Connecticut Orthopaedics

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Sports Medicine/Foot & Ankle

Distal Biceps Repair
Post-Operative Protocol

Phase I - Maximum Protection
Weeks 0 to 3:

- Wear sling at all times
- Initiate passive range of motion within range of motion restrictions
  - Elbow: 90 degrees to full elbow flexion
- Initiate isometrics at 2 weeks

  Goals
  - Reduce pain and inflammation
  - Protect surgical repair
  - Postural education
  - PROM at shoulder
    - Full range in all direction with maintaining elbow flexed at 90 degrees
  - PROM at elbow
    - 90 degrees to full elbow flexion

  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
  - Pain-free, submax isometrics in shoulder and elbow complex
  - Encourage walks and low intensity cardiovascular exercise to promote healing

Phase II – Passive Range of Motion
Weeks 3 to 6:

- Wear sling at all times
- Initiate AAROM
- Progress range of motion

  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 (pain-free)

  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 6 to 12

- Discontinue sling
- 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 at 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 6 weeks
  - Initiate shoulder resistive exercises at 6-8 weeks
  - Initiate closed kinetic chain exercises at 6-8 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

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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
  - STIM and joint mobilization to glenohumeral, scapulothoracic and cervicothoracic as needed
  - Manual perturbations
  - PNF patters

  Exercise progression (PRE/PSE)
  - 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/discharge

- 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

Revised ***