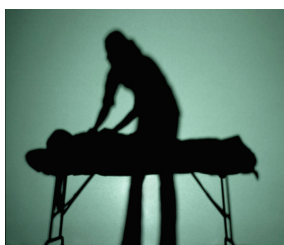


**Topic: Therapeutic massage for low back pain**
**Background**


Massage is the practice of applying focused pressure, motion or vibration (manually or with mechanical aids) to the soft tissues of the body, including muscles, connective tissue, tendons, ligaments, to achieve a beneficial response. When massage is applied for physical and psychological benefits it is termed ‘therapeutic massage’.

**Massage service utilization and costs**

According to the Statistics Canada report *Use of Alternative Health Care* (Health Reports, Vol. 16, Number 2), 8% of Canadians reported seeing a massage therapist in 2003. In Alberta, 11.8% of the population (306,000 individuals) had at least one visit to a massage therapist.

The Alberta Health Care plan does not cover massage therapy. Most extended health care plans include coverage for massage therapy, provided that a patient receives a physician’s referral.

**Massage therapy and low back pain**

Low back pain (LBP; also referred to as lumbar pain or backache) is a pervasive and costly ailment in Canadian society. LBP is characterized as a tingling or burning sensation, a dull ache or sharp pain radiating from the lower back. LBP is believed to affect 70 to 85% of all people at some time in life <sup>1</sup>, and a recent report found that over 20% of Canadians over the age of 20 suffer from LBP every year. Back pain is the second leading cause for GP visits and individuals with LBP utilize significantly more healthcare resources each year than those without back pain <sup>2</sup>.

Is massage therapy more effective in treating LBP compared to standard therapies, such as general practitioner care, physiotherapy and exercises? Is the effectiveness of massage therapy dependent on the acute or chronic nature of back pain? This review aims to answer these questions through a thorough literature search and a critical assessment of the best available evidence on this subject.

**Review design**

The approach of this review was to identify an appropriate Cochrane review on massage for LBP. Next, using the review’s search strategy and inclusion/exclusion criteria, relevant RCT studies published subsequent to the Cochrane review will be identified. Selected studies must pass methodological quality control assessment (discussed below) in order to be included in this review. This topic review will summarize the findings of the Cochrane review and of the additional selected studies on massage therapy for LBP.

**Search Strategy**

A search of the Cochrane Database of Systematic Reviews was conducted with the following search strategy:

Search Term: massage.mp Limited to Systematic Reviews

The following review was identified:

Furlan, AD et al. (2002). Massage for low-back pain.

Note: The Furlan et al. (2002) meta-analysis searched literature up to 2001.

**Study inclusion criteria**

The selection criteria describe by the Furlan et al review is as follows:

The participants of included studies must be adult patients who suffer acute (< 4 weeks), sub-acute (4 – 12 weeks) or chronic (> 12 weeks) non-specific LBP. Massage must be an intervention given to these patients and one of the primary measured outcomes must be pain. The review defined massage as soft tissue manipulation using the hands or a mechanical device (e.g., Shiatsu, Rolfing). A distinction was made for the timing of follow-up measurements; short-term (outcome assessment at the end of the intervention period) and long-term (measurements taken at over 3 months after randomization).

RCTs in MEDLINE, EMBASE and CINAHL were searched using the following search strategy:

Search Term: (massage OR shiatsu OR Rolfing) AND (back OR lumbar) AND (RCT OR randomized OR "controlled trial") AND English[la] AND 2002:2006[pdat] NOT review [pt]

Note: The literature search was limited to RCT studies published in 2002 or later and, therefore, not included in the Furlan et al. systematic review.

### Studies included

- Walach H et al. 2003. Efficacy of massage therapy in chronic pain: a pragmatic randomized trial.
- Furlan AD et al. 2002. Massage for low-back pain: a systematic review within the framework of the Cochrane Collaboration Back Review Group.

### Studies excluded

- Hsieh et al. 2006. Treatment of low back pain by acupuncture and physical therapy: randomised controlled trial. [acupuncture does not fit inclusion criteria definition for massage]
- Davis and Kotowski. 2006. Preliminary evidence of the short-term effectiveness of alternative treatments for low back pain. [only 6 patients (all female) in massage intervention group]
- Melancon and Miller. 2005. Massage therapy versus traditional therapy for low back pain relief: implications for holistic nursing practice [non-randomized; duration of LBP not specified].
- Hsieh LL et al. 2004. A randomized controlled clinical trial for low back pain treated by acupuncture and physical therapy. [non-adult patients included in study]
- Yip and Tse. 2004. The effectiveness of relaxation acupoint stimulation and acupuncture with aromatic lavender essential oil for non-specific low back pain in Hong Kong: a randomised controlled trial. [acupuncture massage intervention was combined with electric stimulation]
- Hasson et al. 2004. A randomized clinical trial of the treatment effects of massage compared to relaxation tape recordings on diffuse long-term pain. [Study not retrievable]

### Quality control

The quality of the selected RCT was assessed by an independent reviewer. Study quality was measured using a validated scale<sup>3</sup> that considers the RCT design, randomization, blinding, data collection and statistical analysis procedures that minimize biases. The included study was found to have good methodologic quality and, therefore, incorporated into this review.

### Results

The result of the literature search demonstrates a lack in both quantity and quality of research conducted on the effectiveness of therapeutic massage for LBP. The studies attained through the literature were heterogeneous in sample size, study design and form of massage therapy administered. The Furlan et al. systematic review<sup>4</sup> included four studies that assessed therapeutic massage as a main intervention on pain outcomes. These studies were described by Furlan et al. as having higher quality than other studies available in this area. Our literature search found a subsequent study<sup>5</sup> that conformed to the inclusion criteria of the Cochrane review.

One RCT (n=104) in the systematic review randomly assigned 104 individuals with LBP lasting 1 week to 8 months into four groups; massage alone, exercise with posture education, sham laser therapy, and comprehensive massage (massage with exercise and posture education). All patients received six treatments over 4 weeks, and outcome measures on pain were measured at the end of treatments and 1 month later. That study found that massage alone and comprehensive massage therapy significantly reduced LBP at the 1-month follow-up compared to sham therapy and exercise. Moreover, that study found massage alone was as effective on LBP at the 1-month follow-up as comprehensive massage therapy.

Another study in the review compared therapeutic massage with muscle relaxation in a small RCT with 24 chronic LBP patients. Patients received 10 treatments (30 minutes each) over a 5 week period. Measures for pain, depression, anxiety and stress hormones, and sleeplessness and for trunk range of motion were recorded at the beginning and at the end of the treatments. That study found that participants who received massage therapy experienced less pain, depression, anxiety and their sleep had improved. Furthermore, the massage group patients also showed improved trunk and pain flexion performance.

The Furlan et al. review also cites the findings of Cherkin et al (2001) who randomly assigned 262 patients with chronic LBP to receive either therapeutic massage, Traditional Chinese acupuncture, or self-care educational material. Approximately 10 massage and acupuncture treatments were administered over a 10 week period. Measures of pain and physical functioning were recorded at baseline and at 4, 10, and 52 weeks after the treatment period. That study found that at the end of the treatment period, therapeutic massage was superior to both acupuncture and educational material in terms of pain and function. The outcomes observed for massage and acupuncture at 10 weeks remained relatively unchanged at 1 year as the massage patients had significantly better pain and function scores than the acupuncture patients. Furthermore, that study found that the massage group used the least medications ( $P < .05$ ) and had the lowest costs of subsequent care. The average costs for additional services for LBP over the 52-week follow-up period was lowest in the massage group (\$139), which was nearly 40% lower than those of the acupuncture group (\$242), and lower than the self-care (\$200) group.

Finally, in a small RCT ( $n = 29$ ) subsequent to the Cochrane review, Walach et al.<sup>5</sup> compared the efficacy of therapeutic massage against standard medical care (e.g., analgesics, exercise) for patients with chronic pain, including LBP. Pain was measured at pre-treatment, post-treatment, and at 3 month follow-up. This study found that although pain improved significantly in both groups, the improvement was maintained only in the massage group at the 3 month follow-up.

## Summary

Therapeutic massage is beneficial for patients with sub-acute or chronic LBP in terms of providing pain relief. In addition, this benefit may continue for at least a year after the course of treatment. There is not enough evidence about the effectiveness of massage for acute LBP. Results suggest that massage is more effective when combined with exercises and patient education. One study reported that therapeutic massage may be more cost-effective for the treatment of LBP than acupuncture or patient self-care. More studies are needed to differentiate the potential benefits of specific forms of massage on pain relief. Due to the limited number of good quality studies available, these findings should be viewed as limited or moderate at best. Further high-quality, larger sample size RCTs are required to clearly establish the effectiveness of therapeutic massage on acute and chronic LBP.

## Limitations

A publication bias is present as only studies published in English were selected.

## Potential conflict of interest

None known

## Reference List

- 1 Andersson, G.B. (1999) Epidemiological features of chronic low-back pain. *Lancet* 354, 581-585
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- 5 Walach, H. et al. (2003) Efficacy of massage therapy in chronic pain: a pragmatic randomized trial. *J. Altern. Complement Med.* 9, 837-846

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