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Arthroscopic Rotator Cuff Repair Protocol For Partial-Thickness Tear and Small Full-Thickness Tears

The rate limiting factor in arthroscopic rotator cuff repair is the biologic healing of the cuff tendon to the humerus, which is thought to be a minimum of 8-12 weeks. Progression of AROM against gravity and duration of sling use is predicated both on the size of tear and quality of tissue and should be guided by referring physician. Refer to initial therapy referral for any specific instructions.

Phase I: Immediate Post Surgical Phase (Weeks 0-4)

Precautions

1. Wear shoulder brace for 4-6 weeks
2. Sleep in shoulder brace for 4-6 weeks
3. No active motions away from your body or overhead
4. No lifting objects with your shoulder/arm, reaching behind back, excessive stretching or sudden movements
5. No pushing or pulling motions
6. No support of body weight by hands
7. Physician or Physical Therapist will advise regarding other precautions

Goals:

Maintain/protect integrity of repair
Gradually increase PROM
Diminish pain and inflammation
Prevent muscular inhibition
Independence in modified ADLs

Day 1 to 6

Pendulum exercises
Finger wrist, and elbow AROM
Grip strengthening exercises
Cervical spine AROM
Passive shoulder (PROM) done supine for more patient relaxation
Flexion to 110 degrees

ER/IR in scapular plane < 30 degrees

Educate patient on posture, joint protection, importance of brace/sling, pain medication use early, hygiene

Cryotherapy for pain and inflammation

Day 7-35

Continue use of abduction brace until DC from physician.

Continue with full time use of sling until end of week 4

Pendulum exercise

May use heat prior to ROM

Begin PROM to tolerance (supine, and pain-free)

- Flexion to tolerance
- ER in scapular plane \geq 30 degrees
- IR in scapular plane to body/chest
- Gentle scapular plane abduction: begin 0-30 degrees and progress to 0-90 deg by end of week 4

Continue elbow, hand, forearm, wrist, and finger AROM

Begin resisted isometrics/isotonics for elbow, hand, forearm, wrist and fingers

Begin scapula muscle isometrics/sets, AROM

Begin glenohumeral submaximal rhythmic stabilization exercises in "balance position (90-100 degrees of elevation) in supine position to initiate dynamic stabilization

Initiate AAROM with wand

- ER/IR in scapular plane at 30-45 degrees abduction (pain-free)

Initiate gentle Pain-free Isometrics of shoulder

- Flexion with elbow bent to 90 degrees
- Internal and External Rotation with arm at side

May begin gentle general conditioning program (walking, stationary bike)

No running/jogging

No passive pulley exercise

Aquatherapy may begin approximately 3 weeks post operative if wounds healed.

Criteria for progression to next phase (II)

Passive forward flexion to \geq 125 degrees

Passive ER in scapular plane to \geq 60 degrees (if uninvolved shoulder PROM >80 degrees)

Passive IR in scapular plane to \geq 60 degrees (if uninvolved shoulder PROM >80 degrees)

Passive abduction in scapular plane to \geq 90 degrees

Phase II: Protection and Protected Active Motion Phase (Weeks 5-12)

Goals:

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

Precautions:

- No lifting
- No supported full body weight with hands or arms
- No sudden jerking motion
- No excessive behind back motions
- No bike or upper extremity ergometer until week 6

Weeks 5-6

- Gradually wean from brace starting several hours/day out progressing as tolerated when instructed
- Use brace/sling for comfort only until full DC by end of week 6
- Initiate AAROM shoulder flexion from supine position week 5
- May initiate Pulleys week 5
- Initiate Prone rowing, prone shoulder extension, prone horizontal abduction week 5-6
- Initiate sidelying ER AROM week 5-6
- Initiate Isotonic Elbow Flexion Strengthening
- Initiate ER/IR strengthening using exercise tubing with arm at side (towel roll) week 6
- Progressive PROM until full PROM by week 6 (should be pain-free)
- May require use of heat prior to ROM exercises/joint mobilization as indicated to obtain full unrestricted ROM
- Continue cryotherapy as needed post therapy/exercise

Weeks 7-9

- Continue PROM, AAROM, and stretching as needed
- Begin IR stretching, shoulder extension, and cross body, sleeper stretch to mobilize posterior capsule (if needed)
- Continue periscapular exercises progressing to manual resistance to all planes
- Initiate Seated press-ups
- Initiate AROM exercises (flexion, scapular plane, abduction, ER, IR) (should be pain-free) low weight
 - Initially only weight of arm and in gravity eliminated/reduced positions
- Do not allow shrug during AROM exercises

If shrug exists continue to work on cuff and do not reach/lift AROM over 90 degrees elevation
Initiate limited strengthening program
Remember RTC and scapular muscles small and need endurance more than pure strength

Criteria for progression to Phase III

Full AROM

Phase III: Early Strengthening (Weeks 10-16)

Goals:

Full AROM (weeks 10-12)
Maintain full PROM
Dynamic shoulder stability (GH and ST)
Gradual restoration of GH and scapular strength, power and endurance
Optimize neuromuscular control
Gradual return to functional activities

Precautions:

No lifting objects >5 lbs, no sudden lifting or pushing
Exercise should not be painful

Week 10

Continue stretching, joint mobilization, and PROM exercises as needed
Dynamic strengthening exercises
Begin light isometrics in 90/90 or higher supine, PNF D2 flexion/extension patterns against light manual resistance
Continue exercises as above weeks 7-9
Progress shoulder and periscapular isotonic strengthening- increase 1 lb./10 days (no pain)

Week 12

Continue all exercise listed above
May begin BodyBlade, Flexbar, Boing below 45 degrees
Initiate light functional activities as tolerated
Initiate low level plyometrics (2-handed, below chest level – progressing to overhead and finally 1-handed drills)

Week 14

Continue all exercises listed above
Progress to fundamental exercises (bench press, shoulder press)

Criteria for progression to Phase IV

Ability to tolerate progression to low-level functional activities
Demonstrate return of strength/dynamic shoulder stability
Reestablishment of dynamic shoulder stability
Demonstrated adequate strength and dynamic stability for progression to more demanding work and sports specific activities

Phase IV: Advanced Strengthening Phases (Weeks 16-22)

Goals:

Maintain full non-painful AROM
Advanced conditioning exercise for enhanced functional and sport specific use
Improve muscular strength, power and endurance
Gradual return to all functional activities

Week 16

Continue ROM and self-capsular stretching for ROM maintenance
Continue progressive strengthening
Advanced proprioceptive, neuromuscular activities
Light isotonic strengthening in 90/90 position
Initiation of light sports (golf chipping/putting, tennis ground strokes) if satisfactory clinical exam

Week 20

Continue strengthening and stretching
Continue joint mobilization and stretching if motion is tight
Initiate interval sports program (e.g., golf, doubles tennis) if appropriate