Spinal manipulative therapy for low back pain

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Clinical question

Is spinal manipulative therapy (SMT) effective for low back pain (LBP)?

Bottom line

Research around SMT is poor, consistently inconsistent, and almost impossible to interpret. Likely SMT has no reliable effects in acute LBP. There are possible small effects in chronic LBP: at best patients experienced improved pain (≤0.9 points out of 10) and recovery (for 1 in about 11 patients at 1 month), but two-thirds of comparisons found no effect.

Evidence

More than 20 systematic reviews exist. The largest and highest quality found the following (pain scores out of 10).

- For acute LBP (<6 weeks) there were 20 RCTs (N=2674).[1]
  -For pain, 3 of 17 comparisons were statistically significant: 2 were based on single studies; in the other, pain scores improved by 0.6 points after 1 month. There was no difference in recovery.
- In chronic LBP (>12 weeks) there were 26 RCTs (N=6070).[2]
  -For pain, 11 of 29 comparisons were statistically significant: pain improved by 0.3 to 0.9 points (mostly at 1 month). There was an increased chance of recovery in some comparisons: the best number needed to treat was 11 (at 1 month).
- Other findings included the following.
  -Functional status: 4 of 18 (acute) and 9 of 27 (chronic) comparisons were statistically significant, but were mostly of questionable clinical significance.[1,2]
  -Osteopathic SMT: in 15 RCTs (N=1502) pain improved by 1.3 points.[3]
  -Chiropractic SMT combined with other therapy: in 12 RCTs (N=2887), pain improved by 0.5 points.[4]
  -Others reviews vary from negative[5] to supportive.[6]
- The trials had multiple issues.
  -The SMT was often combined with 1 or more interventions (exercise, education, medications, mobilization, sham, etc) then compared to another cluster of interventions, which might not overlap at all.[1,2,7] It is unclear if any intervention is working.
  -There were large variations in outcomes, measurement scales, study duration, type of SMT, type and number of providers, and number of treatments,[7,8] and there were multiple analyses (eg, 91 meta-analyses in one study).[2]
  -Studies are low quality (mean quality score of 33%).[1]
  -Reviews authored by SMT providers might be of poorer quality and more likely to be positive.[9]

Context

- In one LBP study, 29% consulted a chiropractor.[10]
- The Toward Optimized Practice guideline[11] indicates there is insufficient evidence for or against SMT in preventing LBP or treating chronic LBP. If patients are not recovering from acute LBP, SMT "may benefit"[11] them.

Implementation

Given the variation in study design, poor study quality, and inconsistent results, there is considerable uncertainty about whether SMT has reliable effects. It is likely inadvisable to recommend SMT, but we should not discourage patients who report that it is helpful. Imaging for nonspecific back pain (those without clinically suspicious pathology or red flags) does not improve outcomes and can prolong pain for 9% more people at 3 months.[12] Also, computed tomography or magnetic resonance imaging findings can be confusing, as many are "normal." For example, 50% of patients with healthy backs have degenerative disk disease at age 30 and disk bulge at age 40.[13]

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Competing interests
None declared

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