

# Passive mobilisation of shoulder region joints plus advice and exercise does not reduce pain and disability more than advice and exercise alone: a randomised trial

Chen JF, Ginn KA, Herbert RD (2009) Australian Journal of Physiotherapy

## Summary

This study compares the efficacy of passive mobilisation of the shoulder region joints, exercise and advice for patients with shoulder pain and stiffness to exercise and advice alone.

It was a randomised study, with concealed group allocation, assessor blinding and intention to treat analysis

90 consecutive patients presenting to large public physiotherapy hospital for shoulder pain and stiffness for more than one month's duration were invited to participate between November 2004 and May 2007.

All patients received advice and exercises that aimed to restore neuromuscular control of the shoulder muscles to restore dynamic stability and muscle force couple co-ordination of the shoulder region.

The patients in the experimental group also received passive joint mobilisation of glenohumeral, acromioclavicular joints

Pain and disability was measured with a 13-point shoulder pain and disability index. Secondary outcome measures were self – perceived global improvement and active range of motion.

Measurements were taken at baseline, one month and 6 months.

Patients received a maximum of 10 sessions

There were no significant differences in any outcome measure between both groups

The addition of passive joint mobilisation of the shoulder joint does not improve outcomes at 1 month or 6 months

## Introduction

The introduction is well researched with relevant, up to date references validating the research questions;

1. is the addition of passive mobilisation of shoulder region joints to advise and exercise for patients with shoulder pain and stiffness more effective in reducing pain and disability than advise and exercise alone?
2. Are the gains retained at 6 months

## Design

Good research design with random allocation of subjects into groups and allocation concealed to the blinded assessor. Due to the nature of the intervention, it was not possible to blind the participants or the treating therapist. I wonder if it would be ethical to have a waiting list control, even to compare outcomes at one month.

Eligibility criteria were specific and reflected every day practice with a sample size of 90 patients sufficient to detect clinically significant difference on SPADI.

## Methodology

The therapeutic intervention is clear and reproducible. The study was pragmatic, using commonly used passive joint mobilisation techniques. A specific reference was given to allow reproduction and progression of exercises. We are not informed on the specifics of the advice given to the patients. A single senior therapist with 13 yrs experience provided the intervention which, while it adds weight to the control of the intervention, limits the general interpretation and reproducibility somewhat.

## Outcome measures

The primary outcome measure, the SPADI is valid and sensitive to change, quick to complete and has no floor or ceiling effect.

Secondary outcome measures; global perceived effect and active shoulder range of motion  
Intra-tester reliability of active range of motion measurements taken by the assessor involved in the study was determined prior to commencement of the study with ICC demonstrating excellent intra-rater reliability.

Differences between groups before and after treatment were analysed. To analyse the effect of each treatment, change scores should have been calculated for all variables by subtracting all the baseline scores from the 1 and 6 month scores and are not merely the subtraction of the mean values. This may have given us a different result!

## Results

There were no statistically significant differences at baseline between groups, except that there were more participants in the experimental group with neck pain.

A picture clearly demonstrated the design and flow of participants through the trail.

Clear tables present group and individual data for all outcomes at baseline, one month and six months for control and experimental groups.

I would like to know if the within-group differences at 1 and 6 months were statistically significant without having to calculate this myself.

## Discussion

I would like the authors to further dissect the Bang and Deyle (2000) study that recommends the addition of shoulder joint mobilisation in addition to exercise alone for shoulder pain and reduced range of motion in sub-acromial impingement.

Overall good discussion including limitations of study.

## Pedro scale

Eligibility criteria specified	Yes
Random allocation	Yes
Allocation concealed	Yes
Groups similar at baseline	Yes
Blinding of all subjects	No
Blinding of all treating therapists	No
Blinding of all assessors	Yes
Measurements of at least 85% of groups	Yes
Intention to treat	Yes
Results of between group statistical comparisons are reported	Yes
Include point of measure	Yes