GEMs
GOOD EVIDENCE MATTERS

GEMs of the Week

Volume 5 - Issue 4

FPIN
Family Physicians Inquiries Network

What's in this week's issue?

Week of January 27– 31, 2025

SPOTLIGHT:

A New Standard for Pneumonia Diagnosis

- Prolotherapy, Phonophoresis, or Corticosteroid Injections: Which is Better for Treatment of Plantar Fasciitis?
- Does Parenthood Affect Mental Health Treatment Rates in US Military Service Members?
- Virtually Equivalent: Are Telemedicine and In-Person Visits Comparable for Hospital Discharge Follow-Up Care?
- Osteopathic Manipulative Treatment May Improve Low Back Pain

A New Standard for Pneumonia Diagnosis

GEMs GOOD EVIDENCE MATTERS SPOTLIGHT

Comparison of Lung Ultrasound and Chest Radiography for Detecting Pneumonia in Children: A Systematic Review and Meta-Analysis

Yang Y, Wu Y, Zhao W. Comparison of lung ultrasound and chest radiography for detecting pneumonia in children: a systematic review and meta-analysis. *Ital J Pediatr*. 2024;50(1):12. Published 2024 Jan 23. doi:10.1186/s13052-024-01583-3

KEY TAKEAWAY: Lung ultrasound is comparable to chest radiography for detecting pneumonia in children, with superior sensitivity.

STUDY DESIGN: Systematic review and meta-analysis of 22 prospective and four retrospective studies (N=3,401)

LEVEL OF EVIDENCE: STEP 1

BRIEF BACKGROUND INFORMATION: Pneumonia in children is frequently diagnosed with chest radiography, exposing the patient to ionizing radiation early on in life. This study aimed to address whether lung ultrasound is a suitable alternative for the diagnosis of pediatric pneumonia.

PATIENTS: Children with suspected pneumonia in the outpatient setting

INTERVENTION: Lung ultrasound

CONTROL: Chest radiography

PRIMARY OUTCOME: Diagnostic accuracy for pneumonia

METHODS (BRIEF DESCRIPTION):

- A literature search and study selection was conducted by two independent reviewers who searched PubMed, Embase, and the Cochrane Library. Studies were included if the following requirements were met:
  - Included participants were children 0–18 years old with suspected pneumonia.
  - Lung ultrasound and chest radiography were used to make the diagnosis.
  - The gold standard for diagnosis of pneumonia was reported.
  - True positive, false positive, true negative, and false negative were reported or could be discerned from the data.
  - There were no restrictions on study design.
- A lung ultrasound was performed by a trained operator, assessing for signs of pneumonia.
- Chest radiography was read by a trained radiologist and is the gold standard of care.
- The primary outcome of the study measured the diagnostic accuracy of lung ultrasound compared to the gold standard of chest radiography.
- Statistical analysis was completed for sensitivity, specificity, positive likelihood ratio (PLR), negative likelihood ratio (NLR), diagnostic odds ratio (DOR), and area under the receiver operating characteristics curves (AUC).

INTERVENTION (# IN THE GROUP): Not available

COMPARISON (# IN THE GROUP): Not available

FOLLOW-UP PERIOD: Not available

RESULTS:

Primary Outcome –

- Compared to the gold standard of chest radiography, lung ultrasound was effective in diagnosing pneumonia in children.
  - Sensitivity (ratio 1.03; 95% CI, 1.01–1.1)
  - PLR (ratio 0.50; 95% CI, 0.12–2.1)
  - NLR (ratio 0.63; 95% CI, 0.32–1.2)
  - DOR (ratio 0.22; 95% CI, 0.06–0.85)
- There was no significant difference between lung ultrasound and chest radiography for specificity (ratio 0.99; 95% CI, 0.90–1.1).
- There was no significant difference between lung ultrasound and chest radiography for AUC (ratio 0.99; 95% CI, 0.97–1.0).

LIMITATIONS:

- The ability of lung ultrasound to detect pneumonia is limited by the experience of the sonographer.
- Uncontrolled selection, recall, and confounding biases could affect the pooled conclusions of the studies analyzed.
- There was a difference across the included studies in the gold standard for detecting pneumonia that may have overestimated the diagnostic value of chest radiography.
- The ease or difficulty of detecting pneumonia varies with the severity of the disease.
- Meta-analyses based on published data have inherent limitations of inevitable publication bias and restricted detailed analyses.

Matthew Hartung, MD

Alexander T Augusta Military Medical Center
Fort Belvoir, VA

The opinions and assertations contained herein are those of the author and are not to be construed as official or as reflecting the views of the US Navy Medical Department, the Navy at large, or the Department of Defense.

Prolotherapy, Phonophoresis, or Corticosteroid Injections: Which is Better for Treatment of Plantar Fasciitis?

Prolotherapy vs Phonophoresis and Corticosteroid Injections for the Treatment of Plantar Fasciitis: A Randomized, Double-Blind Clinical Trial

Karakılıç GD, Aras M, Büyük F, Bakırcı EŞ. Prolotherapy Versus Phonophoresis and Corticosteroid Injections for the Treatment of Plantar Fasciitis: A Randomized, Double-Blind Clinical Trial. *J Foot Ankle Surg*. 2023;62(6):922-927. doi:10.1053/j.jfas.2023.04.010

KEY TAKEAWAY: Prolotherapy, corticosteroid injections (CSI), and phonophoresis are all effective treatments for plantar fasciitis (PF) with no significant treatment difference between the groups.

STUDY DESIGN: Prospective, randomized controlled clinical trial

LEVEL OF EVIDENCE: STEP 2

BRIEF BACKGROUND INFORMATION: PF is the most common cause of plantar heel pain in adults and is typically managed conservatively with stretching exercises, orthotics, night splints, nonsteroidal anti-inflammatory drugs (NSAIDs), and physical therapy. Studies have shown prolotherapy, CSI, and phonophoresis as useful treatments for PF, with few studies comparing their effectiveness.

PATIENTS: Adults diagnosed with plantar fasciitis

INTERVENTION: Treatment with prolotherapy, steroids, phonophoresis

CONTROL: Intergroup comparison

PRIMARY OUTCOME: Pain, heel sensitivity, foot function, plantar fascia thickness, health-related quality of life

METHODS (BRIEF DESCRIPTION):

- Adults 18–65 years old, with diagnosis of PF >3 months, had increased tenderness of plantar fascia, plantar fascia thickness >4 mm, and having failed conservative treatments were included in the study.
- Patients with diabetes mellitus (DM), pregnancy or lactation, recent foot and ankle injury, recent steroid injections, NSAIDs taken two weeks before treatment, and follow-up visits refusal were excluded from the study.
- Patients were randomized to one of the following treatments:
    - Prolotherapy with 3.6 mL 30% dextrose and 0.4 mL lidocaine injected every two weeks for one month.
    - Corticosteroid injection with 40 mg methylprednisolone and 2% prilocaine once.
    - Phonophoresis at 1.5 W/cm^2 1 MHz dose with topical prednisolone gel over 10 treatment sessions.
- The Visual Analog Scale (VAS) measured pain intensity. Scores range from 0–100, with higher scores indicating more pain at pre-treatment and one month and three months post-treatment.
- The Heel Sensitivity Index (HSI) tested pain with palpation. Scores range from zero (no pain) to three (painful and withdrawal).
- The Foot Function Index (FFI) evaluated pain, disability, and limitation in activity, with higher scores up to 100 indicating worse function and pain.
- Plantar fascia thickness (PFT) was measured in millimeters at the medial tubercle of the calcaneus.
- The Short Form (SF)-36 scale examined eight dimensions of health-related quality of life that included physical function (PF), physical role (PR), body pain (BP), general health (GH), vitality (V), social function (SF), emotional role (ER), and mental health (MH), with higher scores indicating higher level of health.
- All outcome measures were taken at baseline, one month, and three months post-treatment.

INTERVENTION (# IN THE GROUP):

- Prolotherapy: 44
- CSI: 42
- Phonophoresis: 39

COMPARISON (# IN THE GROUP): Not applicable

FOLLOW-UP PERIOD: Three months

RESULTS:

Primary Outcome –

- All treatment groups showed statistically significant improvement from baseline to one month and three months post-treatment for the following outcomes.
- Pain:
    - Prolotherapy (71 vs 27 and 30; P<.001)
    - Steroids (71 vs 27 and 41; P<.001)
    - Phonophoresis (71 vs 31 and 42; P<.001)

- Heel sensitivity:
  - Prolotherapy (93% vs 61% and 41%; *P*<.001)
  - Steroids (100% vs 55% and 67%; *P*<.001)
  - Phonophoresis (97% vs 51% and 67%; *P*<.001)
- Foot function:
  - Prolotherapy (62 vs 27 and 28; *P*<.001)
  - Steroids (62 vs 26 and 36; *P*<.001)
  - Phonophoresis (63 vs 28 and 35; *P*<.001)
- Plantar fascia thickness:
  - Prolotherapy (5.5 vs 3.4 and 3.5; *P*<.001)
  - Steroids (5.3 vs 3.2 and 3.7; *P*<.001)
  - Phonophoresis (5.4 vs 3.6 and 3.9; *P*<.001)
- Health-related quality of life
  - Physical functionality:
    - Prolotherapy (36 vs 78 and 75; *P*<.001)
    - Steroids (36 vs 78 and 65; *P*<.001)
    - Phonophoresis (38 vs 78 and 66; *P*<.001)
  - Physical role:
    - Prolotherapy (26 vs 76 and 73; *P*<.001)
    - Steroids (30 vs 78 and 57; *P*<.001)
    - Phonophoresis (31 vs 79 and 56; *P*<.001)
  - Body pain:
    - Prolotherapy (42 vs 74 and 72; *P*<.001)
    - Steroids (45 vs 76 and 64; *P*<.001)
    - Phonophoresis (46 vs 74 and 63; *P*<.001)
  - General health:
    - Prolotherapy (41 vs 57 and 57; *P*<.001)
    - Steroids (39 vs 54 and 50; *P*<.001)
    - Phonophoresis (36 vs 48 and 45; *P*<.001)
  - Vitality:
    - Prolotherapy (29 vs 49 and 50; *P*<.001)
    - Steroids (29 vs 48 and 41; *P*<.001)
    - Phonophoresis (28 vs 46 and 40; *P*<.001)
  - Social functionality:
    - Prolotherapy (48 vs 73 and 75; *P*<.001)
    - Steroids (48 vs 75 and 65; *P*<.001)
    - Phonophoresis (48 vs 75 and 66; *P*<.001)
  - Emotional role:
    - Prolotherapy (34 vs 52 and 51; *P*<.001)
    - Steroids (33 vs 53 and 45; *P*<.001)
    - Phonophoresis (32 vs 47 and 43; *P*<.001)
  - Mental health:
    - Prolotherapy (29 vs 79 and 76; *P*<.001)
    - Steroids (35 vs 79 and 59; *P*<.001)
    - Phonophoresis (34 vs 83 and 59; *P*<.001)
- Heel sensitivity decreased in the prolotherapy group compared to the steroids and phonophoresis group at three months (18 vs 28 and 26; *P*=.02).
- General health improved in the prolotherapy group compared to the phonophoresis group at one month and three months.
  - One month (57 vs 48; *P*=.03)
  - Three months (57 vs 45; *P*=.005)
- Between-group differences in pain intensity and foot function at one month and three months post-treatment were not statistically significant.
- The between-group difference in plantar fascia thickness at one month and three months post-treatment was not statistically significant.

LIMITATIONS:

- There was no control group as treatment groups were compared to each other.
- The follow-up period was short at only three months.
- Multiple comorbid conditions were excluded, most notably DM.
- The demographic information of patients was not reported.
- The generalizability of the findings to a more diverse cultural background was limited.

Bryson Merrill, MD
Womack Army Medical Center FMRP
Fort Liberty, NC

Does Parenthood Affect Mental Health Treatment Rates in US Military Service Members?

Mental Health Treatment Rates During Pregnancy and Postpartum in US Military Service Members

Heissel JA, Healy OJ. Mental Health Treatment Rates During Pregnancy and Post Partum in US Military Service Members. *JAMA Netw Open*. 2024;7(5):e2413884. Published 2024 May 1. doi:10.1001/jamanetworkopen.2024.13884

KEY TAKEAWAY: Among US military service members, the transition to parenthood may be associated with a reduction in the use of mental health treatments.

STUDY DESIGN: Retrospective cohort study

LEVEL OF EVIDENCE: STEP 3

BRIEF BACKGROUND INFORMATION: The risk of mental health disorders like depression, anxiety, bipolar disorder, psychosis, and schizophrenia is increased during pregnancy and postpartum. Military service members are at particularly increased risk and are known to underuse mental health services. Little is known about how the transition to parenthood may affect the usage of these services among service members.

PATIENTS: US Army and Navy service members

INTERVENTION: First-time pregnancy or parenthood

CONTROL: Nonparents

PRIMARY OUTCOME: Number of therapy sessions per month before and after birth

Secondary Outcome: Attend any therapy session in a given week before and after parental leave

METHODS (BRIEF DESCRIPTION):

- Data were obtained from the Defense Enrollment Eligibility Reporting System (DEERS).
- The inclusion criteria were:
  - Mothers with births from January 1, 2013 to June 30, 2019.
  - The exposed group had their first dependent under one year old.
  - The matched unexposed cohort did not have children before or during the study timeframe.
  - The parents must have served at least 12 months before and at least 24 months after becoming a parent while the matched unexposed cohort must have served at least 36 months.
- US Navy mothers with births from January 1, 2015, to December 31, 2016, because they may have had an 18-week leave, were excluded from the study.
- The number of therapy sessions was measured using billing codes from mental health professionals in the Defense Health Agency records.

INTERVENTION (# IN THE GROUP):

- Mothers: 10,193
- Fathers: 43,365

COMPARISON (# IN THE GROUP):

- Nonmothers: 50,865
- Nonfathers: 216,777

FOLLOW-UP PERIOD: 36 months of continuous observation

RESULTS:

Primary Outcome –

- First-time mothers had fewer therapy sessions per month compared to nonmothers (mean difference [MD] –0.02; 95% CI, –0.03 to –0.001).
- First-time fathers had fewer therapy sessions per month compared to nonfathers (MD –0.004; 95% CI, –0.008 to –0.0003).
- Compared to 10 months before birth, at one-month post-partum:
  - Mothers attended fewer therapy sessions per month (MD –0.07; 95% CI, –0.08 to –0.06).
  - Fathers attended fewer therapy sessions per month (MD –0.02; 95% CI, –0.02 to –0.01).
- At one-month post-partum, parents with prior mental health treatment showed a decrease in therapy sessions compared to 10 months before birth:
  - Mothers decreased from 0.71 to 0.16 sessions, representing a 77% decrease.
  - Fathers decreased from 0.50 to 0.13 sessions, representing a 73% decrease.
- At one-month post-partum, parents without prior mental health treatment showed an increase in therapy sessions compared to 10 months before birth:
  - Mothers increased from 0.007 to 0.03 sessions, representing a 325% increase.
  - Fathers increased from 0.004 to 0.02 sessions, representing a 426% increase.

Secondary Outcome –

- Therapy attendance per week increased after parental leave:
  - Under the six-week leave policy, mothers who attended a therapy session at week seven increased (0.56%; 95% CI, 0.3–0.9).
  - Under the 12-week leave policy, mothers who attended a therapy session at week 13 increased (1.0%; 95% CI, 0.6–1.3).
- By four months after birth, parents and matched nonparents showed comparable frequency of therapy sessions.

LIMITATIONS:

- The generalizability of the findings to non-military and non-US communities is limited given the lack of data on how those non-military parents access mental health care.
- Application of the findings to uninsured populations is limited because service members get paid time off to utilize mental health therapy.
- The frequency of therapy sessions was a surrogate measure of mental health status and clinical assessment of the severity of mental health issues was not measured.
- The results showing a decrease in treatment sessions cannot be fully explained by factors such as difficulties with accessibility or improvement in overall mental health.
- There was no random assignment of childbirth or parental leave policies and thus causality cannot be implied.
- Enlisted service members who left the military due to a lack of a family care plan during their pregnancy were not included.

Whitney Green, MD
Womack Army Medical Center FMRP
Fort Liberty, NC

The views expressed herein are those of the author and do not necessarily reflect the official policy of the Department of the Army, Defense Health Agency, Department of Defense, or the US Government.

Virtually Equivalent: Are Telemedicine and In-Person Visits Comparable for Hospital Discharge Follow-Up Care?

Hospital Readmission Rates for Patients Receiving In-Person vs Telemedicine Discharge Follow-Up Care

Zain A, Baughman D, Waheed A. Hospital Readmission Rates for Patients Receiving In-Person vs. Telemedicine Discharge Follow-Up Care. *J Am Board Fam Med*. 2024;37(2):166-171. doi:10.3122/jabfm.2023.230213R1

KEY TAKEAWAY: Hospital readmission rates for post-discharge telemedicine follow-up visits are comparable to in-person visits.

STUDY DESIGN: Retrospective cohort analysis

LEVEL OF EVIDENCE: STEP 3

BRIEF BACKGROUND INFORMATION: Hospital readmissions after discharge are costly and often preventable. Transitions of care management (TCM) visits prevent unplanned readmissions. TCM visits are traditionally in-person visits. Telemedicine has become a more widely utilized healthcare delivery modality and has been shown comparable in quality to in-person visits. It is not known if telemedicine TCM visits are as effective at preventing readmission as in-person TCM visits.

PATIENTS: Post-hospitalization follow-up care patients

INTERVENTION: Telemedicine visit

CONTROL: In-person visit

PRIMARY OUTCOME: Readmission rates within 30 days

Secondary Outcome: Readmission rates between pre-pandemic and study timeframe

METHODS (BRIEF DESCRIPTION):

- Patients from the WellSpan Health system with TCM CPT (Current Procedural Terminology) codes (99495 and 99496) from March 1, 2020, to January 30, 2023, were included in this study.
- Patients without insurance and a TCM current procedural terminology (CPT) code were excluded.
- Patients were divided into two cohorts based on the mode of follow-up care, which included telemedicine and in-person visits.
- EPIC's SlicerDicer tool was used to compare the 30-day readmission rates.
- Sociodemographic factors, comorbidities, social determinants of health, and digital literacy variables were covariates in the multivariable logistic regression analysis.
- Data was compared to pre-COVID-19 pandemic performance to ensure data consistency.

INTERVENTION (# IN THE GROUP): 1,048

COMPARISON (# IN THE GROUP): 12,846

FOLLOW-UP PERIOD: 30 days

RESULTS:

Primary Outcome –

- Readmission rates between telemedicine and in-person visits were comparable at 12% for each group (12% vs 11.9%, respectively; *P*=.95).

Secondary Outcome –

- Readmission rates between pre-pandemic and the study timeframe were comparable:
  - Telemedicine readmission (11% vs 12%, respectively; *P*=.95)
  - In-person readmission (14% vs 12%, respectively; *P*=.15)

LIMITATIONS:

- Though this study accounted for social determinants of health, it only included patients with insurance.
- The population surveyed was approximately 91% White, which may not represent many providers' patient populations.
- Because CPT codes were used as the inclusion criteria, patients with inappropriate CPT codes at follow-up visits were omitted.
- Patients with follow-up visits or readmissions outside the WellSpan health system or hospitals without the EPIC electronic medical record system were excluded.
- Due to a lack of data for the telemedicine group in the pre-COVID-19 period, the baseline used for comparison was office rates and the national readmission rate.
- The telemedicine sample was small, younger, and lower-risk than the in-person group.

Kendall Dean, MD
Womack Army Medical Center FMRP
Fort Liberty, NC

The views expressed herein are those of the author and do not necessarily reflect the official policy of the Department of the Army, Defense Health Agency, Department of Defense, or the U.S. Government.

Osteopathic Manipulative Treatment May Improve Low Back Pain

The effects of osteopathic manipulative treatment on pain and disability in patients with chronic low back pain: a single-blinded randomized controlled trial

Popovich JM Jr., Cholewicki J, Reeves NP, et al. The effects of osteopathic manipulative treatment on pain and disability in patients with chronic low back pain: a single-blinded randomized controlled trial. *J Osteopath Med*. 2024;124(5):219-230. Published 2024 Jan 11. doi:10.1515/jom-2022-0124

KEY TAKEAWAY: Osteopathic manipulative treatment (OMT) may improve pain among patients with chronic low back pain (LBP).

STUDY DESIGN: Single-blinded, crossover, randomized control trial

LEVEL OF EVIDENCE: STEP 3 (downgraded due to single blinding)

BRIEF BACKGROUND INFORMATION: Several clinical guidelines recommend a conservative, noninvasive approach to the management and treatment of chronic low back pain, but few of these guidelines list OMT as a treatment option. More and more studies are showing OMT as an effective method to improve function and pain in chronic low back pain patients and should be increasingly considered as one of the first-line treatment options.

PATIENTS: Adults with LBP

INTERVENTION: Immediate OMT

CONTROL: Delayed OMT

PRIMARY OUTCOME: Pain intensity and disability

Secondary Outcome: Sleep, anxiety

METHODS (BRIEF DESCRIPTION):

- This crossover study was part of a larger trial conducted in Lansing, Michigan and its greater surrounding areas studying OMT and chronic neck pain.
- The trial included participants 21–65 years old who had non-specific chronic LBP, defined as pain for ≥3 months not attributed to an underlying serious pathology or systemic disease with a baseline pain score of 3/10 or greater, and had an Oswestry Disability Index (ODI) of ≥26%.
- Participants were excluded from the study if they had undergone physical therapy, OMT, or other manipulative therapy (chiropractic treatment) within one month of starting the study, had a BMI >32, history of trauma or fracture, cancer, neurologic disease, or deficits associated with LBP, spinal infection, or were immunocompromised.
- The average age of included participants was 44 years old, most were women (61%) and had nonspecific chronic LBP for >12 years with an average baseline pain of 6/10, and a baseline score ODI of 30–35%.
- The intervention group received 3–4 OMT sessions in a 4–6 week timeframe, with a minimum of three days and a maximum of 14 days between each session.
- The control group received delayed OMT after an initial 4–6 week waiting period.
- OMT was performed by one of five osteopathic physicians who were mandated to perform the high-velocity low-amplitude (HVLA) but could choose four other optional techniques based on their exam findings.
- Primary outcomes were assessed in both groups via questionnaires at baseline, week one, weeks 4–6, and at the end of the trial.
    - Pain intensity was measured using an 11-point numeric scale. Scores range from 0–10, with higher scores indicating higher pain intensity.
    - Disability was measured using the ODI score percentage. Scores range from 0–100% with higher scores indicating worse disability.
- Secondary outcomes were measured using the sleep disturbance and anxiety sections of the Patient-Reported Outcomes Measurement Information System (PROMIS) questionnaire, a publicly available questionnaire that measures patient-reported physical, mental, and social well-being. Scores range from 20–80, with higher scores indicating greater well-being.
- The effect size was calculated using Cohen's d for each outcome. The cut-off was set at 0.33 for clinical importance, indicating a moderate or large effect.

INTERVENTION (# IN THE GROUP): 40

COMPARISON (# IN THE GROUP): 40

FOLLOW-UP PERIOD: 16 weeks

RESULTS:

Primary Outcome –

- After one OMT session in the intervention group, there was no significant difference in average pain score change from baseline as compared to control (adjusted least square mean (LSM) 5.0 vs 5.6, Cohen's d 0.33; 95% CI, –1.4 to 0.27).
- 3–4 OMT sessions in the intervention group resulted in a significant reduction in average pain scores from baseline compared to no OMT in the control group (adjusted LSM 4.2 vs 5.6, Cohen's d 0.86; 95% CI, –2.3 to –0.46).
- Disability scores were similar in both groups after one and 3–4 OMT sessions in the intervention group compared to no OMT in the control group (adjusted LSM 30 vs 32, Cohen's d 0.22; 95% CI, –5.6 to 2.1 and adjusted LSM 29 vs 32, Cohen's d 0.32; 95% CI, –6.6 to 1.5, respectively).

Secondary Outcome –

- After one OMT session, there was a significant improvement in sleep and anxiety PROMIS scores when adjusted for baseline between the intervention and control group.
  - Sleep (LSM 53 vs 56, Cohen's d 0.6; 95% CI, –6.0 to –0.55)
  - Anxiety (LSM 48 vs 52, Cohen's d 0.62; 95% CI, –6.5 to –0.70)
- After 3–4 OMT sessions, there was sustained improvement in PROMIS sleep and anxiety scores when adjusted for baseline between the intervention and control group.
  - Sleep (LSM 52 vs 55, Cohen's d 0.56; 95% CI, –5.9 to –0.27)
  - Anxiety (LSM 45 vs 51, Cohen's d 1.1; 95% CI, –9.2 to –3.2)

LIMITATIONS:

- There was evidence of a significant carryover effect and investigators did not report full results after both groups received OMT interventions, thus limiting any conclusions about the effects of early compared to delayed OMT.
- There was a lack of long-term follow-up to determine if OMT effects were sustained beyond a 9–16 week timeframe.
- Study participants were enrolled based on self-reported LBP and were not actively seeking treatment, which may reduce the study's generalizability to patients who are actively seeking treatment.
- Other limitations included lack of blinding among participants, extensive exclusion criterion, relatively high loss to follow-up rate, and patient medications not being reported.
- OMT techniques were not standardized in the study (outside of the mandatory HVLA).

Dillon McCourt, DO
Camp Lejeune FMRP
Camp Lejeune, NC

The views expressed herein are those of the author and do not necessarily reflect the official policy of the Department of the Navy, Defense Health Agency, Department of Defense, or the US Government.