

Adhesive Capsulitis

(Frozen shoulder) p. 457

DEFINITION

- Frozen shoulder is painful, significant restriction of active and passive ROM at the shoulder, most frequently in abduction and external rotation
- The joint capsule becomes tightened and inflexible
- There are 3 stages of frozen shoulder:
 - Acute – the joint capsule becomes painfully contracted
 - Sub-Acute – capsular fibrosis occurs
 - Chronic – the range gradually returns

CAUSES

- Idiopathic factors
- Intrinsic musculoskeletal trauma or disorder (impingement syndrome, subacromial bursitis, rotator cuff tendinitis or tears, dislocations, OA)
- Trigger points in subscapularis
- Postural dysfunctions (hyperkyphosis, protracted scapula, forward head posture)
- Disuse following a shoulder injury or immobilization
- Extrinsic factors (heart attack, pulmonary disorders, previous breast surgery, lymph node biopsy, bypass surgery)
- Systemic disease (diabetes, hyperthyroidism)

SYMPTOMS

Acute (“Freezing phase”)

- There is a gradual onset of pain (usually the result of a minor injury)
- The pain is severe at night and they are unable to lie on the affected side
- Pain is located at the outer side of the shoulder and the deltoid insertion referring to elbow
- Muscle spasm may be present in rotator cuff muscles
- Inflammation is present in capsule
- Stiffness is progressive, setting in at 2-3 weeks after the initial pain begins
- This stage lasts 2-9 months and longer if aggressive therapy is used
- The condition may be unilateral or bilateral
- The acute and sub-acute stages blend into each other

Sub-Acute (“Frozen Phase”)

- The severe pain begins to diminish
- Stiffness becomes the primary complaint, interfering with activities of daily living
- There are decreases ROM in external rotation, abduction and internal rotation with pain at end ranges (capsular pattern)
- Disuse atrophy of the deltoid and rotator cuff muscles may occur
- This stage lasts 4-12 months

Chronic (“Thawing Phase”)

- Pain is localized to the lateral arm and continues to diminish
- Motion and function gradually returns, but not always to full range
- Can remain symptomatic for as long as 5-10 years
- The length of the acute stage corresponds to the length of the recovery time

ASSESSMENT

Questions

- History of injury to the shoulder?
- Any underlying conditions like diabetes
- Where is pain located
- Does the pain interrupt sleep? Unable to sleep on affected side? In Acute =”yes”
- What actions are limited?
- Dr. diagnosed frozen shoulder? Other therapies? Medications?

Observation

- During gait assessment, the affected arm is held stiffly and its normal swing is absent
- Postural assessment likely reveals a kyphosis and forward head posture
- Affected shoulder is elevated and protracted

Palpation

- Hypertonicity and TP’s are palpated in the affected muscles (upper traps, levator scap, shoulder girdle muscle, Pecs will be tight in the chronic stage)
- Shoulder girdle muscles and lateral arm are point tender
- In the sub-acute stage, disuse atrophy and fibrosing are likely present in the muscles of the rotator cuff

Testing

Acute

- AF ROM is restricted by pain in external rotation, abduction and internal rotation
- PR ROM reveals restrictions in external rotation, abduction and internal rotation due to pain
- AR testing for rotator cuff muscles reveal full strength

Sub-Acute

- AF ROM is most restricted in external rotation, abduction and internal rotation
- PR ROM restrictions are in external rotation, abduction and internal rotation with a painful leathery end feel
- AR testing reveal little pain on any resisted movement at the shoulder if it is kept in the unrestricted range, strength may be reduced

Chronic

- AF and PR ROM begin to return to normal
- AR testing may reveal reduced strength of the shoulder girdle muscles

Differentiating Shoulder Pain

- Posterior Dislocation – has a history of trauma, usually a fall forward on an outstretched arm
- AC joint sprain – painful very local to the joint and an AC sheer test is positive
- Tendinitis – has increasing pain with increasing force of contraction of the affected muscle, associated special tests are positive
- Glenohumeral osteoarthritis – has a gradual onset, past history of trauma and x-ray diagnosis
- Cervical nerve root pathology – has pain restricted to the specific dermatome affected
- Cervical facet joint irritation – pain is distributed over the shoulder and neck, spurlings and cervical distraction test are positive
- Referred shoulder pain – may arise from the diaphragm and cardiac or gall bladder pathologies

TREATMENT

- No single method of treatment seems consistently effective
- Progress occurs in spurts and plateaus, therefore important to keep accurate records of pre and post treatment ROM

Acute

- Positioning begins in prone, if shoulders are protracted towel rolls are placed under the shoulders
- Hydrotherapy is ice to the affected shoulder, heat on compensating structures
- Assess ROM pre treatment

General Treatment

- Reduce pain
- Reduce SNS firing (diaphragmatic breathing)
- Treat compensating structures (back, unaffected shoulder, TP in muscles that refer to the affected area)

Specific Treatment

- Reduce hypertonicity and TP's (TP's in subscap, traps, lev scap, rhomboids, lats, serratus anterior, erectors, deltoid, pecs, subclavius and rotator cuff muscles are treated)
- Maintain local circulation (petrissage used on scapular muscles to increase venous return)
- Mobilize hypomobile joints (joint play to vertebra, ribs and scapula)
- Maintain ROM (pain free passive pendulum)
- Treat other conditions (address any postural dysfunctions, or other conditions that may be present)
- Reduce inflammation (MLD to affected shoulder)
- Reduce fascial restrictions (skin rolling, fascial spreading to affected shoulder with in clients pain tolerance)
- Treat compensating structures (unaffected shoulder, neck and arm)
- Mild joint play applied early in the acute stage can possibly prevent the full-blown cycle of freezing. Grade 1&2 Oscillations and Grade 1&2 Traction can be applied. Inferior GH glide first, progressing to lateral glide
- Any hypomobility in C-spine and sternoclavicular joint is treated with joint play
- Pain free PIR or a passive stretch is applied to the upper traps and lev scap

Sub-Acute

- Positioning is same for acute, starting prone. Towel rolls if hyperkyphotic
- Diaphragmatic breathing
- Hydrotherapy is hot application to the posterior shoulder then to the anterior shoulder

General Treatment

- The work to the client's trunk and unaffected shoulder is the same as in the acute stage

Specific Treatment

- Swedish techniques used on the affected shoulder as in acute. TP treated especially in subscapularis
- Joint play to hypomobile joints (T-spine, ribs, and scapulothoracic articulation)
- Client at edge of table, affected arm over table swing in a pendulum
- PR stretch
- Turn to supine, pillows at knees, towel roll down spine
- Fascial work to Pecs
- Swedish to unaffected shoulder, neck and diaphragm
- Treat pecs, subclavius, deltoid and the arm muscles as in the acute
- ADH in shoulder girdle with cross fiber frictions, ice, and stretch
- Grade 4 oscillations, Grade 3 traction, inferior and lateral glide joint play
- Active inhibition techniques to GH(Submax restricted ROM)

Chronic

- Positioning, hydrotherapy and techniques are the same as the subacute stage
- Joint play techniques are used to increase the range of the joint capsule.
- Grade 4 oscillation and grade 3 traction, and the anterior capsule is stretched with posterior glide
- Posterior glide starts in as close to 90 degree abduction of shoulder and elbow as much as possible then externally rotate GH while stabilizing, and pushing posterior on the humerus

Self-Care

Acute

- Frequent stretch if seated for long periods of time ie. driving
- Postural habits
- Hydrotherapy is cold to affected shoulder and heat to compensating
- Self- massage
- Sleep in sidelying with affected arm up, with pillows under the arm
- Maintain ROM (Pendulum, wand exercises, ROM of C-spine, T-spine)
- Maintain strength with isometrics
- Refer out to other modalities if needed

Sub-acute

- Sleeping and driving postures corrected
- Hydrotherapy is heat to affected shoulder
- Increase ROM
- Active pendulum movements
- Self- stretches for upper traps, and levator scap
- While supine, gravity can be used to passively stretch joint capsule. If this can be done pain free then a small weight can be added (soup can)
- Self -mobilization of GH joint –emphasis on inferior glide (p.472)

- Wall walking exercises
- Increase strength with isometrics

Chronic

- Client can continue the self-care for subacute, gradually progressing the ranges and strength
- Pool exercises may be beneficial

Treatment Frequency and Expected Outcome

- Treatments should be once a week for 6 weeks. At that point, the client and the remedial exercise self-care plan should be totally reassessed
- Progress frequently occurs in spurts and plateaus. Regaining full ROM may not be possible
- Once symptoms resolve, they rarely recur in the same shoulder
- Prevention of frozen shoulder is the best route following the shoulder or thoracic surgery. The client should be encouraged to get the humerus moving as soon as possible