A Comparison of Osteopathic Spinal Manipulation with Standard Care for Patients with Low Back Pain


A correction has been published: N Engl J Med 2000;342(11): 817
Volume 341:1426-1431 / November 4 Number 19, 1999

ABSTRACT

Background The effect of osteopathic manual therapy (i.e., spinal manipulation) in patients with chronic and subchronic back pain is largely unknown, and its use in such patients is controversial. Nevertheless, manual therapy is a frequently used method of treatment in this group of patients.

Methods We performed a randomized, controlled trial that involved patients who had had back pain for at least three weeks but less than six months. We screened 1193 patients; 178 were found to be eligible and were randomly assigned to treatment groups; 23 of these patients subsequently dropped out of the study. The patients were treated either with one or more standard medical therapies (72 patients) or with osteopathic manual therapy (83 patients). We used a variety of outcome measures, including scores on the Roland–Morris and Oswestry questionnaires, a visual-analogue pain scale, and measurements of range of motion and straight-leg raising, to assess the results of treatment over a 12-week period.

Results Patients in both groups improved during the 12 weeks. There was no statistically significant difference between the two groups in any of the primary outcome measures. The osteopathic-treatment group required significantly less medication (analgesics, antiinflammatory agents, and muscle relaxants) (P< 0.001) and used less physical therapy (0.2 percent vs. 2.6 percent, P<0.05). More than 90 percent of the patients in both groups were satisfied with their care.

Conclusions Osteopathic manual care and standard medical care have similar clinical results in patients with subacute low back pain. However, the use of medication is greater with standard care.

Source Information


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To the Editor: In comparing osteopathic spinal manipulation with standard care for patients with low back pain, Andersson et al. (Nov. 4 issue) fail to recognize that many patients may have improvement with minimal or no treatment. This might have been evident had the authors included a control group of patients who received minimal or no intervention for back pain. Cherkin et al. compared the outcomes for patients with low back pain who received physical therapy, chiropractic treatment, or an educational booklet. There was only a marginally better outcome in the physical-therapy and chiropractic-treatment groups than in the booklet group. Improvement with minimal or no treatment would also explain the similar outcomes reported by Carey et al. in their comparison of treatments by primary care practitioners, chiropractors, and orthopedic surgeons. The only substantial differences in the results of these studies seem to be in the area of patient satisfaction and cost. Therefore, it would be erroneous to conclude from the study by Andersson et al. that either standard care or osteopathy is superior to the placebo effect. It is evident that in most cases, back pain resolves over time, regardless of the treatment used.

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References


To the Editor: Andersson et al. mention that there were significant differences in costs between the two treatment groups because medication and physical therapy were used less frequently in the osteopathic-treatment group, but the authors do not present any data on costs. It seems unlikely that differences in the use of medication and physical therapy have a pronounced effect on cost: medications for back pain are generally inexpensive (at least in health maintenance organizations),¹ and the difference in the frequency of use of physical therapy was small (2.6 percent in the standard-care group and 0.2 percent in the osteopathic-treatment group). The cost of eight visits to an osteopathic physician would certainly be much higher than the savings represented by the reduced use of medication and physical therapy.

Finally, patients in the standard-care group were asked to make eight visits to their physician after the base-line visit — a larger number than is usual in routine practice. The repeated contact may have contributed to the higher rates of prescriptions for medications and referrals for physical therapy in the standard-care group. Thus, the conclusion that osteopathic care for low back pain is less expensive than standard medical care does not seem justified.

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References


To the Editor: The findings reported by Andersson et al. provide little reason to believe that osteopathic techniques have any value in the treatment of low back pain in the general population or that osteopathic treatment leads to less overall use of medication. The authors' strict eligibility criteria resulted in the exclusion of 82 percent of patients who presented with back pain. For example, patients were included only if they had a lesion that could be manipulated — a criterion that may have resulted in a strong response bias in favor of osteopathic treatment. Another issue involves the level of pain and disability at the beginning of the trial. The initial median Roland–Morris scores corresponded qualitatively to "little pain," and most patients did not complete the entire treatment protocol.² These two factors suggest that the patients selected for the study had minimal dysfunction, raising the question of whether the sample was truly representative of the population of patients with chronic low back pain.

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References

To the Editor: There may have been problems with all the outcome measures that Andersson et al. used.\textsuperscript{1,2} Though it seems highly plausible that a visual-analogue pain score would reflect the severity of pain, patients may be subconsciously answering a different question. When patients are asked to score the severity of pain at the beginning of a trial, the score is much more closely correlated with the recent tendency for the pain to improve or worsen than with whether it is relatively mild or severe. After treatment, the score is more closely correlated with the degree of handicap, in the sense that patients judge whether their pain has been reduced sufficiently to allow them to return to work, and this depends more on the demands of their work than on the level of residual pain. In general, the Roland–Morris and Oswestry questionnaires reflect the degree of disability and handicap rather than the degree of impairment (i.e., functional or structural abnormalities) and are criticized because of their relative complexity and the difficulty of interpreting the final scores.

Andersson et al. seem to have measured spinal flexion and extension with equipment similar to that which my colleagues and I used in our study,\textsuperscript{2} but we recorded the results as sagittal lumbar mobility, sacral tilt, lordosis, and the touch-toes gap (the distance between the fingertips and the floor when the patient bends forward and downward as far as possible without bending the legs). Despite their promise as outcome criteria, they proved almost useless. As for straight-leg raising, it is a better measure of impairment due to a prolapsed intervertebral disk with nerve-root compression than of the more common forms of back pain.

Andersson et al. did ask patients to indicate their back pain on a drawing of a person but apparently did not repeat this at follow-up visits. We found that changes in the area of the low back pain and the extent of leg pain were the best indicators of a general response.

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References

To the Editor: Dr. Howell hit the nail on the head, and I find his editorial quite accurate. I graduated from an osteopathic medical school and completed an osteopathic internship, followed by a three-year allopathic residency in internal medicine at Brown University. I took all three parts of the U.S. Medical Licensing Examination, and I am a diplomate of the American Board of Internal Medicine. I practice allopathic medicine, but if I tried to use the initials M.D., I would probably lose my license. In my opinion, the irony is that the osteopathic profession is run by the very small percentage of osteopathic physicians who use manipulation, and the paradox is that osteopathy hardly differs from allopathy. . . . Frankly, I believe that the failure of the osteopathic leaders to recognize and accept this paradox just makes us osteopathic physicians look foolish.

David A. Lyon, D.O. 30 Windkist Farm Rd. North Andover, MA 01845
To the Editor: We osteopathic physicians are not in jeopardy of losing our identity. The use of spinal manipulation alone does not define an osteopathic physician any more than prescription writing defines an allopathic physician. Spinal manipulation, laboratory testing, prescriptions, and physical therapy are all tools to be used in the total care of a patient. We osteopathic physicians know when to use spinal manipulation and when not to use it. Unfortunately, allopathic physicians have never been exposed to the benefits of manual manipulation and thus tend to belittle the practice, believing that the benefit is obtained only because we touch our patients. We are proud of our tradition of providing high-quality medical care, with or without the use of manipulation.

Osteopathic physicians are not becoming more allopathic; rather, allopathic physicians are becoming more osteopathic. The holistic approach with an emphasis on prevention has always been part of the osteopathic tradition. This is reinforced by the fact that 60 percent of our graduates are in primary care and are providing care in rural and impoverished areas of the country.1,2

The distribution of allopathic physicians is more widespread than that of osteopathic physicians, for at least two reasons. First, there are 6.5 times as many allopathic medical schools as osteopathic medical schools, and most of the osteopathic medical schools and residency programs are located in the Midwest or Northeast. As we all know, most graduates stay in the geographic area in which they were trained. Second, there are many more allopathic physicians than there are osteopathic physicians — allopathic physicians constitute 95 percent of U.S. physicians.

It is offensive to imply that persons apply to osteopathic medical schools only after allopathic medical schools have rejected them. Those of us who still remember the process of applying to medical school recall that we applied to many schools, maybe 10 to 20, all at the same time, using the "match" system. The school with which one was matched was the school one attended. Since there are fewer osteopathic than allopathic schools, the average applicant may apply to only five schools of osteopathy. Thus, statistics may account for the differences in the ratio of applicants to those admitted.

In regard to board examinations, allopathic physicians have looked down on osteopathic physicians for years, and the latter were not allowed in most allopathic graduate programs until recent times. If one was not in an allopathic program, one could not — and still cannot — take the certifying examination of the American Board of Internal Medicine. In the early 1980s, osteopathic physicians filled the vacancies in allopathic programs that were passed over by allopathic physicians because they were the weaker programs. This changed in the late 1980s, but allopathic physicians still quote the 1988 board-passage rates as gospel.2

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References


The authors reply:

To the Editor: My colleagues and I appreciate the thoughtful comments of Oppenheim, Cherkin, Foster et al., and Sweetman. Oppenheim correctly points out that because we did not have a placebo group, we do not know whether any treatment was better than no treatment at all. We certainly recognize this issue and addressed it in our article: "Because of the study design, we cannot determine whether the results reflect the natural history of subchronic-to-chronic low back pain or were modified by either standard or osteopathic care." We then explained why we decided against using a placebo or nontreatment group. We still do not believe that it is possible to prevent self-care, which in our opinion is an intervention. In the study by Cherkin et al., an educational booklet was provided. Although I have not seen the booklet, it would be surprising if it did not contain information that should be considered as an intervention. Carey et al. made no attempt to influence the practitioners' decisions about treatment. To my knowledge, all patients received treatment. Studies of the natural history of subchronic-to-chronic back pain suggest that the improvement rates are slow, but the data are weak.

Cherkin discusses the cost issues. We did not conclude that osteopathic care was less expensive than standard care. In fact, we stated, "Because of the study design, we could not determine differences in cost between treatment groups." The last sentence in the article states that osteopathic manipulative treatment "deserves careful examination through a formal cost–benefit analysis." This is still our opinion.

Foster et al. suggest that the requirement that the patient have a lesion that could be manipulated introduced a response bias. We respectfully disagree. We believe that it would be inappropiate to include in a study patients who, from the outset, would not be considered candidates for the therapeutic alternatives to be evaluated. As it turned out, no patients were excluded from our study because they did not have manipulable lesions. We agree that our sample was carefully selected and that the level of pain was generally not severe.

Sweetman discusses the choice of outcome measures. It is difficult to select outcome measures for studies of back pain. We chose a large number of measures, some of which involved similar effects. Since all outcome measures showed improvement and since there was no difference between the groups, we were probably measuring similar effects with all our instruments. We recorded information about the area of low back pain and the extent of leg pain at the final visit.

There is an error in Table 1 of our article. The mean (±SD) age of patients in the osteopathic-treatment group was 40.0±10.6 years, not 28.5±10.6, as printed.

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References


To the Editor: The diverse opinions expressed by the correspondents reflect a conflict within osteopathic medicine that is nearly invisible to most allopathic practitioners. The outcome of the debate framed by these opinions will help shape the role (or existence) of osteopathic medicine in the 21st century.

Both Rogers and Orlando and Field repeat the often-heard claim that there is some fundamental yet ineffable difference between allopathic and osteopathic physicians, a difference that is taught in osteopathic medical school and persists throughout nonosteopathic residency training (since more than half the graduates of osteopathic medical schools are trained in allopathic residency programs), yet apparently can be appreciated by only a portion of persons with D.O. degrees. But it is obvious that the aspects of osteopathic medicine that form the basis for such claims to uniqueness, such as practicing preventive medicine and seeing patients in a sociological context, are widely encountered not only in osteopathic medicine but also in allopathic medicine (as well as many other healing systems). The repetitive of claims of the uniqueness osteopathic medicine, in these letters and elsewhere, are reminiscent of the classic bellman’s fallacy in Lewis Carroll’s wonderful nonsense poem “The Hunting of the Snark.” At the outset, the bellman needs to convince his fellow travelers that they have arrived at the proper place. To do so, he says three times that they have landed correctly and then claims, “What I tell you three times is true.” However, demonstrating a statement’s truth by repeating it multiple times worked only to a limited extent in Lewis Carroll’s 19th-century fantasy world and should not be mistaken for evidence-based argument in our 21st-century medical discussions.

And evidence is what is central to the debate. If Orlando and Field wish to update studies of applicants to osteopathic and allopathic medical schools or studies of the performance of osteopathic and allopathic physicians on examinations for certification in specialties, they should do so. In the meantime, one can only refer to the data available in the literature. Rogers emphasizes that osteopathy presents the “full range of diagnostic and therapeutic options” to the patient — surely, the goal of all medical practitioners. The options ought to be those known to be safe and effective. Rogers is more cautious in advising the use of osteopathic manipulative treatment than are many of his colleagues, reflecting the ongoing debate mentioned in the previous paragraph.

Finally, the claim that allopathic physicians are becoming more osteopathic may be good rhetoric, but it is certainly bad history.

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References


To the Editor: The editorial by Dr. Howell\textsuperscript{1} that accompanies the report by Andersson et al. reminded me of the deft reply a cardiovascular surgeon in our group used to avoid a long discussion when he was asked about the difference between an M.D. and a D.O. "That's easy," he said, "an M.D. doesn't have to know the difference."

As many have done before him, Dr. Howell defines osteopathic medicine by describing the ways in which it differs from allopathy, not by describing the totality of osteopathic medicine. Members of the osteopathic profession are often confronted with the issues noted by Dr. Howell. We may be challenged to define how our profession is unique and distinctive. We may also be put in the position of having our distinctiveness defined for us and then being asked to prove the scientific merit of this distinctiveness. The data that support the clinical use of osteopathic manipulative treatment were described in the article by Andersson et al. but received remarkably brief mention in Dr. Howell's editorial.

Engaged in a complete practice of medicine, the osteopathic profession does not need to limit itself to filling a gap. Osteopathic medicine is a branch of medicine in which the patients are considered in an ecologic context, and the full range of diagnostic and therapeutic options are available to patients. A primary emphasis is placed on the role of the neuromusculoskeletal system in health and disease. Osteopathic manipulative treatment is a key tool used for the diagnosis and treatment of medical, primarily musculoskeletal problems.

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References

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