Adhesive Capsulitis

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)

Medical Treatment

- Analgesics, anti-inflammatories and oral steroids have helped reduce pain symptoms but have not been shown to change the progression of the condition
- Steroids with local anesthetic have been injected into the subacromial space and the joint capsule. Studies have not shown that this method has any advantage over other forms of treatment.
- Distention arthrography, where the joint capsule is distended over a series of saline injections has been shown to rupture adhesions. This works best with mild or moderate cases and pain relief is sudden or over several hours.
- Manipulation under anesthesia is performed in cases that do not progress
- Today - early stages of frozen shoulder are treated with analgesics and passive ROM

Symptom Picture

- **Acute "Freezing phase" – first stage – painful 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" – second stage – stiffening phase**

- The severe pain begins to diminish
- Stiffness becomes the primary complaint, interfering with activities of daily living
- There is decreased 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" - third stage – resolution 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. The longer the acute stage is the longer the recovery stage could be.

Observations

- 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

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

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

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