

CAHE JC Critically Appraised Article Summary

Journal Club criteria

Date of submission	Pilot 2007
Journal Club location	Southern Cross Care
JC Facilitator	Jane Campbell

Clinical Scenario

Are relaxation techniques effective in reducing upper limb tone for people who have had a stroke more than 1 year previous?

Review Question/PICO/PACO

- P** People who have had a stroke over 1 year ago and have hypertonicity in the upper limbs
- I** The efficacy of relaxation techniques to reduce tone
- C** No intervention / botox / splinting etc
- O** UL tone and ROM

Article/Paper

Page SJ, Levine P, Leonard AC. Effects of mental practice on affected limb use and function in chronic stroke. *Arch Phys Med Rehabilitation* 2005;86:399-402.

Article Methodology:	Randomised Controlled Trial
Returned JC on:	Pilot 2007
By CAHE staff member:	Matt Sutton



Ques No.	Yes	Can't Tell	No	Comments
1	✓			<p>Well defined, (1) 10° or more of active flexion in the more affected wrist, as well as in 2 digits of the more affected hand; (2) stroke experienced more than 1 year before study enrolment; (3) a score 70 or higher on the modified Mini-Mental Status Examination²⁴; (4) age greater than 18 but less than 95 years; (5) no excessive muscle spasticity in the more affected upper limb, defined as a score of 3 or lower on the Modified Ashworth Scale²⁵; (6) no excessive pain in the more affected upper limb, as measured by a score of 4 or lower on a 10-point visual analog scale. Recruited by volunteer.</p> <p>Intervention: Well defined, however the actual intervention of interest is actually the control. This means any outcomes that can be drawn must be drawn in comparison to the intervention for the study, mental practice. It is interesting to note that the relaxation technique is used with the assumption of giving no benefit. It is used for the purpose of trying to minimise performance bias.</p> <p>Outcomes: Motor Activity Log and Action Research Arm Test were used. Unfortunately these outcomes do not address the clinical question asked, however, do represent clinically relevant outcomes.</p>
2	✓			<p>This is an experimental intervention study, ranging one intervention against another. For this type of study question, a RCT is the optimum design. Is this worth continuing? YES</p>
3		✓		<p>It is stated that a random table is used to assign intervention and control groups. This is a true randomisation technique. However, no information is given regarding concealment, baseline equivalence or how the process was carried out. It is worth noting that the pre-test MAL scores were lower for the control group. It is not known if this was statistically significant.</p>
4	✓			<p>Both participants and assessors were blinded to treatment allocation. This improves the quality of the study. It is unrealistic to blind the therapists.</p>
5	✓			<p>All participants were accounted for at the conclusion of the study. Given the low sample size, it is not unreasonable to assume they were analysed according to the group they were assigned to (Intention to Treat)</p>
6	✓			<p>All participants were pretested twice, 1 week apart, to assess for plateau behaviour (is this an appropriate test or time frame for this?), then assessed 6 weeks later by the same assessor.</p>
7		✓		<p>The sample size is very small, greatly reducing the power of the study.</p>

Ques No.	Yes	Can't Tell	No	Comments
8				<p>The results are expressed as mean changes +/- standard deviations in scores for each outcome measure pre and post intervention. A statistical analysis is carried out to compare results between groups. This is poorly explained, however, the Wilcoxon rank-sum test is used to compare two separate samples. Wilcoxon signed-rank test is used to compare single sample data. The other major issue is that the final p value is given, however, no information is presented as to which outcome it is related to.</p> <p>Bottom line: There is limited evidence to show manual practice in conjunction with usual care may be more effective than relaxation techniques and usual care in improving upper limb function in stroke patients.</p>
9				<p>A p value of 0.004 is given, which is statistically significant. However, it is unclear as to which outcome this is referring to. It may be that all outcomes have been combined to derive this score.</p>
10		✓		<p>The overall generalisability and applicability for this intervention is good. However, there are significant flaws in the study to make any decisions based on this article alone. Further research would need to be undertaken before any decisions on the efficacy of either intervention can be considered effective.</p>