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Post-Operative Physical Therapy Protocol for Rotator Cuff Repair

Phase I: Immediate Post-surgical Phase (Days 1-14)

Precautions:

- No lifting of objects
- No excessive arm motions
- No excessive external rotation (ER) or internal rotation (IR) motions
- No excessive shoulder extension
- No excessive stretching or sudden movements
- No supporting of body weight by hands

Keep incision clean and dry

Precautions for isolated supraspinatus repair:

- Caution with excessive passive and active IR range of motion (ROM) for 6-8 weeks

Precautions for combined supraspinatus and infraspinatus repair:

- Caution with excessive passive and active IR ROM for 8 weeks

Precautions for isolated subscapularis repair:

- No ER for 4 weeks
- Progress ER slowly from 4 weeks until 8-10 weeks

Precautions for concomitant biceps tenodesis:

- Passive elbow ROM only x 4 weeks; avoid aggressive passive terminal extension
- No Active elbow ROM x 4 weeks
- Gentle Passive ROM of terminal extension begins at 4 weeks
- At week 4 begin gentle active elbow flexion

- No active supination x 6 weeks
- Biceps strengthening exercises begin when full pain free active range of motion is achieved (~8-12 weeks)

Goals:

Maintain integrity of the repair
 Promote tissue healing
 Gradually increase passive ROM
 Diminish pain and inflammation
 Prevent muscular inhibition

Days 1 to 12:

Sling with abduction pillow

Elbow/hand gripping and ROM exercises: perform 4-6 times per day

- No active elbow flexion for 4 weeks if biceps tenodesis is performed
- No aggressive terminal elbow extension for 4 weeks if biceps tenodesis is performed

Cryotherapy for pain and inflammation

- Ice 15-20 min approximately 4-6 times daily

Sleeping

- Sleep in pillow brace until instructed to discontinue

Days 12 to 28:

Continue use of sling with pillow

Codman's pendulum exercises: perform 4 times per day

Progress passive ROM to tolerance

- Flexion to at least 115°
- ER in scapular plane at 45° abduction to 30°-35°
- IR in scapular plane at 45° abduction to 30°-35°

Continue elbow/hand ROM and gripping exercises

Initiate rhythmic stabilization ER/IR at 45° abduction

Continue use of ice for pain control

- Use ice at least 6-7 times daily

Sleeping

- Continue sleeping in brace until physician instructs to discontinue use

Phase II: Protection Phase (Day 28-Week 8)

Precautions:

No heavy lifting of objects
 No carrying heavy objects
 No excessive behind the back movements
 No supporting of body weight by hands and arms
 No sudden jerking motions

Goals:

- Allow healing of soft tissue
- Do not overstress healing tissue
- Gradually restore full passive ROM (week 4-6)
- Re-establish dynamic shoulder stability
- Decrease pain and inflammation

Weeks 4-6:

Passive ROM to tolerance

- Flexion to 140°-155°
- ER at 90° abduction to 30°-45° at week 4
- IR at 90° abduction to 30°-45° at week 4

Patient should exhibit full passive ROM by week 6

Initiate isotonic elbow flexion

Rhythmic stabilization drills

- ER/IR in scapular plane
- Flexion/extension at 100° flexion and 125° flexion

For patients at risk of developing post-operative stiffness (including those with calcific tendinitis, adhesive capsulitis, patients with single-tendon rotator cuff tears, patients who undergo a concomitant labral repair surgery, and patients with PASTA lesions) perform closed-chain passive overhead stretching exercises in the form of TABLE SLIDES

Continue use of cryotherapy as needed

Continue all precautions

- No lifting
- No active motion

Weeks 6-8:

Discontinue use of sling or brace

May use heat prior to exercises

Begin isometrics (submaximal and subpainful)*

** May apply electrical muscle stimulation to shoulder external rotators for muscle re-education*

- Flexion with bent elbow
- Extension with bent elbow
- Abduction with bent elbow
- ER/IR with arm in scapular plane
- Elbow flexion

Active assisted ROM to tolerance

- Flexion (continue use of arm support)
- ER/IR in scapular plane at 45° abduction
- ER/IR at 90° abduction

Initiate Active ROM exercises

- Shoulder flexion in scapular plane in side-lying at week 6 (no weight)
- Shoulder abduction at week 8 (if no substitution pattern or pain is present)

Phase III: Intermediate Phase (Weeks 8-16)

Goals:

- Full active ROM (week 8-10)
- Maintain full passive ROM
- Dynamic shoulder stability
- Gradual restoration of shoulder strength
- Gradual return to functional activities

Week 8-12:

Continue stretching and passive ROM (as needed to maintain full ROM)
Continue dynamic stabilization drills

Continue all other exercises listed above

Weeks 12-16:

Progress all exercises

- Continue ROM and flexibility exercises

Begin isotonic strengthening exercise program

- ER/IR tubing
- Side-lying ER
- Lateral raises to 90° of abduction*
- Full can in scapular plane to 90° of flexion*
- Prone rowing
- Prone horizontal abduction (bent elbow)
- Biceps curls (isotonics) very light weight
- Prone extension
- Elbow flexion
- Elbow extension

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

Therapist may initiate isotonic resistance (0.5-kg weight) during flexion and abduction*
If non-painful normal motion is exhibited and no substitution pattern is present

- Progress strengthening program (increase 0.5 kg/10 days if non-painful)*

** Be sure when progressing patient no residual pain is present following exercises*

** For massive rotator cuff tears and revision repairs, delay strengthening until 16 weeks post-operatively*

Phase IV: Advanced Strengthening Phase (Weeks 16-26):

Goals:

- Maintain full non-painful ROM
- Maintain integrity of repair
- Enhance functional use of upper extremity
- Improve muscular strength and power

Gradual return to functional activities

Weeks 16-20:

- Continue ROM and stretching to maintain full ROM
- Self-capsular stretches
- Progress shoulder strengthening exercises

Weeks 20-26:

- Continue all exercises listed above
- Gradually increase resistance but patient should exhibit no pain during or after exercise and no substitution pattern
- Initiate interval golf program (if appropriate)

Phase V: Return to Activity Phase (Weeks 26-36):

Goals:

- Gradual return to strenuous work activities
- Gradual return to recreational sport activities

Week 26:

- Progress golf program to playing golf (if appropriate)
- Initiate interval tennis program (if appropriate)
- May initiate light swimming (if appropriate), weeks 26-29
- Continue stretching, if motion is tight
- Continue progression to sport or work activity