Effectiveness of OMT for Carpal Tunnel Syndrome

To the Editor:

I read the article by Burnham et al 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 and again in a study I co-authored in 2014. 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. Burnham et al 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 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. Burnham et al 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 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. 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. 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.

I agree with the authors 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, because such changes often lag several weeks behind clinical improvement. 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
Response

We thank Sucher1 for his interest and commentary on our study2 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.

Sucher1 appropriately reminds us that additional and potentially more effective OMT techniques—including transverse extension 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, Sucher1 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


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Corrections

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


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:


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:


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.