

Thermal Assisted Capsular Shrinkage for Individuals With MDI

I. Phase I – PROTECTION PHASE (0-8 Weeks)

Goals: Allow healing of tightened capsule
Begin early protected motion of the elbow, wrist, and hand
Decrease pain/inflammation

**PRECAUTIONS: Must have a very conservative approach to recovery and ROM.
Maximum protection and slow ROM for 6-8 weeks because of
congenital bases for laxity.**

Weeks 0-2

Precautions:

- Sleep in immobilizer/sling for 6 weeks
- No overhead activities for 12 weeks
- Avoid abduction, flexion, and external rotation (ER)

Exercises:

- Gripping exercises with putty
- Elbow flexion/extension and pronation/supination
- Active range of motion (ROM) cervical spine
- After 10 days, active abduction may be allowed, but is not to exceed 70 degrees

Week 2-4

Goals: Gradual increase of range of motion (ROM)
Normalize arthrokinematics
Improve strength
Decrease pain/inflammation

Range of Motion Exercises:

- Active assisted exercises (pulley and L-bar)
- Forward flexion to 90 degrees
- Abduction to 90 degrees (plane of scapula)
- ER in scapular plane to neutral
- Internal rotation (IR) to 35 degrees
- No extension

Strengthening Exercises:

- Isometrics initiated in all planes to tolerance

- Progressive resistive exercises to elbow and wrist
- Scapular strengthening (isometrics)
- Rhythmic stabilization drills (neutral rotation)

Conditioning Program For:

- Trunk
- Lower extremities
- Cardiovascular

Decrease Pain/Inflammation:

- Ice, non-steroidal anti-inflammatory drugs, modalities

Week 4-6

Gradual increase to full ROM

ROM exercises:

- L-bar active assisted exercises
- Shoulder flexion 125 degrees by week 6
- ER scapular plane to 25 degrees by week 6
- IR scapular plane to 45 degrees by week 6

Strengthening Exercises:

- Continue with exercises above
- Rhythmic stabilization drills into wall
- Scapular strengthening
- Therapeutic tubing initiated (week 5)
- Active ROM exercise

Gentle mobilization re-establish normal arthrokinematics to:

- Scapulothoracic joint
- Glenohumeral joint
- Sternoclavicular joint

II. PHASE II – INTERMEDIATE PHASE (Weeks 6-12)

Goals: Full non-painful ROM at weeks 1-12

Normalize arthrokinematics

Increase strength

Improve neuromuscular control

Weeks 6-8

ROM exercise:

- L-bar active assisted exercises
- Flexion to 145 degrees by week 8
- ER scapular plane to 45 degrees by week 8
- IR scapular plane to 50 degrees by week 8
- Initiate capsular self stretches
- Continue joint mobilization
- Gradually increase to 80% of full ROM to full by week 12

Strengthening Exercises:

- Continue all exercises listed above
- Initiate isotonic dumbbell and tubing program
- Sidelying ER
- Sidelying IR
- Shoulder abduction
- Supraspinatus
- Latissimus dorsi
- Rhomboids
- Biceps curl
- Triceps curl
- Shoulder shrugs
- Push-ups (into wall or table)

Week 8-12

Goals: 80% of full ROM

Continue with all exercises listed above

Continue with joint mobilization and self capsular stretches

ROM exercises:

Active assisted ROM with an L-bar

Flexion to 160 degrees at week 8-10

ER at 90 degrees abduction to 75 degrees at week 10

IR at 90 degrees abduction to 50-55 degrees

III. Phase III – DYNAMIC STRENGTHENING PHASE (Weeks -12-20) Advanced Strengthening Phase

Goals; Improve strength, power and endurance

Improve neuromuscular control

Prepare the athlete to begin to throw

Criteria to Enter Phase III:

1. Full non-painful ROM (80% of ROM of contralateral shoulders)
2. No pain or tenderness
3. Strength 70% or greater compared to the contralateral side

Emphasis of Phase III:

- High speed, high energy strengthening exercises
- Eccentric exercises
- Diagonal patterns

Exercises:

- Fundamental shoulder exercises
- Continue tubing exercises for ER/IR
- Tubing for rhomboids
- Tubing for latissimus dorsi
- Tubing for biceps
- Tubing for diagonal patterns D2 extension
- Tubing for diagonal patterns D2 flexion
- Continue dumbbell exercises for supraspinatus and deltoid

- Continue serratus anterior strengthening exercises
- Continue neuromuscular exercises
- Continue self-capsular stretches
- Gradual return to recreational activities

IV PHASE IV – RETURN TO ACTIVITY (Weeks 20-28)

Goals: Progressively increase activities to prepare patient for full functional return.

Criteria to progress to Phase IV:

1. Full ROM
2. No pain or tenderness
3. Isokinetic tests that fulfill criteria
4. Satisfactory clinical exam

Exercises:

- Continue all strengthening
- Exercise closed kinetic chain
- Initiate recreational sport (week 24-26) physician clearance required