Recent studies have attempted to disaggregate therapeutic intervention packages. However, what is commonly referred to as the “black box” of therapy has yet to be comprehensively unpacked. It remains unclear how much therapy should be provided, who should provide it, and which patients should be targeted to maximize functional outcomes. This review seeks to assess the effectiveness of specific therapeutic interventions in the rehabilitation of the paretic upper limb poststroke. In particular, it aims to identify whether or not specific hands-on therapeutic interventions enhance motor activity and function.

Methods
We searched the trials registers of the Cochrane Stroke Group (March 2010), the Cochrane Complementary Medicine Field (March 2010), and the Cochrane Rehabilitation and Related Therapies Field (March 2010); MEDLINE (1966 to March 2010); AMED (1985 to March 2010); EMBASE (1980 to March 2010); CINAHL (1982 to March 2010); the Physiotherapy Evidence Database (PEDro; March 2010); and the Cochrane Central Register of Controlled Trials (CENTRAL; The Cochrane Library 2010, Issue 1). In an effort to identify other published, unpublished, and ongoing trials, we searched ongoing trial registers, reviewed reference lists, and contacted relevant professional organizations.

Selection Criteria
Randomized controlled trials involving adults aged ≥18 years and including descriptions of specific hands-on interventions and techniques, rather than packages or approaches to treatment, were included.

Results
Three studies, involving a total of 86 participants, met all the selection criteria and were included in the review. However, an extreme level of heterogeneity was evident, precluding a meta-analysis.

Discussion
The hands-on interventions that have been described in these 3 studies have also been identified as aspects of a single module of therapy, known as Mobilization and Tactile Stimulation. Because we excluded quasiexperimental designs from this review, additional evidence to support the effects of Mobilization and Tactile Stimulation could not be considered. Despite this, the 3 included trials together do provide an indication that these interventions are promising and merit further investigation. Details of the individual studies, including a narrative review of the data, can be found in the published review.

This review has highlighted that there are only a limited number of randomized controlled trials of clearly-described hands-on therapeutic interventions for the hemiplegic upper limb. Furthermore, of those identified, all have limitations in terms of methodological quality. It is not possible to discuss such methodological limitations within this brief summary; details are available in the full review.

Implications for Practice
This systematic review identified 3 heterogeneous research articles to include in its report. The level of heterogeneity was such that pooling of data was not possible and we provided narrative descriptions of the articles instead. Despite the limitations of the studies reviewed, the review provides new knowledge to inform clinical practice.

Implications for Research
This review has demonstrated that the limited evidence of benefit from stretching, passive exercises, and mobilization, when applied to the hemiplegic upper limb after stroke, merits further research. It remains unclear if any effects are the same if applied in the acute, subacute, and chronic stages of stroke rehabilitation. Given the methodological limitations of the existing studies, it is essential that further high-quality randomized trials investigating clearly-described hands-on interventions and current practice are carried out.

This review is published as a Cochrane Review in the Cochrane Database of Systematic Reviews 2011, Issue 6.
Cochrane Reviews are regularly updated as new evidence emerges and in response to comments and criticisms, and the Cochrane Database of Systematic Reviews should be consulted for the most recent version of the review.


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**Disclosures**
None.

**Key Words:** hands-on interventions ■ stroke ■ therapy ■ upper extremity
Hands-On Therapy Interventions for Upper Limb Motor Dysfunction After Stroke
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