Early detection of shoulder pathology in the overhead athlete
A clinical reasoning algorithm

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Impingement symptoms

External Subacromial impingement
Internal (posterior) impingement

Primary Impingement
Secondary Impingement

Rotator cuff pathology
Scapular dyskinesis
instability
Biceps SLAP
G.I.R.D.

(Cools et al. BJSM 2008)
Impingement tests: Jobe, Hawkins, Neer

Impingement symptoms

- External Subacromial impingement
  - Primary Impingement
    - Rotator cuff pathology
  - Secondary Impingement
    - Scapular dyskinesis
- Internal (posterior) impingement
  - G.I.R.D.
  - Instability
  - Biceps SLAP

(Cools et al. BJSM 2008)

Impedent tests: Jobe, Hawkins, Neer

Impingement symptoms

- External Subacromial impingement
  - Jobe + Neer + ant Hawkins +
- Internal (posterior) impingement
  - Jobe – Neer + post Hawkins –

(Hegedus 2008)
Instability tests:

Apprehension “Posterior Impingement Sign” – Relocation - Release

(Meister 2004)

Impingement symptoms

External Subacromial impingement

Internal (posterior) impingement

Primary Impingement

Secondary Impingement

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(Cools et al. BJSM 2008)
Rotator cuff tendinopathy?:

Full can test

(Reinold et al. JOSPT 2009)

Impingement symptoms

External Subacromial impingement

Primary Impingement

Relocation -

Full Can +

Rotator cuff pathology

Secondary Impingement

Relocation+

Release +(pain)

Scapular dyskinesis

instability

Biceps SLAP

G.I.R.D.

Internal (posterior) impingement

Primary Impingement

Secondary Impingement

Relocation+

Release +(pain)

Jobe - Neer + ant

Hawkins + Apprehension +(pain) ant

Jobe - Neer + post

Hawkins – Apprehension +(pain) post

(Cools et al. BJSM 2008)
Scapular involvement?

Scap Ass Test – Scap Retr Test

(Rabin et al. JOSPT 2006, Kibler et al. AJSM 2006, Tate et al. AJSM 2008)

Impingement symptoms

External Subacromial impingement

Primary Impingement

Relocation -

Full Can +

Rotator cuff pathology

Secondary Impingement

Relocation+

Release + (pain)

SAT +

SRT +

Scapular dyskinesis

instability

Biceps SLAP

G.I.R.D.

(Cools et al. BJSM 2008)
Glenohumeral laxity?
Load&shift, Sulcus, posterior subluxation test

Impingement symptoms

Jobe - Neer + ant
Hawkins + Apprehension + (pain) ant

Jobe - Neer + post
Hawkins - Apprehension + (pain) post

External Subacromial impingement
Relocation -
Relocation +
Release + (pain)

Primary Impingement
Full Can +
Rotator cuff pathology

Secondary Impingement
Laxity tests +
Appr + (appr)
Relocation + (appr)

Scapular dyskinesis
instability

Internal (posterior) impingement
Relocation +
Release + (pain)

Biceps SLAP
G.I.R.D.

(Cools et al. BJSM 2008)
Biceps pathology or SLAP?
O’ Brien, Speed’s, Biceps Load II

External Subacromial impingement
- Jobe + Neer + ant
- Hawkins + Apprehension + (pain) ant
- Relocation -
- Relocation + (pain)
- Full Can +

Primary Impingement
- Rotator cuff pathology
- Scapular dyskinesis
- instability

Secondary Impingement
- SAT + SRT +
- Laxity tests + Appr + (appr)
- Relocation + (appr)
- Biceps SLAP

Internal (posterior) impingement
- Jobe – Neer + post
- Hawkins – Apprehension + (pain) post

Impingement symptoms

Relocation +
Release + (pain)
O’Brien +
Speeds +
Biceps load II +

G.I.R.D.

(Cools et al. BJSM 2008)
**GIRD?**

*Internal Rotation ROM in 90° abduction and 90° forward flexion*

Discussion

- Algorithm does NOT replace imaging, is only first screening tool
- Based on clinical tests, diagnostic value is debatable, BUT often only option in clinical practice
- Clinical tests should confirm functional deficits rather than structural injury

Screening the athlete's shoulder for impingement symptoms: a clinical reasoning algorithm for early detection of shoulder pathology

A M Coetz, D Cambier and E E Winters


Thank you!!

(Gent-Belgium)