Preyde M. Effectiveness of massage therapy for subacute low-back pain: a randomized controlled trial. CMAJ 2000;162(13):1815-1820.

Design: Randomized clinical trial

Population/sample size/setting:

- 98 patients (51 women, 47 men, mean age 46) with subacute low back pain treated at the College of Massage therapists in Ontario
- Eligibility criteria were age 18-81, low back pain between 1 week and 8 months duration, and stable health
- Exclusion criteria were significant pathology (fracture, nerve damage), severe psychiatric conditions, and pregnancy

Main outcome measures:

- Randomized to one of four interventions: comprehensive massage therapy (n=25), soft-tissue manipulation (n=25), remedial exercise and education (n=22), and placebo treatment with sham laser (n=26)
- Each intervention group received 6 sessions of the assigned treatment within a period of 1 month
- The comprehensive massage therapy consisted of both soft-tissue manipulation (massage with the technique indicated for the specific soft-tissue condition) and remedial exercise instruction (stretches within a pain-free range, held for about 30 seconds in a relaxed manner, with encouragement of general strengthening and mobility exercises); the duration of the soft-tissue manipulation session was 30-35 minutes
- The soft-tissue manipulation group received only the massage that was received by the comprehensive group; no additional instruction in exercise was given
- The remedial exercise and education group received the same exercise instruction as the comprehensive group, but no soft-tissue massage
- The sham laser group received 20 minute sessions of an inert laser attended by a treatment provider to control for the effects of interpersonal contact and support which was receive by the other three groups
- Two primary outcome measures were function as determined by the Roland Disability Questionnaire (RDQ), and pain intensity as measured by the two parts of the McGill Pain Questionnaire: the Present Pain Index (PPI) and the Pain Rating Index (PRI)
- These outcomes were measured at baseline, at the end of treatment, and again at a follow-up 1 months after the end of treatment
- For the RDQ, the PPI, and the PRI, the comprehensive massage therapy group did better than the sham laser groups at the end of treatment and at the 1 month follow-up
- The comprehensive massage therapy group also did better than the exercise group on the RDQ, PPI, and PRI at the end of treatment; this superiority was maintained at the 1 month follow-up for both the RDQ and the PPI

- The comprehensive massage therapy group also did better than the soft-tissue massage group on the PPI at the end of treatment
- The soft-tissue massage group also had better score than both the exercise and laser groups on the RDQ at the end of treatment, and had better scores on the PPI than the sham laser group
- At the 1 month follow-up, the soft-tissue massage group and the exercise group had equal scores for pain and function
- Each individual in the comprehensive massage therapy group had lower pain intensity than baseline at the end of treatment; this occurred in no other group
- At the 1 month follow-up, 63% of the comprehensive massage therapy group was pain free; this was seen in 275 of the soft-tissue massage group and 14% of the exercise group, but in 0% of the sham laser group

Authors' conclusions:

- In comparison with sham laser and exercise, comprehensive massage therapy group effectively reduces pain intensity and improves function
- At 1 month of follow-up, there were no statistical differences between comprehensive massage therapy and soft-tissue massage alone
- These outcomes are self-reported, and there may have been unmeasured provider effects which could influence the validity of the outcome measures
- Massage therapy based on physiology may be effective in the nonpharmacologic treatment of subacute low back pain

Comments:

- Imperfect control group comparisons are common in nonpharmacologic studies of chronic pain
    - The authors attempted to produce some structural equivalence between the four intervention groups (twice-weekly sessions for 1 month)
    - Sham laser is probably an imperfect placebo, but sham massage would also be difficult to implement, if it could be done at all
- Therefore, blinding is not feasible, and there is some risk of bias arising from this unavoidable limitation of the study
- One objective measure (lumbar range of motion) was done, and showed no difference between groups; however, this test (using a tape measure and recording ROM in cm) is most sensitive in conditions with *very* limited lumbar ROM, like ankylosing spondylitis, and the lack of group differences in this setting does not constitute a strong test of the effectiveness of the interventions
- Group comparisons were made using analysis of variance on the end-of-treatment and follow-up scores (rather than change from baseline)
    - Since the comprehensive group had slightly higher baseline pain and disability scores than the exercise and sham laser groups, this is likely to yield a conservative estimate of treatment effect

Assessment: Adequate for evidence that soft-tissue massage may improve lumbar pain and function, especially when combined with exercise instruction