (p 17), Ball L (p 18))
 - Address posterior shoulder mobility if needed (Sleeper Stretch (p 4))
 - Supraspinatus strengthening (Full Can (p21), Flexion (p21))
 - Proprioception (Wall Circles with Ball (p23), Overhead Wall Bounce (p 23))
 - Core exercises (Bird Dog (p24), Front Plank (p25))
- Continue running for fitness.
- Lower extremity strengthening as desired with no load through upper extremity

UCL RECONSTRUCTION PROTOCOL



WEEK 16+

-Continue and wrap-up formal physical therapy:

-Ongoing focus on posterior shoulder mobility, posterior shoulder strength, wrist eccentrics, core.

THROWING

If applicable, begin Return to Throw program no earlier than 16 weeks when rotator cuff is 5/5 in all planes and **cleared by physician**. Return to Throw Program is available on www.sportsandortho.com

-Earliest return to pitching from the mound is 9 months once cleared by surgeon.

-Return to elite level throwing at 12-18 months.

WEIGHT TRAINING

-Return to modified program when rotator cuff strength is 5/5 in all planes and **cleared by physician**.

-Upper body weight training no more than 2x/week

-First do rehab exercises as part of upper body warm up

-Lift appropriate weight for 2-3 sets of 15

Acceptable Upper Body Lifts

Biceps Curls with free weights, elbows at sides, scap set throughout

Triceps Press down with V rope on cable column

Bent over kick back with free weights

No 'skull crusher' variations

Row Seated row with cable column

Bent over row with free weights

Scap set during pull phase, elbows never behind body

Lat pull downs Lean slightly back and pull bar to chest

Advise the patient that the following exercises should **NEVER** be completed after rotator cuff repair unless specifically cleared by the physician:

Dips

Incline press

Bench press

Lateral raise

Shrugs

Military press

Pushups

Pect fly

COLLISION SPORTS

Six to nine months as **determined by surgeon**.

OTHER SPORTS

When cleared by physician

UCL RECONSTRUCTION PROTOCOL

