

# Spinal Manipulation, Medication, or Home Exercise With Advice for Acute Acute and Subacute Neck Pain A Randomized Trial

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## FROM ABSTRACT:

Mechanical neck pain is a common condition that affects an estimated 70% of persons at some point in their lives. Little research exists to guide the choice of therapy for acute and subacute neck pain.

This study sought to determine the relative efficacy of spinal manipulation therapy (SMT), medication, and home exercise with advice (HEA) for acute and subacute neck pain in both the short and long term. This is a randomized, controlled trial using 272 subjects aged 18 to 65 years who had nonspecific neck pain for 2 to 12 weeks. The intervention was 12 weeks of SMT, medication, or HEA.

The primary measurement outcome was participant-rated pain, measured at 2, 4, 8, 12, 26, and 52 weeks after randomization. Secondary measures were self-reported disability, global improvement, medication use, satisfaction, general health status (Short Form-36 Health Survey physical and mental health scales), and adverse events. Neck motion was performed at 4 and 12 weeks.

Results: For pain, SMT had a statistically significant advantage over medication after 8, 12, 26, and 52 weeks, and HEA was superior to medication at 26 weeks.

No important differences in pain were found between SMT and HEA at any time point.

Conclusion: For participants with acute and subacute neck pain, SMT was more effective than medication in both the short and long term. However, a few instructional sessions of HEA resulted in similar outcomes at most time points.

## KEY POINTS FROM THIS STUDY:

- 1) About 75% of persons experience neck pain at some point in their lives, resulting in millions of ambulatory health care visits each year.
- 2) This study compared 3 groups of patients with acute/subacute neck pain:
  - Spinal (chiropractic) manipulation (SMT)
  - Home exercise/advice
  - Drugs

SMT GROUP: 91 subjects : 91 subjects

“Six chiropractors with a minimum of 5 years’ experience served as the primary providers of treatment.” “The primary focus of treatment was manipulation of areas of the spine with segmental hypomobility by using diversified techniques, including low-amplitude spinal adjustments (a high-velocity type of joint thrust manipulation) and mobilization (a low-velocity type of joint oscillation).”

“The specific spinal level to be treated and the number of treatment sessions over the 12 weeks was left to the discretion of the provider, based on manual palpation of the spine and associated musculature and the participant’s response to treatment.”

HEA GROUP: 91 subjects

Home exercise with advice was provided in two 1-hour sessions. Six therapists provided instruction, primarily focusing on simple self-mobilization exercise (gentle controlled movement) of the neck and shoulder joints, including neck retraction, extension, flexion, rotation, lateral bending motions, and scapular retraction, with no resistance.

Participants were instructed to do 5 to 10 repetitions of each exercise up to 6 to 8 times per day. A booklet (McKenzie R. Treat Your Own Neck. 3rd ed. Waikanae, New Zealand: Spinal Publications; 2002) of prescribed exercises was provided.

DRUG GROUP: 90 subjects

“A licensed medical physician provided care to participants, with the focus of treatment on prescription medication.” “The first line of therapy was nonsteroidal anti-inflammatory drugs, acetaminophen, or both.”

“Participants who did not respond to or could not tolerate first-line therapy received narcotic medications. Muscle relaxants were also used.”

### 3) Results

A) “Improvement in participant-rated pain significantly differed with SMT compared with medication at 12 weeks.”

B) “Differences in participant-rated pain improvement between the SMT and HEA groups were smaller and not statistically significant.”

C) At 26 and 52 weeks, participant-rated pain improvement favored SMT over medication.

D) “Spinal manipulation therapy was superior to medication at the end of treatment and during follow-up in terms of global improvement, participant satisfaction, and SF-36 –assessed physical but not mental function; SMT was also superior to medication in measures of long-term medication use.”

4) “The SMT and HEA groups performed similarly on most of the secondary outcomes, although SMT performed better than HEA for satisfaction with care in both the short and long term.” “The SMT and HEA groups performed similarly on most of the secondary outcomes, although SMT performed better than HEA for satisfaction with care in both the short and long term.”

5) 40% of the SMT group and 46% of the HEA group reported adverse events, primarily musculoskeletal pain.

6) 60% of participants in the medication group reported side effects, including gastrointestinal symptoms, drowsiness, dry mouth, cognitive disturbances, rash, congestion, and disturbed sleep.

7) In this trial, SMT was “more effective than medication according to various measures of neck pain and function.”

8) “Spinal manipulation therapy and HEA led to similar short-and long-term outcomes, but participants who received medication seemed to fare worse, with a consistently higher use of pain medication for neck pain throughout the trial’s observation period.”

9) “Our results suggest that SMT and HEA both constitute viable treatment options for managing acute and subacute mechanical neck pain.”

10) “For participants with acute and subacute neck pain, SMT was more effective than management with medication in both the short and long term; however, a few sessions of supervised instruction in HEA resulted in similar outcomes at most time points.”

#### COMMENTS AND CONCERNS:

This is yet another study showing that drugs (primarily NSAIDs) are inferior in the management of acute and subacute neck pain as compared to chiropractic spinal adjusting or home exercise/advice.

In addition, 40% of the chiropractic adjustment patients and 46% of the home exercise/advice patients experienced an adverse event; 100% of these adverse events were musculoskeletal in nature and of short duration. In contrast, 60% of the drug patients experienced an adverse event, and 100% of these were of a more serious nature:

1% increased blood pressure

1% stress incontinence

5% disturbed sleep

6% nausea

7% congestion

8% rash

12% cognitive symptoms

12% dry mouth

20% gastrointestinal symptoms

21% drowsiness

Thus, the mechanical approaches to acute/subacute neck pain management were shown not only to be significantly more effective than drugs but also significantly safer.

Although the printed words in the article suggest that chiropractic spinal adjusting and home exercise/advice are essentially equal in the management of acute and subacute neck pain, a careful review of the measured markers presented in the article show that chiropractic adjustments were nearly always superior to those from home exercise/advice. As examples, 9 markers are listed for “chiropractic spinal adjusting and home exercise/advice are essentially equal in the management of acute and subacute neck pain, a careful review of the measured markers presented in the article show that chiropractic adjustments were nearly always superior to those from home exercise/advice. As examples, 9 markers are listed for “Portion With Absolute Reduction In Pain”: spinal adjusting was superior in 8 of 9 of the listed markers; and six (6) markers are listed for “Pain Score”: spinal adjusting was superior in 5 of the 6 markers listed.

Additionally, a careful review of the charts presented in the article show that during the randomization, nearly twice as many of the chiropractic group (29.7%) had trauma initiated neck pain compared to the home exercise/advice group (16.5%).

My clinical experience, which is extensive, has been that trauma triggered neck pain is always more difficult to manage in both the short and long term as compared to non-trauma triggered neck pain. It appears to me that the chiropractors had a tougher patient draw as compared to the home exercise /advice group. This finding was not discussed in the text of the article.

Although the article states several times that the chiropractic adjustments were given over a period of 12 weeks, the actual range of adjustments was 2-23 with a mean of 15.3. This is slightly more than 1 adjustment per week for 12 weeks.

In my experience, acute neck pain responds best to daily treatment or at a minimum 3 times per week for a period of 2-3 weeks. I believe that an increase in the frequency of treatment by the chiropractors, as is commonly prescribed by many chiropractors, would have increased the chiropractic advantage over home exercise/advice.

Additionally, this article does not represent typical chiropractic clinical practice, which would usually include a greater range of management than spinal adjusting alone, often further improving clinical outcomes: anti-inflammatory nutrition, low level laser therapy, traction, as well as home exercise/advice.

In contrast, the home exercise/advice group was seen only 1 or 2 times, but instructed to do neck exercises at home daily. The exercises consisted of 7 isolated maneuvers that required 3 different positions: sitting, supine head supported, and supine head unsupported. Each maneuver required 10 repetitions, and the patient was instructed to repeat all of the maneuvers 6-8 times per day. I performed the exercise maneuvers as prescribed and found that a session takes approximately 10 minutes.

Consequently, the authors are advocating that patients with acute/subacute neck pain exercise 60-80 minutes per day. I find this to be both impractical and unrealistic.

Consequently, **I believe that for all of these reasons, chiropractic spinal manipulation (and chiropractic commonly employed adjuncts, including exercise/advice) is the most practical and effective management for acute/subacute neck pain.**