Effectiveness of rehabilitation interventions in older adults treated non-operatively following anterior shoulder dislocation

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Background

- Anterior shoulder dislocation is a separation of the humerus from the glenoid. (Figure 1)
- Peak incidence in shoulder dislocation occurs at the 3rd and 4th decades. (Figure 2)
- There is a high recurrence rate in young adults under the age of 30 years compared to rehabilitation surgery results in reduced recurrence due to corrective stability surgery.
- There is a high recurrence rate in young adults following anterior dislocation.

Purpose

To determine the effectiveness of rehabilitation in older adults (over the age of 30) following an anterior shoulder dislocation.

Methods

- A literature search of relevant databases was completed with assistance from Master Level Research Assistant. (Refer to Flow Diagram of Search Process)
- During abstract screening, each article was independently reviewed by two reviewers with established reliability (k >0.80).
- Inclusion criteria were: articles in English with any study type, individuals with instability, glenohumeral/shoulder joint dislocation or subluxation. Exclusion criteria were: instability with concomitant fracture, rotator cuff tear, any neurologic disorder, post-surgical, chronic locked dislocations, luxatio erecta, isolated SLAP lesions, voluntary dislocations, or impingement, no separately reported outcomes of subjects at least 30 years of age.
- Two independent reviewers critically appraised each article to determine the level of evidence and study quality using the PEDro scale.

Results

- There were no studies only focused on older adults.
- Of the 10 studies, there were over 1,000 subjects who met inclusion criteria.
- Level 2 studies reported separate outcomes for older adults based on immobilization position.
- 3 studies suggest one-week immobilization does not increase recurrence rate.
- 1 study reported higher recurrence with patients immobilized in adduction and internal rotation (44.8%) compared to abduction and external rotation position (3.8%) in older adults 31-40 years old.
- 1 prospective cohort reported the probability of recurrent instability older adults aged 30-35 was greater in males (29-41%) compared to females (13-19%) while younger adults had higher recurrent instability overall.
- Quality of included articles was low (Mean PEDro score: 4.9/11).

Limitations

- All studies had a high risk of bias.

Conclusions

- Level II evidence suggests reduced recurrence with immobilization in adduction and internal rotation in older adults, but no difference with longer duration of immobilization (3 weeks).
- Nonoperative rehabilitation consisting of typical post-operative protocol following an anterior dislocation is most successful in older female adults with recurrence of less than 20% supported by level III study.
- Clinical Relevance:
  - Nonoperative rehabilitation with traditional sling use limited to 1 week followed by progressive therapeutic active interventions is recommended to reduce recurrence in older adult dislocators.
  - High quality research on the effectiveness of interventions for older adults following anterior dislocation is necessary.

Table 1. Results of PEDro Quality Assessment

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<tr>
<th>Author</th>
<th>Criteria</th>
<th>Eligibility</th>
<th>Randomisation</th>
<th>Allocation</th>
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<th>Concealment</th>
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References