

## iCAHE JC Critical Appraisal Summary

### Journal Club Details

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<b>Journal Club</b>	Lyell McEwin Hospital
<b>JC Facilitator</b>	Bettina Morias
<b>JC Discipline</b>	Occupational Therapy

### Clinical Scenario

For adults diagnosed with CVA, what is the effectiveness of using BIT (bilateral arm training) to improve upper limb function?

### Review Question/PICO/PECO

- P** adults with CVA
- I** bilateral arm training
- C** motor relearning
- O** upper limb function

### Article/Paper

Wu C, Chuang L, Lin K, et al 2011 'Randomised trial of distributed constraint-induced therapy versus bilateral arm training for the rehabilitation of upper-limb motor control and function after stroke' *Neurorehabilitation and Neural Repair*, 25(2):130-139.

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

**Journal Club Meeting on:** December 2011



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Ques No.	Yes	Can't Tell	No	Comments
1	✓			<p><b>Did the study ask a clearly focused question?</b></p> <p><i>Participants:</i> unilateral stroke patients; eligibility criteria for inclusion in the study were explicitly described in the article</p> <p><i>Intervention:</i> distributed constraint-induced therapy (dCIT), bilateral arm training (BAT), control treatment—provided for 2 hours/day and 5 days/week for 3 weeks</p> <p><i>Outcomes:</i> kinematic variables; functional assessment which included Wolf Motor Function Test (WMFT) and the Motor Activity Log (MAL)</p>
2	✓			<p><b>Was this a randomised controlled trial and was it appropriately so?</b></p> <p>This study was a randomised controlled trial which was an appropriate study design given the objectives of the study. Is it worth continuing: YES</p>
3		✓		<p><b>Were participants appropriately allocated to intervention and control groups?</b></p> <p>Using computerized randomization scheme, participants were randomly allocated into dCIT, BAT or CT groups.</p> <p>The groups were well matched at baseline, in terms of gender, age, side of lesion, time from stroke, Brunnstrom stage, amount of use in MAL and MMSE score. In terms of outcome measures, Table 2 provides pre-intervention data for the 3 groups. However, there were no statistical data provided to determine whether or not there were significant differences between groups at baseline.</p>
4	✓			<p><b>Were participants, staff and study personnel 'blind' to participants study group?</b></p> <p>Only the assessor was blinded to treatment allocation. It was not possible to blind the participants and the therapists who administered the treatment. It doesn't seem very likely though that non-blinding affected the results.</p>
5	✓			<p><b>Were all of the participants who entered the trial accounted for at its conclusion?</b></p> <p>All participants allocated in the dCIT and control treatment were analysed kinematically and only 1 in the BAT group was excluded in the analysis, reason for which was not reported in the paper. Clinical data for WMFT were from 1 participant in the dCIT and 1 participant in the control group; missing data not explained in the article. It doesn't seem very likely though that these exclusions affected the results.</p>

6	✓			<p><b>Were the participants in all groups followed and data collected in the same way?</b></p> <p>Outcomes were measured and collected in the same way for all participants.</p>
7		✓		<p><b>Did the study have enough participants to minimise the play of chance?</b></p> <p>Power calculation was not reported so it would be difficult to determine if sample size was adequate.</p>
8				<p><b>How are the results presented and what is the main result?</b></p> <p>Results were presented using means &amp; standard deviations, and p-values.</p> <p><i>Bottom line result</i></p> <p>BAT and dCIT demonstrated similar benefits on movement smoothness but different effects in terms of force at movement initiation and functional performance. BAT is better if the goal of treatment is improvement of force generation, while dCIT is preferred when the goal is to improve functional ability and use of affected arm in daily living.</p>
9				<p><b>How precise are these results?</b></p> <p>Precision of results are best determined when confidence intervals are provided.</p> <p>Generally, larger sample sizes lead to increased precision of results.</p>
10				<p><b>Were all important outcomes considered so the results can be applied?</b></p> <p>Journal club to provide answers</p>

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