AN EVALUATION OF WESTERN ONTARIO ROTATOR CUFF INDEX NORMATIVE DATA

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The authors have no financial conflicts to disclose
Introduction

• Roughly 11.5 million office visits for shoulder pain in 2010

• Estimates for rotator cuff tendon defect prevalence range from 5-40%

• Assessment of dysfunction: Patient-Reported Outcomes (PRO)
  • Focus on quality-of-life
Introduction

- Western Ontario Rotator Cuff Index (WORC)
  - Five sub-scales
    - Physical Symptoms
    - Sports and Recreation
    - Work
    - Lifestyle
    - Emotions
  - Primarily used to measure surgical or other therapeutic outcomes
  - No normative data set exists
Goals

• Collect data from a representative “normal” population

• Stratify WORC scores based on age and sex

• Investigate risk factors associated with poor scores
Methods

• Questionnaire administered at TRIA in Bloomington
  • Patients not seen for upper extremity concerns
  • Family, friends

• Demographics, orthopedic history, medical history

• WORC survey
  • Filled out in respect to pre-assigned side
Methods

• Surveys collected and graded by ruler, converted to mm (out of 100)
• Sub-score and overall scores calculated, converted to an index
  • Higher score indicates better outcomes
• Incomplete surveys excluded (36)
Results

- 998 completed surveys collected (434 men, 554 women)

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>54</td>
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<tr>
<td>26-35</td>
<td>61</td>
<td>49</td>
<td>110</td>
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<td>36-45</td>
<td>66</td>
<td>100</td>
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<td>46-55</td>
<td>89</td>
<td>127</td>
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<tr>
<td>56-65</td>
<td>71</td>
<td>122</td>
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<td>66-75</td>
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<tr>
<td>76+</td>
<td>28</td>
<td>29</td>
<td>57</td>
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</tbody>
</table>
Results

• Overall mean: 93.76
  • All mean subscores in all age groups >90
• Women > men in all subscales (equivalent in Work)
• Sports and recreation tended to be the lowest category within each age group
  • Exception: 66-75 age group in Work

• History of injury: overall average of 72.66
• History of injection: overall average of 83.94
• Non-shoulder related risk factors
  • BMI over 30
  • Tobacco use
Discussion

- Slight variation observed among age and gender groups
- Overall mean above previous studies examining pathology and intervention
  - Current surgeries improve QOL, but do not return to pre-injury status
• Smoking associated with lower WORC scores
  • Previous studies: association with earlier surgical intervention, increased perceived pain, poor wound and injury healing

• BMI above 30
  • Obesity linked to chronic pain, higher risk for osteoarthritis and other joint pathologies
Conclusions

• Normative data set generated for the Western Ontario Rotator Cuff Survey
• Uninjured individuals score higher than those following rotator cuff pathology and intervention
• Risk factors unrelated to orthopedic injury include smoking and BMI >30
References


Physician Visits for Musculoskeletal Symptoms and Complaints. AAOS Department of Research and Scientific Affairs. 2013.


