Frozen Shoulder

Adhesive Capsulitis

- Thickening of joint capsule with contraction resulting in the capsule being drawn tightly over the humeral head with absence of synovial fluid and chronic inflammatory changes (Neviaser & Lundberg)

- Internal rotation lost first, followed by flexion and external rotation. Commonly cannot abduct to 90 degrees

- Incidence is 2% - common in age 40 to 70
  - Risk factors: diabetes, hyperthyroidism, cervical disc disease
  - Most usually have a period of immobility prior (with diverse aetiologies)

- The natural history is self-limiting with resolution within 12-18 months, but usually some mild residual restriction though with little impact on function/ADLs.

Primary

- No precipitating event, and no radiographic pathology on x-ray
  - Usually no findings on examination except global restriction in movement

- Phase 1 = pain
  - Gradual onset diffuse shoulder pain up to 1 month
  - Worse at night
  - Induces disuse to help relieve pain → stiffness

- Phase 2 = stiffness
  - Lasts 4 to 12 months
  - Difficulties with ADLs
  - Constant dull ache, worse at night
  - Sharp pain at extremities of already reduced range of movement

- Phase 3 = thawing
  - From weeks to months
  - Gradual pain relief and increase ROM
  - May never return to normal without treatment

Secondary

- Patients recall a precipitant event: overuse or trauma
- May not follow the same step-wise phases
- Bone scan may show positive uptake in shoulder
  - Predicts improvement with steroid injection.
- Arthrograms can show lack of filling of axillary fold or volume < 10 ml
  - Can have a therapeutic effect by dividing intra-articular adhesions
Treatment

- Conservative options can be considered as the condition is self-limiting usually for 12-18 months
  - Can also use NSAIDs, USS or TENs
  - Active and passive physiotherapy – but avoid abduction initially to prevent impingement symptoms
- MUA – flexion, extension, abduction, internal/external rotation (FEAR)
  - Concomitant inter-scalene block
  - Intra-operative check x-rays to exclude iatrogenic fracture/dislocation
  - Immediate physiotherapy for 2 to 4 weeks
  - Role for abduction orthosis worn at night for 3 weeks to prevent axial pouch adhesions during early phase of recovery
- Arthroscopic capsular Release
  - Can be combined with aggressive physiotherapy for 48 hours ± inter-scalene blocks
  - 87% achieved good or excellent results (but 50% still have some restriction in internal rotation)