Frozen shoulder
And the kinematics behind...

Analysis of the provocative manoeuvre

Pathological substrate

4 stages...

Ultra-structure stage 1-2

Ultra-structure stage 3
KINEMATICAL CONSEQUENCES

Motion analysis

Institute of Human Movement Studies

Pluim MA, Stenvers JD, van Woerden HH, van der Helm FC, de Groot J, Dijkstra O.

Visualisation of the Shoulder Movements. A geometrical Model. (Unpublished Article)


Full potential ROM Frozen Shoulder

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Kinematics

Forward flexion and abduction

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Forward Flexion

External Rotation

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External rotation
TREATMENT?
To deal with frustration intolerance...

Misconceptions
- Intensive stretching to promote ROM
- Moving to prevent from increasing stiffness
- Intensive exercise to prevent from increasing stiffness
- No pain no gain...
- Intensive treatment in early post-op stages to prevent from secondary arthrofibrosis
- Immobilisation causes adhesive capsulitis/arthrofibrosis

SECUNDARY TROUBLE
Effects on compensational systems...
57% complaints in acromioclavicular region (n=84) (Anakwenze e.a. 2011)

25-05-16


Ancient soccer wisdom: “Als je sneller wilt spelen, kun je wel harder lopen, maar in wezen bepaalt de bal de snelheid van het spel...”

“...If you want to play faster, you could run faster, but, in essence, the ball determines the speed of the game...”

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Subacromial mimicker

Frozen shoulder

Stage guided therapy...

TABLE 1

<table>
<thead>
<tr>
<th>Stage</th>
<th>Signs of Adhesive Capsulitis</th>
<th>Treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pain, limited abduction, Pain at night</td>
<td>Shoulder girdle splint, Physiotherapy and exercises</td>
</tr>
<tr>
<td>2</td>
<td>Severe hip pain, Malaise</td>
<td>Analgesics, limited range of motion</td>
</tr>
<tr>
<td>3</td>
<td>Profound stiffness, Full range of motion</td>
<td>Corticosteroids, Arthroscopy</td>
</tr>
<tr>
<td>4</td>
<td>Profound stiffness, Painful at night</td>
<td>[Subacromial bursa injection, Corticosteroids, Arthroscopy]</td>
</tr>
</tbody>
</table>

Thank you!