

## **Rehabilitation Program Following 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 pronator/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 arthokinematics 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 arthokinematics  
 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 fulfills criteria
4. Satisfactory clinical exam

***Exercises:***

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