CONWAY ORTHOPEDIC & SPORTS MEDICINE CENTER

Austin Cole, MD

Distal Biceps Repair

Post-Operative Protocol

Phase I- Maximum Protection

Weeks 0 to 3:

- Wear sling at all times, splint until follow up
- Initiate passive range of motion within range of motion restrictions
  - Elbow: 30 degrees to full elbow flexion once transitioned to brace
- Initiate isometrics at 2 weeks

  Goals
  - Reduce pain and inflammation
  - Protect surgical repair
  - Postural education
  - PROM at shoulder
    - Full range in all directions with maintaining elbow flexed at 90 degrees
  - PROM at elbow
    - 30 degrees to full elbow flexion once out of splint

  Manual therapy
  - Graded glenohumeral and scapulothoracic mobilizations
  - Graded humeroulnar, humeroradial, and radioulnar mobilizations
  - Passive range of motion

  Exercise progression
  - Cervical ROM and basic deep neck flexor activation (chin tucks)
  - Hand and wrist AROM
  - Active shoulder retraction
  - Painfree, submax isometrics in shoulder and elbow complex
  - Encourage walks and low intensity cardiovascular exercise to promote healing

Phase II- Progressive Range of Motion

Weeks 3 to 6:

- Wear sling at all times, brace locked at 90 when not performing exercises
- Unlock brace 2-3x a day working on motion (gradual adjustment to full extension)
- Progress PROM range of motion, initiate AAROM

  Goals
  - Reduce pain and inflammation
  - Protect surgical repair
  - Postural education with cervical spine and neutral scapular positioning
  - Progress range of motion
    - Full forearm supination and pronation
    - Gradual progression to 0 degrees elbow extension (by 6w)

  Manual therapy
  - Graded glenohumeral and scapulothoracic mobilizations
  - Graded humeroulnar, humeroradial, and radioulnar mobilizations
  - Scar tissue mobilization when incisions are healed
  - STM to upper extremity, shoulder and cervicothoracic complex

Exercise progression
- Supine and upright AAROM using cane, pulleys, etc.
- DNF and proper postural positioning with shoulder retraction
- Prone scapular series and sidelying scapular activation (no resistance)
- Open chain serratus activation
- External rotation against gravity (no resistance)
- Low to moderate intensity cardiovascular work

Phase III- Range of Motion and Strengthening
Weeks 7 to 12:
- Discontinue sling, discontinue brace at 6-7 weeks
- Progress to full PROM
- Initiate AROM
- Normalize glenohumeral, scapulothoracic, and elbow complex arthrokinematics
- Initiate upper extremity strengthening and closed kinetic chain exercises Goals
  - Reduce pain and inflammation
  - Protect surgical repair
  - Full elbow range of motion
    - End range extension passive range of motion by 7 weeks

Manual therapy
- Graded glenohumeral, scapulothoracic, humeroulnar, humeroradial, and radioulnar mobilizations
- Scar tissue mobilization when incisions are healed
- Manual perturbations in supine with arm at 90 degrees flexion and ER/IR at neutral
- Rhythmic stabilization and perturbations in quadruped for scapular and core strengthening- bilateral progressing to unilateral/tripod position

Exercise progression
- Initiate UE bike at 7 weeks
- Initiate shoulder resistive exercises at 7 weeks
- Initiate closed kinetic chain exercises at 7-8 weeks
- End range extension stretching at 7 weeks
- Initiate biceps strengthening at 8-10 weeks with gradual progression
- Low to moderate intensity cardiovascular work (able to perform elliptical)

Phase IV- Advancing Strength and Plyometric Drills
Weeks 12 to 16:
- Full PROM and AROM
- Advance strengthening program
- Progress to plyometrics at 12 weeks
- Push up progression at 12 weeks

Goals
- Protect surgical repair
- Full PROM
- Full AROM

Manual therapy
- PROM and mobilizations if needed
- Manual perturbations
- PNF patterns

Exercise progression
- Advance gym strengthening program
- Initiate push up progression at wall and gradually progress
- Initiate plyometric and rebounder drills in double hand progressing to single hand

Phase V- Return to Sport

Weeks 16 to 24:

- Follow up examination with physician at 6 months for release to full activity
- Advance strengthening program

  Goals
  - Full ROM
  - Advance gym strengthening program
  - Initiate interval throwing program for athletes at 16 weeks

  Manual therapy
  - STM and joint mobilization to glenohumeral, scapulothoracic and cervicothoracic as needed
  - Manual perturbations
  - PNF patterns

  Exercise progression
  - Full ROM in all planes
  - Advance gym strengthening program
    - Bench/pressing motion at 16 weeks
  - Plyometric drills in single limb
  - Sport specific exercises

Criteria for return to play:

- Full, pain-free range of motion
- Normal arthrokinematics
- >90% MMT using handheld dynamometer
- Full progression through throwing interval program

Anticipated return to sports:

- 4-6 months for contact and non-contact athlete/throwing athlete