Centre for Allied Health Evidence

CAHE JC Critically Appraised Article Summary

Journal Club Details

Date of submission	September 2009
Journal Club location	Port Pirrie Regional Health Service
JC Facilitator	Andre Fisher
JC Discipline	Occupational Therapy

Clinical Scenario

What are the effects of stretching on hypertonic muscles of children aged 0-6?

Review Question/PICO/PACO

P Children aged 0-6 years with hypertonicity

I Daily stretching program

C No intervention

O Range of motion and functional ability

Article/Paper

Pin T, Dyke P, Chan M (2006). The effectiveness of passive stretching on children with cerebral palsy. *Developmental Medicine & Child Neurology* 48: 855-862.

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:	Systematic Review
Returned JC on:	7 September 2009
By CAHE staff member:	Lucylynn Lizarondo

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Ques No.	Yes	Can't Tell	No	Comments
1	✓			**Did the reviewers ask a clearly focused question?** *Participants*: Children under 18 years old with spasticity due to cerebral palsy *Intervention*: Passive stretching (without anti spasticity medications or assistance from surgery) *Outcomes*: Passive joint range of motion and spasticity
2	✓			**Did the review include the right type of study?** All studies, except for expert opinion papers, demonstrating the effects of passive stretching with reported findings for analysis were included.
3	✓			**Did the reviewers try to identify all relevant studies?** The following electronic databases, Medline, CINAHL, PsychInfo, embase, Cochrane, PEDro were searched from the earliest date. Reference lists of relevant studies and review articles were pearled for additional articles.
4	✓			**Did the reviewers access the quality of the included studies?** All included studies were assessed using the PEDro scale. The AACPDM evidence hierarchy was used to grade the level of evidence. The grading procedure was done independently by the two reviewers and any disagreements were resolved by discussion.
5				**If the results of the studies were combined, was it reasonable to do so?** Effect sizes were calculated for each included study but results were not combined in meta-analysis.
6				**How the results presented and what are the main results?** Results for individual studies were presented using effect sizes but combined results were discussed narratively. Main results: • There is some evidence favouring passive stretching in increasing the range of motion of children with cerebral palsy, although the effect size is small. • There is also some evidence that passive stretching may reduce spasticity, although the effect size is limited. • There is some evidence to suggest that sustained stretching is preferable to manual stretching in improving range of motion and reducing spasticity.
7				**How precise are the results?** Effect sizes using 95% confidence intervals were calculated. Therefore reported effects can be considered precise.
8		✓		**Can the results be applied to the local population?** Applicability of results to the local population can be best determined by the individual clinician who will identify specific aspects of similarity between a patient of interest and the patients who have been studied.

Ques No.	Yes	Can't Tell	No	Comments
9		✓		**Were all important outcomes considered?** Whilst joint range of motion and spasticity are important outcomes, functional limitation would have been more significant. Other outcomes such as those from the point of view of parents and clinicians would have also been worthwhile to examine.
10				**Should policy or practice change as a result of the evidence contained in this review?** As stated in the review, clinicians should be prompted to re-think about the use of passive stretching in their clinical practice, given the limited evidence found in support of this intervention. Clinicians should consider it as an adjunct to other treatments rather than as a sole intervention for spasticity and limited range of movement. Emphasis should be given to ways of prolonging the effects of passive stretching as the evidence shows sustained stretching is more effective than manual stretching.

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