EXAMINATION OF THE SHOULDER

NE REGIONAL TEACHING-UPPER LIMB TERM

18/01/10

DJC BURTON
How I examine the shoulder

INTRODUCTION

Examination of the shoulder can seem quite daunting. The prospect is not enhanced by the plethora of special tests that can be carried out and signs that can be elicited, tests being full of advice on precisely how to quantify which tendon is deficient and which soft tissue structure is inflamed. A similar wealth of less useful information is available for the knee, yet most if not all treatises manage to develop a method of knee examination capable of identifying most lesions without committing every variant of every test to memory. The same situation pertains to the shoulder. I will present here a basic guide to shoulder examination founded on the 'look, feel, move' system that is useful in the clinic and can identify most shoulder pathology. Detailed tests might still be needed for some rare conditions and the interested reader may wish to follow-up some references to other texts, but the place of these additional items of examination will be limited outside the specialist shoulder clinic.

Although the system of examination I will present is based on the principles of looking, feeling, and moving, the limitations of that sequence are recognized and the examination adapted so that the process flows. Each may choose to adopt the precise order of the elements of the examination, just as the examination may have to be adapted according to the functional capability of the patient. It should go without saying that the most important element to precede an adequate examination is a thorough history. The examination then follows and gauges the range of movement and strength. Special tests are then directed to pathology suspected from the history.

LOOK

It is tempting to produce a list of all the conditions that can be identified by simple inspection. Provided that the patient is adequately exposed such that the whole shoulder girdle is visible, the shoulder girdle is inspected from all angles and (at some point during the examination) care is taken to inspect the neck, then the truth is that most of these conditions will be obvious and the precise memorization of such a list will be unnecessary. Care does have to be taken in weighing the significance of such abnormalities as prominence of the acromioclavicular joint (ACJ). This may occur because of subluxation or dislocation after injury, because of articular changes in the joint or may be normal for that person, the observation of symmetrical x-rays being helpful in this respect.

FEEL

Palpation of the shoulder girdle can be surprisingly rewarding and in some cases downright rewarding. That is not to say that it should not be done, for elements of it are useful and significant, but there are also traps for the unwary.

Palpation should be done in a systematic way. I would recommend starting at the sternoclavicular joint and palpating along the clavicle. Anterior prominence of the sternoclavicular joint may arise due to subluxation or trauma or more gradually as part of an osteoarthritic process. Spend some time at the ACJ as it is here that palpation is particularly useful. ACJ tendinosis frequently accompanies ACJ pathology. Since degenerative change is almost universally found in the ACJ then the decision to include surgery to the...
OVERVIEW

- GENERAL INSPECTION
- SHOULDER INSPECTION
- FEEL
- ROM
- TEST ROTATOR CUFF
- SPECIAL TESTS-according to history/presentation/age
- NECK
- NEUROVASCULAR
GENERAL INSPECTION

- Looks well?
- In pain at rest/undressing/compensatory movements?
- Well muscled?
- Posture/core stability?
- Upper limbs used to weight bear?
SHOULDER INSPECTION

- Wasting
- Scars - look carefully for arthroscopy and axillary!
- Deformity
- Posture of shoulder (high/low/pro/retracted)
- Sinus
WASTING
DEFORMITY
FEEL

- SCJ
- CLAVICLE
- ACJ
- ANTERIOR/POSTERIOR/LATERAL
- TRAPEZIUS & PARASPINOUS MUSCLES
- DELTOID/SUPRA & INFRASPINOUS FOSSAE
ROM

- ACTIVE THEN PASSIVE
- Standard planes-not scapular plane

- ABD 170 deg (from the back - look at scapulothoracic motion at same time)
- ?painful  ? Easier with short lever

- FF 170 deg
ROM

- **ER** (nb from neutral) women > men
  Usually greater tested in abduction (thrower)

- *Functional IR*
  Thumb to vertebral level

Test IR and ER in abduction to look for GIRD
  (glenohumeral internal rotation deficit)
External rotation in abduction!
**SCAPULOTHORACIC MOTION**

- Compare both sides in abduction and return to side
- Asymmetry ?
- Smooth/jerky ?
- Asymmetric/inappropriate firing of prime movers (eg traps/lats) ? *Sequencing problem ?*
- Winging

- Usually first 45° GHJ then 2:1 GHJ/ST (debate !)
SCAPULOTHORACIC MOTION
ROTATOR CUFF

- **Supraspinatus**: nb 60 deg of abd in scapular plane applies most force.

Full IR eliminates deltoid

?Less painful-so weakness due to tear rather than pain
ROTATOR CUFF

  
  *Empty can* provokes more pain than *full can*
  
  *Full can* weakness predicts tear more reliably than *empty can*
  
Boettcher et al  J Science and Medicine in Sport 2009;12(4) 435-9

EMGs suggest that both *FC* and *EC* tests do not sufficiently isolate the supraspinatus to be of any predictive value!
ROTATOR CUFF

- **Infraspinatus** - external rotation

Bigliani et al JSES 1992;1:120-30. *ER drop sign*

ROTATOR CUFF

- **Subscapularis** - internal rotation

*Belly press*

*Lift off test*- Gerber et al. JBJS 1991;73(B):389-99
High sensitivity and specificity, EMGs-very selective for subscap.

FRCS (Tr&Orth)

If you have done 1 test for all of the preceding and picked up the signs I suspect you will have passed!

(don’t forget to at least offer to examine the neck and NV at hand aswell !)
SPECIAL TESTS

list 113 tests

• ROTATOR CUFF

Neer’s impingement sign-Orthop Clin N Am 1977;8:583-591

Both high sensitivity, low specificity (subsequent studies)
Neer test helpful
SPECIAL TESTS

- Long head of biceps tendon

Resisted FF at shoulder with elbow at 30 deg
(descriptions vary!)

*Yergason’s test* - *JBJS1931;13:160.* Resisted supination elbow at 90 deg.

Originally for LHB in groove. Also for labral/SLAP pathology. Both high sens/low spec.
SPECIAL TESTS

- ACJ
- *Scarf*- cross body adduction

*Compression*

*O’Brien*

*Ballotment*

Repeat after local anaesthetic to joint
SPECIAL TESTS

• INSTABILITY

• Always start with Beighton laxity score /9
• Sulcus sign
• Anterior/posterior draw (describe....? Grade)
• Load and shift anterior/posterior
• Apprehension anterior/posterior(apprehensive or painful?)
• Relocation
SULCUS
SPECIAL TESTS

- SUPERIOR LABRUM ANTEROPosterior TEAR (SLAP)


Initially described for ACJ pathology (pain in ACJ).
Also for SLAP (pain deep in shoulder with click)

Near 100% spec and sens in O’Brien’s hands-nearer 50% in subsequent studies!
SPECIAL TESTS-SLAP contd...

- Apprehension test painful (not apprehensive)


  Supine
  120 deg abduction
  ER pain
  Elbow flexion vs resistance
  more pain!
Thankyou !