The Journal of the American Osteopathic Association

The Journal of the American Osteopathic Association (*JAOA*) encourages osteopathic physicians, faculty members and students at colleges of osteopathic medicine, and others within the health care professions to submit comments related to articles published in the *JAOA* and the mission of the osteopathic medical profession. The *JAOA*'s editors are particularly interested in letters that discuss recently published original research.

Letters must be submitted online at http://www.osteopathic.org/JAOAsubmit. Letters to the editor are considered for publication in the *JAOA* with the understanding that they have not been published elsewhere and are not simultaneously under consideration by any other publication. All accepted letters to the editor are subject to editing and abridgment.

Although the *JAOA* welcomes letters to the editor, these contributions have a lower publication priority than other submissions. As a consequence, letters are published only when space allows.

Effectiveness of OMT for Carpal Tunnel Syndrome

To the Editor:

I read the article by Burnham et al[1] in the March issue of *The Journal of the American Osteopathic Association* with great interest. It is a comprehensive study, and I applaud the authors for their excellent use of objective measures to evaluate the effects of osteopathic manipulative treatment (OMT) on the median nerve and carpal tunnel syndrome.

However, I am concerned that the authors did not apply the optimal OMT techniques to the carpal tunnel, as noted in my 2005 study[2] and again in a study I coauthored in 2014.[3] These articles clearly describe that one can achieve the maximum effect for elongating the transverse carpal ligament (TCL) by using the transverse extension and guy-wire manipulative techniques.[2,3] Burnham et al[1] focused more on the opponens roll maneuver and "high-amplitude springing" of the carpal bones. It is essential to apply vigorous manipulative release of the TCL at the distal carpal bone level (trapezium-hamate), and the results can be documented by palpatory assessment after treatment, as noted by my 1994 study[4] when using a Likert-type rating scale of 0 to 5 (0=no restriction, 5=extremely marked restriction), with the critical level of restriction graded at 2/5. It was instructive that patients improved when the restriction decreased below a 2/5 level—once this threshold was reached, it could be used to motivate patients to continue treatment.[4] Burnham et al[1] did reassess patients with "tissue texture changes" and "restored range of motion," but these measures are less specific than a quantitative determination of palpatory restriction.

In addition, my 2005 study[2] clarified that the optimal approach to managing carpal tunnel syndrome is to combine manipulation with self-stretching. I objectively documented that the maximum TCL lengthening occurred when stretching followed manipulative "priming" of the TCL.[2] This laboratory finding mimics the optimal clinical situation where the patient obtains manipulation from the physician in the office and is provided stretching instruction to perform independently.[2] Stretching exercise complements the manipulation, "building on the manipulative efforts" by making the TCL more responsive to the subsequent stretching, but the patients must be instructed in precise techniques to be performed several times daily.[2,3]

I agree with the authors[1] when they acknowledge that objective measures taken after the final manipulation may have been too early to determine maximum changes in the electrophysiology and morphology of the median nerves,[1] because such changes often lag several weeks behind clinical improvement.[4] This limitation of the study's conclusions is clinically significant, and I believe the authors should have repeated measurements 4 to 6 weeks after the final OMT session. (doi:10.7556/jaoa.2015.073)

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References

1. Burnham T, Higgins DC, Burnham RS, Heath DM. Effectiveness of osteopathic manipulative treatment for carpal tunnel syndrome: a pilot project. *J Am Osteopath Assoc*. 2015;115(3):138-148. doi:10.7556/jaoa.2015.027.
2. Sucher BM, Hinrichs RN, Welcher RL, et al. Manipulative treatment of carpal tunnel syndrome: biomechanical and osteopathic intervention to increase the length of the transverse carpal ligament: part 2—effect of sex differences and manipulative "priming". *J Am Osteopath Assoc*. 2005;105(3):135-143.

3. Schreiber AL, Sucher BM, Nazarian LN. Two novel nonsurgical treatments of carpal tunnel syndrome. *Phys Med Rehabil Clin N Am.* 2014;25(2):249-264. doi:10.1016/j.pmr.2014.01.008.

4. Sucher BM. Palpatory diagnosis and manipulative management of carpal tunnel syndrome. *J Am Osteopath Assoc.* 1994;94(8):647-663.

Response

We thank Sucher[1] for his interest and commentary on our study[2] and acknowledge that he has done the majority of the foundational work on this topic. In our study,[2] we found that carpal tunnel syndrome symptoms improved substantially after osteopathic manipulative treatment (OMT). However, we recorded no objective evidence of improved median nerve function or morphology at the carpal tunnel, suggesting that the symptom improvement was not likely related to median nerve decompression.

Sucher[1] appropriately reminds us that additional and potentially more effective OMT techniques—including transverse extention and guy-wire manipulative techniques—could be applied to lengthen the transverse carpal ligament and thereby potentially decompress the median nerve. Best practices also include recording tissue response using a quantitative palpatory assessment with the aim of reducing restriction to below a 2/5 level.

Also, Sucher[1] reminds us of the importance of following OMT with a home self-stretching program. These excellent suggestions may augment an already effective treatment. Future research that incorporates these techniques and employs outcome measures using validated subjective measures, as well as objective measures such as those employed in our study, is encouraged. (doi:10.7556/jaoa.2015.084)

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References

1. Sucher BM. Effectiveness of OMT for carpal tunnel syndrome [letter]. *J Am Osteopath Assoc.* 2015;115(6):356-357. doi:10.7556/jaoa.2015.073.

2. Burnham T, Higgins DC, Burnham RS, Heath DM. Effectiveness of osteopathic manipulative treatment for carpal tunnel syndrome: a pilot project. *J Am Osteopath Assoc.* 2015;115(3):138-148. doi:10.7556/jaoa.2015.027.

Corrections

The *JAOA* and the authors regret an error that appeared in the following letter to the editor:

Chen CS, Xiong Y. Wikipedia vs peer-reviewed medical literature for information about the 10 most costly medical conditions [letter]. *J Am Osteopath Assoc.* 2014;114(10)764-765. doi:10.7556/jaoa.2014.148.

Dr Chen is an osteopathic medical student. His byline should have appeared as "George S. Chen, PhD, OMS III."

In addition, the *JAOA* regrets an error that appeared in the following appendix:

Appendix 3: colleges of osteopathic medicine. *J Am Osteopath Assoc.* 2015;115(4):279-281. doi:10.7556/jaoa.2015.054.

The dean of the Touro College of Osteopathic Medicine-Middletown (TouroCOM-Middletown) in New York was omitted. Kenneth J. Steier, DO, should have been listed as the dean of TouroCOM-Middletown.

Also, the *JAOA* regrets an error that appeared in the following article:

Hodge LM, Creasy C, Carter K, Orlowski A, Schander A, King HH. Lymphatic pump treatment as an adjunct to antibiotics for pneumonia in a rat model. *J Am Osteopath Assoc.* 2015;115(5):306-316. doi:10.7556/jaoa.2015.061.

Dr Schander's PhD was omitted from the byline. His name should have appeared as "Artur Schander, DO, PhD."

These corrections will be made to the electronic files online.