The Collision Shoulder

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Why discuss the collision shoulder?

- NZ community high involvement in contact sports
  - rugby union, rugby league
  - soccer, netball, martial arts, boxing
  - 1500-2000 per year
- 600 shoulder injuries per year from falls at work
- 1500-1800 shoulder injuries from falls at home
Todays learnings

• what pathologies to consider
• develop a personal set of clinical tests
• arrange appropriate investigations
• refer for physiotherapy/rehabilitation
  • follow patient progress
  • prescribe exercises
• injection workshops
• surgical referral
Labrum

- deepens glenoid, acts like washer “sealing” the joint
- any injury with a shear force can lead to a labral tear
  - 3-6 o’clock - Bankart
  - Superior - SLAP (superior labral anterior-posterior)
  - posterior - posterior labral or reverse Bankart
Collision shoulder

- many different injury mechanisms
- many different patterns shoulder pathology

- 3 main mechanisms
  - “try scorer” – hyper-flexion
  - “tackler” - horizontal abduction
  - “direct blow” – arm by side/adduction
Try Scorer

- GHJ dislocation
- Bankart
- Reverse Bankart
- SLAP
- RC tears common
Tackler

- GHJ dislocation
- Bankart
- Reverse Bankart
- SLAP
Direct blow

- GHJ dislocation
- Labral tear
- AC joint
- Scapular fracture
Factors involved in the development of external impingement

- Anatomical abnormalities (e.g. beaked acromion, osteophytes)
  - Encroachment from above
  - Narrowing of subacromial space
  - Rotator cuff tendinopathy
  - Overuse
  - Instability
  - Abnormal biomechanics

- Poor scapular control
  - Inferior movement of acromion
  - Narrowing of subacromial space

- Anterior instability
  - Anterosuperior translation of humeral head
  - Rotator cuff weakness
  - Imbalance between humeral head elevators and depressors
  - Elevation of humeral head
  - Posterior capsule tightness
Examination

- A systematic process as with all joint examinations, develop a simple routine you are happy with
  - Observe – wasting/deformity
  - Active and passive range of motion
  - Palpation
  - Rotator cuff strength
  - Impingement
  - Labrum
  - AC joint
Clinical tests

- 129 tests described in the literature
- develop a personal group of tests you are happy to use

anterior apprehension, anterior drawer, biceps load, Hawkins-Kennedy, inferior sulcus, Jobe relocation, Lift-off, load and shift, Neer, O’Briens, posterior drawer, SLAPrehension, Speeds, Yergason …
Rotator Cuff

- **Supraspinatus**
  - Empty can position
  - 90° elevation in scapular plane, full internal rotation

- **Infraspinatus**
  - Elbow flexed to 90°, forearm in neutral, apply medial rotation force

- **Subscapularis**
  - Belly press
  - Liftoff test
Impingement

• Neer
  • Abduction in internal rotation
  • Causes critical areas of supraspinatus to pass under acromion/CA ligament

• Hawkins-Kennedy
  • Arm at 90°, elbow flexed to 90°, in relaxed supported position, move into internal rotation
Labral tests

- Anterior apprehension
  - Supine, scapula supported edge of table
  - Arm in 90° abduction/external rotation
  - Increase external rotation and look/ask re apprehension
- (Jobe) relocation test
  - Return to start position, apply posterior force to humeral head, repeat external rotation
  - Reduction of apprehension indicates likely labral tear
  - Joint pain only indicates subtle instability with 2° impingement
AC joint

- horizontal/adduction or scarf test
- distraction test
Imaging

- Plain X-rays
  - shoulder series +/- Westpoint view (bony Bankart)
  - AC joint
- Ultrasound scan
  - rotator cuff, bursa, long head biceps
- MRI
  - labrum
  - confirmation rotator cuff/bursa
- CT scan
  - bony glenoid
Summary:

- Know your anatomy
- Impingement can be end result of most pathologies
- Develop a simple examination routine, with a group of tests you are happy to use
- Always X-ray
- Ultrasound for rotator cuff, bursa, long head biceps
- Consider any pathology in a collision shoulder