

Dr Simon Hutabarat

## The Four Phases of Healing During Rehabilitation Following Rotator Cuff Surgery

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### Phase 1: Immediate post-operative period - Weeks 0-6

#### Goals

- Maintain / protect integrity of repair
- Gradually increase PROM
- Diminish pain and inflammation
- Prevent muscular inhibition
- Become independent with modified ADL's

#### Precautions

- Maintain arm in abduction sling / brace, remove only for exercises
- No shoulder AROM, lifting of objects, shoulder motion behind back, excessive stretching or sudden movements, supporting of any weight, lifting of body weight by hands
- Keep incision clean and dry

#### Criteria for progression to phase 2

- Passive forward flexion to  $>125^{\circ}$
- Passive ER in scapular plane to  $>75^{\circ}$  (if uninvolved shoulder PROM  $> 80^{\circ}$ )
- Passive IR in scapular plane to  $>75^{\circ}$  (if uninvolved shoulder PROM  $> 80^{\circ}$ )
- Passive abduction to  $>90^{\circ}$  in the scapular plane

#### Days 1 to 6

- Abduction brace / sling
- Pendulum exercises
- Finger, wrist and elbow AROM
- Begin scapula musculature isometrics / sets; cervical ROM
- Cryotherapy for pain and inflammation

#### Days 1-2

- Ice as much as possible (20 min/h)

#### Days 3-6

- Post-activity, or for pain
- Sleep in abduction sling
- Patient education on posture, joint protection, positioning, hygiene

#### Days 7-28

- Continue with abduction sling / brace
- Pendulum exercises
- Begin PROM to tolerance (done supine; should be pain free)
  - Flexion to  $90^{\circ}$
  - ER in scapular plane to  $75^{\circ}$
  - IR to body / chest
- Continue elbow, wrist and finger AROM / resisted
- Cryotherapy as needed for pain control and inflammation
- May resume general conditioning program (e.g., walking, stationary bicycle)

- Aquatherapy / pool therapy may begin 3 weeks post-operatively if supervised by your physiotherapist.

## **Phase 2 : Protection and active motion - Weeks 6-12**

### Goals

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

### Precautions

- No lifting
- No supporting body weight with hands and arms
- No sudden jerking motions
- No excessive behind the back movements
- Avoid upper extremity bike and ergometer

### Criteria for progression to phase 3

- Full AROM

### Weeks 5-6

- Continue with full time sling / brace until end of week 4
- Between weeks 4 and 6, use sling / brace for comfort only
- Discontinue sling / brace at end of week 6
- Initiate AAROM flexion in supine position
- Progressive PROM until approximately full ROM at weeks 4-5
- Gentle scapular / glenohumeral joint mobilisation as indicated to regain full PROM
- Initiate prone rowing to neutral arm position
- Continue cryotherapy as needed
- May use heat before ROM exercises
- Aquatherapy OK for light AROM exercises
- Ice after exercises

### Weeks 6-8

- Continue AROM, AAROM and stretching exercises
- Begin rotator cuff isometrics
- Continue periscapular exercises
- Initiate AROM exercises (flexion scapular plane, abduction, ER, IR)
- Can start driving

## **Phase 3: Early strengthening - Weeks 10-16**

### Goals

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

### Precautions

- No lifting objects > 5lbs, sudden lifting or pushing activities, sudden jerking motions, overhead lifting
- Avoid upper extremity bike and ergometer

#### Criteria for progression to phase 4

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

#### Week 10

- Continue stretching and PROM as needed
- Dynamic stabilisation exercises
- Initiate strengthening program:
  - ER and IR with exercises bands / sport cord / tubing
  - ER side lying (lateral decubitus)
  - Full can in scapular plane (no empty can abduction exercises)
  - Prone horizontal abduction
  - Prone extension
  - Elbow flexion
  - Elbow extension

#### Week 12

- Continue all exercises listed above
- Initiate light functional activities as permitted

#### Week 14

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

### **Phase 4: Advanced strengthening - Weeks 16-22**

#### Goals

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

#### Week 16

- Continue with ROM and self capsular stretching for ROM maintenance
- Continue progression of strengthening
- Advance proprioceptive, neuromuscular activities
- Light sports (golf chipping, putting, tennis ground strokes) if doing well

#### Week 20

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

Animated Video link: <https://youtu.be/-rxdrzM-IdA>

Updated by Dr Simon Hutabarat 03/03/2021