

CAHE JC Critically Appraised Article Summary

Journal Club Details

Date of submission	June 2009
Journal Club location	Masonic Homes
JC Facilitator	Stacey Watson
JC Presenter	Occupational Therapy

Clinical Scenario

What therapeutic treatments combinations are most effective in improving contractures of the hand, thus improving client functionality & independence?

Review Question/PICO/PACO

- P** Client's with poor functional use of hand due to contractures of hand, hx of CVA/non-use , etc
- I** Non-surgical therapy treatments, combination of treatments
- C** Placebo/Nil groups
- O** Improved functional use of the hand

Article/Paper

Lannin NA, Horsley SA, Herbert R et al. Splinting the hand in the functional position after brain impairment: A randomised controlled trial. *Archives of Physical Medicine and Rehabilitation* 2003; 84:297-302.

Please note: due to copyright regulations CAHE is unable to supply a copy of the critically appraised paper/article. If you are an employee of the South Australian government you can obtain a copy of articles from the [DOHSA librarian](#).

Article Methodology: Randomised Controlled Trial

Returned JC on: 15 June 2009

By CAHE staff member: Lucylynn Lizarondo



University of
South Australia

CAHE

Centre for Allied
Health Evidence

The Centre for Allied Health Evidence (CAHE)

For more information on CAHE Journal Clubs email Lucylynn.Lizarondo@unisa.edu.au

To receive CAHE updates register online at www.unisa.edu.au/cahe

CONTACTS

www.unisa.edu.au/cahe
karen.grimmer-somers@unisa.edu.au
 Telephone (08) 8302 2769
 Facsimile (08) 8302 2766

University of South Australia
 GPO Box 2471
 Adelaide SA 5001
 Australia

CRICOS Provider Number
 001218



CAHE
 Centre for Allied Health Evidence

Ques No.	Yes	Can't Tell	No	Comments
1	✓			<p>The trial asked a clearly focused question.</p> <p>Participants: Patients aged 18-80, who have a history of a single stroke or brain injury which results to upper limb hemiplegia of no more than 6 months and are unable to actively extend the affected wrist</p> <p>Intervention: Both intervention and control groups received upper limb motor training and stretching. The intervention group received additional hand splint worn for up to 12 hours a night for 4 weeks</p> <p>Outcomes: length of wrist and finger flexors as measured by a torque-controlled range of wrist extension with fingers in extension, functional use of the hand using the Motor Assessment Scale, pain as measured by the visual analogue scale</p>
2	✓			<p>The study was a randomised controlled trial, which is an appropriate approach when looking at effectiveness of a particular intervention.</p> <p>Is it worth continuing? YES</p>
3	✓			<p>Participants were randomly allocated using a random number table which generated random number sequence. At baseline, the two groups showed similar characteristics which may reflect successful randomisation.</p>
4	✓			<p>The assessment of all participants was made by one of the investigators and assisted by a physiotherapist. Both are unaware of group allocation, which eliminated some degree of bias (Assessor bias: Assessors may collect and interpret data differently for different subjects. They may modify their interpretation of results if they know the effects of the different interventions).</p> <p>It would not have been possible to blind the participants in this case, as they are the ones receiving the treatment.</p>
5	✓			<p>The authors used an intention to treat analysis so that all outcomes were analysed by the group to which they were originally allocated.</p>
6	✓			<p>Outcomes were measured and collected in the same way and time period for all participants.</p>
7	✓			<p>A power calculation was made which considered the number of subjects that would provide an 80% probability of detecting a 5 degree effect on wrist and finger length, non-compliance as well as loss to follow-up.</p>
8				<p>Results were presented using means, standard deviations and confidence intervals.</p> <p>Bottom line result: An overnight splinting of the hand in functional position does not produce clinical beneficial effects in adults with brain impairment.</p>
9				<p>Results were based on confidence intervals and could be considered precise.</p>

Ques No.	Yes	Can't Tell	No	Comments
10				<p>The most important outcomes were considered in the trial, ROM, pain and hand function. The authors have used outcome measures with good psychometric properties.</p> <p>This study has reasonably good methodological quality and has provided explicit explanation of why the intervention did not produce significant results.</p>

CONTACTS
www.unisa.edu.au/cahe
karen.grimmer-somers@unisa.edu.au
 Telephone (08) 8302 2769
 Facsimile (08) 8302 2766

University of South Australia
 GPO Box 2471
 Adelaide SA 5001
 Australia

CRICOS Provider Number
 001218