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COMPREHENSIVE PHYSICAL THERAPY

Melinda Amato OTR/L CHT Brandon Heyda OTR/CHT Raymond Ryan PT/Director Valerie Peckingham PT Isabella Mesturini PT,DPT Peter Ives PTA Kirsten Perillo PTA

Megan R. Wolf, MD 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

- o Reduce pain and inflammation
- Protect surgical repair
- o 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
- o 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
 - o Gradual progression to 0 degrees elbow extension (pain-free)

Manual therapy

- Graded glenohumeral and scapulothoracic mobilizations
- o 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.
- O DNF and proper postural positioning with shoulder retraction
- o Prone scapular series and sidelying scapular activation (no resistance)
- Open chain serratus activation



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Distal Biceps Repair
Post-Operative Protocol

- 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

- o Graded glenohumeral, scapulothoracic, humeroulnar, humeroradial, and radioulnar mobilizations
- Scar tissue mobilization when incisions are healed
- o 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
- o 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
- o Full PROM
- o Full AROM

Manual therapy

- o 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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Distal Biceps RepairPost-Operative Protocol

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

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

Manual therapy

- o 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
- o 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 ***