

PARKINSON'S AND MOVEMENT DISORDERS

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Pilot study assessing the effect of fascial manipulation on fascial densifications and associated pain

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Previous studies have demonstrated a connection between pain reduction and improved function after treatments targeting the heavily innervated fascial network. This study analyzed changes in fascial thickness at points identified by participants to be painful following a brief treatment consistent with the mechanical treatment associated with Fascial Manipulation (FM).

Pathological fascial densifications within various somatic regions were self-identified by participants as painful prior to confirmation and measurement of fascial thickness utilizing diagnostic ultrasound. Densifications are defined as palpable thickenings of the loose connective tissue that are thought to consist of polymerized hyaluronan (HA) between the organized layers of collagen fibers of the epimysial deep fascia. After identification of the densification and measurement of thickness, 30-45 seconds of mechanical treatment consisting of deep, oscillating manual pressure was applied directly over the identified densification. Measurement was immediately taken using diagnostic ultrasound. In addition perceived pain was recorded using a 15cm visual analog scale (VAS) immediately pre and post treatment. The study found that even brief treatment using mechanical methods of FM led to reduced fascial thickness and statistically significant positive correlation between densification thickness and pain ratings pre and post treatment in females. No statistically significant differences were found in densification thickness or pain ratings between males and females. This study also demonstrated that densifications are measurable using diagnostic ultrasound. The findings of this study suggest that even brief FM treatment is effective at reducing pain and reducing fascial thickness and that diagnostic ultrasound may be useful as a pre and post treatment diagnostic tool.

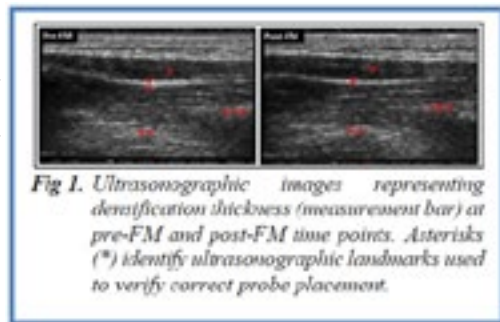


Fig 1. Ultrasonographic images representing densification thickness (measurement bar) at pre-FM and post-FM time points. Asterisks () identify ultrasonographic landmarks used to verify correct probe placement.*

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Recent Publications:

Hughes EJ, McDermott K, Funk MF. Evaluation of hyaluronan content in areas of densification compared to adjacent areas of fascia. *J Bodyw Mov Ther.* 2019 Apr;23(2):324-328. doi: 10.1016/j.jbmt.2019.01.017. Epub 2019 Feb 5. PMID: 31103115.

Morley J, Fan C, McDermott K, Fede C, Hughes E, Stecco, C (2019) The crural interosseous membrane re-visited: a histological and microscopic study. *European journal of translational myology* 29(3).

Hughes E, Koenig J, Lee R, McDermott K, Freilicher T, Pitcher M (2022) Pilot study assessing the effect of Fascial Manipulation on fascial densifications and associated pain. *Eur J Transl Myol* 32(1): 10369, 2022, doi: 10.4081/ejtm.2022.10369.

Biography

Prior to obtaining her doctor of chiropractic degree and master's in clinical nutrition, Kena McDermott worked and taught histology within pathology laboratories. She also obtained clinical research experience working on breast cancer trials and currently works as a research associate for Yale School of Medicine. She is an active researcher with focus areas in chronic pain, genetic polymorphisms, nutrition and general chiropractic. She is an internationally, known certified fascial manipulation specialist and has a private practice in West Hartford, CT where she focuses on treating chronic pain and practicing functional nutrition.

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