

This protocol provides appropriate guidelines for the rehabilitation of patients with adhesive capsulitis. The protocol draws evidence from the current literature and accounts for preferences of the providers at Summit Orthopedics. The program may be modified by the referring provider for an individual patient. If questions arise regarding the utilization of the protocol or the progress of the patient, contact Summit Orthopedics: **(651) 968-5200**

REHAB PRINCIPLES & OVERVIEW

- » Focus on active engagement of the patient through patient education and therapeutic exercise. Establish a home exercise program that can be progressed as symptoms decline.
- » Home program should result in minimal to no symptom exacerbation. Max pain of 3/10 during and after exercise. Differentiate pain from fatigue. The patient should call the PT for recommendations if pain increases during or after exercise.
- » The main goal of physical therapy is to develop functional strength via improved neural recruitment and motor control of shoulder girdle musculature.
- » Complete 4-6 visits of physical therapy over 2-6 months.
- » Consider local tissue irritability (Table 1) in decision making when determining intervention. Use caution to avoid post-treatment tissue inflammation and associated pain.

TABLE 1. Local Tissue Irritability. Patients must meet 3+/5 criteria to be categorized appropriately.

HIGH	MODERATE	LOW
High levels of pain (>7/10)	Moderate levels of pain (4-6/10)	Low levels of pain (<3/10)
Consistent pain at rest and/or at night	Intermittent pain at rest and/or at night	No rest or night pain
Pain before end range	Pain at end range	Minimal pain with overpressure
AROM is significantly less than PROM due to pain	AROM is similar to PROM	AROM is equal to PROM
High disability on standardized outcome measure	Moderate disability on standardized outcome measure	Low disability on standardized outcome measure

THERAPEUTIC EXERCISE

There is no intervention more effective than therapeutic exercise for painful shoulder conditions. However, there is no consensus on the ideal exercise program to treat patients with adhesive capsulitis, therefore preferences from Summit Orthopedics providers are below:

- » Four to six physical therapy visits over 2-6 months.
 - » Recommend clinic visits in PT every 3-4 weeks to allow sufficient change in ROM between visits.
 - » Recommend measuring ROM with a goniometer in all planes at every clinic visit.
- » Start with basic exercises and progress to more challenging exercises as symptoms decline. Intensity of exercises should be determined by local tissue irritability level.
- » Prescribe HEP 5-7x/week initially when the clinical focus is gentle improvement of ROM.
- » Once ROM is restored to ~85% as compared to the uninvolved shoulder, continue with self-stretching exercises as needed and transition to strengthening using the conservative impingement protocol.

The exercises below may be beneficial in treating patients with adhesive capsulitis and are preferred by providers at Summit Orthopedics.

In each section, exercises are listed in progressive order from gentle to challenging. Notations are made relating exercises to an appropriate level of local tissue irritability for introduction.

The goal for all exercises is 3x30 seconds with minimal to no increase in pain during exercise. Pain should return to baseline within one hour of completion.

Teach the patient that painful exercises do not facilitate improvement in a painful joint. If flares in pain occur during or for more than 2 hours after exercises, patient should stretch more gently next time.

Recommended max of 6 exercises for home exercise program. Select a well-rounded program that targets each area of insufficiency identified during physical exam.

Page numbers below reference the Therapeutic Exercise Handout. The PDF for the Therapeutic Exercise Handout file containing instructions and pictures for each exercise can be printed from the Summit Orthopedics website: www.summitortho.com/provider/michael-q-freehill-m-d/

STRETCH	PAGE	TISSUE IRRITABILITY
Posterior Shoulder		
Wand Internal Rotation	4	High
Golfer Stretch	3	Moderate-High
Behind-the-Back Stretch	4	Moderate
Sleeper Stretch	3	Low
Anterior Shoulder		
Wand Extension	4	High
ER Stretch with Wand	5	High
ER Stretch with Door	5	Moderate
ER Stretch with Table	5	Moderate
ER Cactus Stretch	5	Low
Lounge Chair Stretch	4	Low
Inferior Capsule		
Prayer Stretch	6	High-Moderate
Wall Slide	6	Low
Thoracic Mobility		
Thoracic Ext — Towel	15	High
Thoracic Ext — Foam Roller	15	Moderate-Low
Shoulder & Trunk		
Alligator	6	Low
Large Arm Circle	6	Low

THERAPEUTIC ACTIVITY & PATIENT EDUCATION

Patient education is very important in getting the patient to take an active role in therapy and recovery. Educate the patient at the appropriate level regarding:

- » Anatomy of the shoulder girdle.
- » Shoulder girdle mechanics: typical and pathomechanical.
- » The inhibitory effect of pain on the rotator cuff.
- » Activity modification and avoidance of pain-provoking activities.
- » Effect of posture on shoulder pain and mechanics.
- » Ergonomics for typing, carrying, lifting, etc.
- » Preferred positioning of the shoulder during sleep.
- » **Prognosis:** Longer duration of pain, higher pain severity at presentation, and lower baseline function at evaluation are associated with a less positive outcome. Discuss prognostic indicators of increased length of time to resolution for adhesive capsulitis (thyroid disorder, diabetes, fair-skinned phenotype).
- » **Sports and activities:** Refrain from activities that directly involve the shoulder until cleared for participation by referring physician. OK for activities such as recumbent stationary bike (no weight-bearing through shoulders), elliptical using stationary handholds, walking on the treadmill.
- » **Weight lifting:** Refrain during shoulder pain. Return initially to biceps curls, triceps press, seated row once pain-free with ADL and rotator cuff strength is pain-free and symmetrical. Discuss additional exercises with physician at recheck. In the short term, OK for core (without weight-bearing through the shoulders), cardio, and legs.

MANUAL THERAPY

TABLE 2. Summary of evidence and Summit Orthopedics provider preferences regarding manual therapy use in adhesive capsulitis. Complete a maximum of 10 minutes of manual therapy.

MANUAL THERAPY TECHNIQUE	SUMMARY OF EVIDENCE	SAOS PROVIDER PREFERENCE
Glenohumeral Accessory Mobilization	Weak evidence that mobilizations directed to the glenohumeral joint reduce pain and increase motion and function.	OK for use as an adjunct to therapeutic exercise in patients with low to moderate local tissue irritability. Match mobilization force to tissue irritability. Focus on posterior shoulder mobility. Max of 5-10 minutes.
Soft Tissue Mobilization	No evidence	Use sparingly. Soft tissue mobilization to (upper trapezius and interscapular region) may be appropriate and must not exacerbate symptoms. Three to five minutes maximum.
Physiologic (Long Arc) Passive Range of Motion	No evidence	Do not use

MODALITIES

Across the literature, there is moderate evidence that passive intervention with modalities is NOT justified in treating adhesive capsulitis. See Table 3 for a summary of evidence and Summit Orthopedics provider preferences regarding modality use in adhesive capsulitis.

TABLE 3.

MODALITY	SUMMARY OF EVIDENCE	SAOS PROVIDER PREFERENCE
Cold Therapy/Ice	Limited evidence regarding the effect of cold therapy on adhesive capsulitis. Strong evidence supports the use of ice for localized pain control.	Encourage patient use. Daily for patients with moderate or high local tissue irritability. As needed for patients with low tissue irritability. 10-15 minutes. Ice pack not placed directly on skin.
Ultrasound	Weak evidence that US results in improved pain, ROM, function.	Do not use
Iontophoresis	No evidence	Do not use
Heat Therapy	No evidence	OK for use for chronic shoulder pain/stiffness