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# Manual therapy informed by the fascial distortion model for plantar heel pain: Results of a single-arm prospective effectiveness study

# Joshua Boucher

Dwight D. Eisenhower Army Medical Center, USA

**Objectives:** Plantar heel pain (PHP) is the most common cause of heel pain and can be debilitating; 20% of patients are refractory to standard of care. The Fascial Distortion Model (FDM), a novel manual diagnostic and treatment strategy, is purported to be effective for chronic pain; however, no rigorous studies document its effectiveness. We assessed the FDM for care of PHP.

**Design:** Single arm prospective effectiveness study.

Settings/Location: Outpatient primary care clinic; Fort Gordon, GA.

# Subjects: Outpatient adults.

**Interventions:** Participants received an FDM-informed diagnostic and treatment strategy to identify fascial "distortions" at the foot based on patient-reported pain patterns and palpatory examination and then to provide distortion-specific manual therapy at baseline and 1 week. Outcome Measures: Primary outcome measure (0, 1, and 16 weeks): the Foot Pain subscale on the validated Foot Health Status Questionnaire (FHSQ; 0–100 points on each of eight separate subscales); secondary outcome measures (0, 1, and 16 weeks): the seven remaining subscales on the FHSQ, visual analog pain scale (VAS, 0– 100 points), and plantar fascia thickness of the most effected foot assessed by ultrasound (0 and 16 weeks). Analysis was performed as per protocol using repeated-measures analysis of variance.

**Results:** One hundred and ninety-seven participants were screened; 33 were enrolled. Twenty-eight participants received two FDM procedures. Compared with baseline, improvement on the FHSQ Foot Pain (33.8– 23.6 points)

and Foot Function (23.9–19.8 points) subscales and VAS (44.7–27.7 points) at 16 weeks was statistically significant (all p's < 0.001) and clinically important representing large effect sizes. Relative to baseline, 16-week ultrasound demonstrated reduced average plantar fascia thickness (0.6–0.9 mm [p = 0.001]). Demographic characteristics were unrelated to response. Satisfaction was high. There were no serious adverse events; side effects included consistent mild-to-moderate self-limited pain.

**Conclusions:** Participants with PHP who received FDM-informed care reported significant and sustained improvement on validated foot pain and foot function measures; additional findings included decreased plantar fascial thickness. These results require corroboration in a larger randomized controlled study. Clinical Trial Registration No: DDEAMC17005.

#### **Recent Publications**

- Boucher, Joshua D. and Figueroa, Jose. "Restoration of Full Shoulder Range of Motion After Application of the Fascial Distortion Model" Journal of Osteopathic Medicine, vol. 118, no. 5, 2018, pp. 341-344. https://doi.org/10.7556/jaoa.2018.044
- Boucher, Joshua D. DO; Rogers, Tyler S. MD; Angelo, John MD Following a complete isolated anterior cruciate ligament tear, is functional ability decreased in patients who do not have surgical reconstruction?, Evidence-Based Practice: June 2020 - Volume 23 - Issue 6 - p 30-31
- Boucher J, Mooney S, Dewey T, Kirtley RG, Walker T, Rabago D. Manual Therapy Informed by the Fascial Distortion Model for Plantar Heel Pain: Results of a Single-Arm Prospective Effectiveness Study. J Altern Complement Med. 2021 Aug;27(8):697-705. doi: 10.1089/acm.2020.0486. Epub 2021 Jun 29. PMID: 34185582..



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# Biography

Joshua Boucher is an osteopathic physician who received his bachelors in Biology from Utah State in 2012 and later graduated from Des Moines University in 2016. He was awarded a full ride scholarship to medical school through the Health Professions Scholarship Program which required him to serve 4 years in the army after finishing residency. In 2019, he graduated from family medicine residency from Dwight D. Eisenhower Army Medical Center. That same year he became boarded in family medicine and as Captain in the U.S. army, became the Medical Director, Office in Charge, Pain Champion and has mentored many military providers in the FDM. He is adjunct faculty at the Burrell College of Osteopathic Medicine and is incorporating the FDM into their curriculum. He is a Director At Large for the American Fascial Distortion Model Association where he leads the research committee. He has published several medical articles with his latest published in the Journal of Alternative and Complementary Medicine named: Manual Therapy Informed by the Fascia Distortion Model for Plantar Heel Pain: Results of a Single-Arm Prospective Effectiveness Study.

josh.d.boucher@gmail.com

