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Arthroscopic Rotator Cuff Repair with Biceps Tenodesis Protocol

DISCLAIMER: The intent of this protocol is to provide therapists with guidelines for rehabilitation of patients that have undergone surgery with Dr. Avallone. It is based on a review of the best available scientific literature and is specific to his operative technique. It is not intended to serve as a substitute for sound clinical decision making. Therapists should consult with Dr. Avallone if they require assistance in the progression of post-operative patients.

Progress to the next phase based on Clinical Criteria and/or Time Frames as appropriate. The time frames provided here are for small to medium size rotator cuff tears. Should the patient have a large or massive tear, you will be notified of changes in the time frames.

Phase I – Immediate Post Surgical (Weeks 1 through 4)

Goals

- Maintain / protect integrity of repair
- Gradually increase passive range of motion (PROM)
- Diminish pain and inflammation
- Prevent muscular inhibition
- Become independent with activities of daily living with modifications

Precautions/Contraindications

- Maintain arm in UltraSling, remove only for exercise and personal hygiene (arm must be supported)
- Keep incision clean
- NO pulley exercises
- NO active assisted or active range of motion (AROM) of shoulder – up, out or behind the back-- for the first 4 weeks
- NO lifting of objects
- NO excessive stretching or sudden movements
- NO supporting of any weight
- NO lifting of body weight by hands
- NO driving for the first 4 weeks
- ***NO bicep tension for 6 weeks to protect repaired tissues – this includes avoiding long lever arm flexion ROM and no resisted forearm supination, elbow flexion or shoulder flexion***
- ***Limit shoulder external rotation to 40 deg for the first 4 weeks***
- ***NO Extension or horizontal abduction past body for 4 weeks***

DAYS 1 through 6

- Ultrasling (abduction brace) at all times including sleeping. The only exception is for pendulum exercises and personal hygiene (arm must be supported)
- Cryotherapy for pain and inflammation
    - Day 1-2: as much as possible (20 minutes of every hour)
    - Day 3-6: post activity, or for pain
- Pendulum exercises
- Finger, wrist, and elbow AROM
- Begin scapular musculature isometrics; cervical ROM
- Patient Education: precautions/contraindications, posture, joint protection, positioning, hygiene, etc.

MD VISIT SCHEDULED 10-14 DAYS POST-OP: please provide a progress report including measurements of shoulder passive range of motion.

DAYS 7 THROUGH 28

- Continue use of UltraSling at all times except for exercises and personal hygiene
- Cryotherapy as needed for pain control and inflammation
- Pendulum exercises
- Initiate pain free passive ROM exercises to tolerance
    - Flexion to 90 and progress to 125 by the end of the phase
        - Performed as table slides or supine with contralateral arm support
        - NO PULLEYS until week 5
    - **NO** passive abduction until 3 weeks post-op to 90°
    - ***ER in scapular plane to 40 deg by week 4***
        - Performed supine with wand
        - **NO** ER in abduction for the first 6 weeks
    - IR to body/chest and progress to 50 or greater by the end of the phase
- Continue elbow, wrist, and finger AROM progressing to resisted exercises as long as the shoulder muscles are not used to support the weight
- ***WEEK 4: Initiate submaximal rotator cuff isometrics for internal rotation, external rotation, anbduction and adduction in preparation for AA/AROM***
- May resume general conditioning program including walking and/or stationary bicycle
- Aquatic therapy may begin at 3 weeks post-op for passive ROM only

Criteria for progression to the next phase (II):

- Passive forward flexion to at least 125
- ***Passive external rotation (ER) in scapular plane to at least 40***
- Passive internal rotation (IR) in scapular plane to at least 50

Phase II – Protection/Active motion (Weeks 5 - 7)

Goals

- Allow healing of soft tissue
- Do not overstress healing tissue
- Gradually restore full passive ROM (week 4-5)
- Decrease pain and inflammation

Contraindication/Precautions:

- NO lifting
- NO supporting of body weight by hands and arms
- NO sudden jerking motions
- NO excessive behind the back movements
- NO upper extremity bike or upper extremity ergometer at any times
- Gradually resume self care, light housework, light work with elbow at side

WEEK 5

- Ultrasling is worn for comfort and at-risk situations between weeks 5 and 6

- Modalities
    - o Continue cryotherapy after exercises and as needed at home for pain
    - o May use heat prior to ROM exercises
- Initiate active assisted range of motion (AAROM) flexion with wand in supine position and pulleys
- Continue to progress internal/external rotation in neutral position (not behind the back)
- Initiate posterior capsule stretch
- Progressive passive ROM until approximately full at end of Week 5
- Gentle scapular/glenohumeral joint mobilization as indicated to regain full PROM
- Initiate prone rowing to neutral arm position
- Aquatic therapy for light active ROM exercises

MD VISIT SCHEDULED 6 WEEKS POST-OP: please provide a progress report including outcome measurement score e.g. Penn Shoulder Score and measurements of shoulder range of motion. If the patient is having difficulty with performing any of the above activities, with compliance, or you or the patient have any other special concerns please make note of it in your report.

WEEKS 6 THROUGH 7

- Discontinue UltraSling at end of week 6
- Continue to progress ROM and stretching exercises
- Initiate passive abduction
- Initiate internal rotation/extension stretch behind the back
- Initiate rotator cuff isometrics
- Continue scapular exercises
- ***Begin bicep progressive resistive exercises very gradually***
- Initiate active ROM exercises
    - o Flexion scapular plane
        - If patient has a (+) shrug, begin exercises in supine and progress to upright
    - o Abduction (NO empty can exercises)
    - o External rotation
    - o Internal rotation
    - o Horizontal adduction

Criteria for progression to the next phase (III):

- Full active range of motion

<u>Phase III – Early strengthening (Weeks 8-14)</u>

Goals

- Full active ROM (week 10-12)
- Maintain full passive ROM
- Dynamic shoulder stability
- Gradual restoration of shoulder strength, power, and endurance
- Optimize neuromuscular control
- Gradual return to functional activities

Contraindications/Precautions

- NO lifting of objects heavier than 5 lbs. outside of the clinic
- NO sudden lifting or pushing activities
- NO sudden jerking motions
- NO overhead lifting
- NO upper extremity bike or upper extremity ergometer at all times.

WEEKS 8 AND 11

- Continue stretching and passive ROM (as needed)
- Dynamic stabilization exercises
- Initiate strengthening program (it is permissible to progress weights to 5+ lbs. under PT's guidance)
    - o External rotation (ER)/Internal rotation (IR) with therabands/sport cord/tubing
    - o ER in sidelying (lateral decubitus)
    - o Prone rowing
    - o Prone horizontal abduction
    - o Prone extension
    - o Horizontal adduction
    - o Elbow flexion/extension
    - o Lateral raises*
    - o Full can in scapular plane* (avoid empty can abduction exercises at all times)

*Patient must be able to elevate arm without shoulder or scapular hiking before initiating isotonics; if unable, continue glenohumeral joint exercises

MD VISIT SCHEDULED 12 WEEKS POST-OP: please provide a progress report including outcome measurement score and measurements of shoulder range of motion and strength. If the patient is having difficulty with performing any of the above activities, with compliance, or you or the patient have any other special concerns please make note of it in your report.

WEEKS 12 AND 13

- Continue all exercise listed above
- Initiate light functional activities with Dr. Avallone's permission

WEEKS 14 AND 15

- Continue all exercise listed above
- Progress to fundamental shoulder exercises

Criteria for progression to the next phase (IV):

- Able to tolerate the progression to low-level functional activities
- Demonstrates return of strength/dynamic shoulder stability
- Re-establish dynamic shoulder stability
- Demonstrates adequate strength and dynamic stability for progression to higher demanding work/sport specific activities.

Phase IV – Advanced strengthening (Weeks 16-22)

Goals

- Maintain full non-painful active ROM
- Advance conditioning exercises for enhanced functional use
- Improve muscular strength, power, and endurance
- Gradual return to full functional activities

WEEKS 16 THROUGH 19

- Continue ROM and self-capsular stretching for ROM maintenance
- Continue progression of strengthening
- Advance proprioceptive, neuromuscular activities •

Light sports (golf chipping/putting, tennis ground strokes) with Dr. Avallone's permission

- With Dr. Avallone's permission, patients may begin a structured gym program using weights and machines. NO DIPS.

WEEKS 20 THROUGH 22

- Continue strengthening and stretching
- Continue stretching, if motion is tight
- May initiate interval sport program (i.e. golf, doubles tennis, etc.) with Dr. Avallone's permission