

Collected Scientific Research Relating to the Use of Osteopathy with Fibromyalgia (chronic pain)

Important:

1) Osteopathy involves helping people's own self-healing abilities to work better, rather than focussing primarily on particular conditions.

2) Each person is different, and osteopathy treats them differently.

Therefore people respond to osteopathic treatment in different ways. Treatments that work for one person cannot be guaranteed to work for another person in the same way. The fact that there is scientific research supporting a treatment in a group of people does not mean that it will always work in the same way (which is probably true of all research).

A number of things make research into osteopathy challenging. These include the two aspects of osteopathy mentioned above, and also the lack of major commercial interests to provide funding in expectation of financial returns. At the same time, there is an emerging body of research demonstrating the usefulness of osteopathic treatment.

Please note: there is room for debate about the classifications used for these studies. Please let John Smartt know if you believe that any of these classifications are incorrect.

These studies are from peer-reviewed journals

Number
of studies:
11

Clinically and statistically significant results

Number
of studies:
10

Systematic reviews

Number of studies: 1

Yuan SL, Matsutani LA, Marques AP 2015 **Effectiveness of different styles of massage therapy in fibromyalgia: A systematic review and meta-analysis**. *Manual Therapy* Apr;20(2):257-64 <http://www.ncbi.nlm.nih.gov/pubmed/25457196>

"The systematic review aimed to evaluate the effectiveness of massage in fibromyalgia. An electronic search was conducted at MEDLINE, SCiELO, EMBASE, ISI, PEDro, SPORTDiscus, CINAHL, Cochrane CENTRAL and LILACS (Jan 1990-May 2013). Ten randomized and non-randomized controlled trials investigating the effects of massage alone on symptoms and health-related quality of life of adult patients with fibromyalgia were included. Two reviewers independently screened records, examined full-text reports for compliance with the eligibility criteria, and extracted data. Meta-analysis (pooled from 145 participants) shows that myofascial release had large, positive effects on pain and medium effects on anxiety and depression at the end of treatment, in contrast with placebo; effects on pain and depression were maintained in the medium and short term, respectively. Narrative analysis suggests that: myofascial release also improves fatigue, stiffness and quality of life; connective tissue massage improves depression and quality of life; manual lymphatic drainage is superior to connective tissue massage regarding stiffness, depression and quality of life; Shiatsu improves pain, pressure pain threshold, fatigue, sleep and quality of life; and Swedish massage does not improve outcomes. There is moderate evidence that myofascial release is beneficial for fibromyalgia symptoms. Limited evidence supports the application of connective tissue massage and Shiatsu. Manual lymphatic drainage may be superior to connective tissue massage, and Swedish massage may have no effects. Overall, most styles of massage therapy consistently improved the quality of life of fibromyalgia patients."

Marske C, Bernard N, Palacios A, Wheeler C, Preiss B, Brown M, Bhattacharya S, Klapstein G. 2018 **Fibromyalgia with Gabapentin and Osteopathic Manipulative Medicine: A Pilot Study.** *J Altern Complement Med Apr;24(4):395-402* <https://www.ncbi.nlm.nih.gov/pubmed/29298077>

OBJECTIVES:

This pilot study compares the safety and efficacy of three treatments in reducing pain and improving fibromyalgia symptoms.

DESIGN:

This study was an 8-week prospective, single center feasibility study.

SETTING AND SUBJECTS:

Forty subjects were recruited from Solano, Sonoma, and Contra Costa counties of California in 2006-2009. Subjects were aged 18-65 and met the American College of Rheumatology (ACR) 1990 criteria for fibromyalgia.

INTERVENTIONS:

This study had three treatment arms: gabapentin only (900 mg/day), osteopathic manipulative medicine (OMM) only, and combined treatment of gabapentin plus OMM. OMM treatment was administered by advanced medical students for 30 min, once a week. The trial lasted for 8 weeks, which included 6 weeks of treatment plus initial and final visits.

OUTCOME MEASURES:

Key outcome measures included Wong-Baker FACES Pain Rating Scale (WBF), Clinical Global Impression of Health (CGI), Fibromyalgia Impact Questionnaire (FIQ), and number of tender points.

RESULTS:

Twenty-nine subjects completed the trial; 8 subjects received gabapentin only, 11 patients received OMM only, and 10 patients received gabapentin plus OMM. Subjects receiving OMM alone and subjects receiving the combined treatment of OMM and gabapentin displayed clinical improvements based on WBF ($p < 0.01$ and $p = 0.03$, respectively), while the change among the gabapentin-only group was nonsignificant. The OMM only group was the only group to experience a significant decline in CGI scale ($p < 0.01$). No statistically significant changes were observed with the FIQ or number of tender points. No differences across groups were statistically significant. This is to be expected in a feasibility study with a small sample size.

CONCLUSIONS:

This pilot study suggests that OMM treatment and gabapentin are safe and clinically efficacious treatment of pain and other constitutional and somatic symptoms associated with fibromyalgia. A larger trial using the new ACR 2010 Fibromyalgia criteria is needed to confirm these findings."

Albers J, Jäkel A, Wellmann K, von Hehn U, Schmidt T. 2018 **Effectiveness of 2 Osteopathic Treatment Approaches on Pain, Pressure-Pain Threshold, and Disease Severity in Patients with Fibromyalgia: A Randomized Controlled Trial.** *Complement Med Res 25(2):122-128* <https://www.karger.com/Article/Abstract/464343>

"Objective: To assess the effectiveness of osteopathic intervention (OI) and general osteopathic treatment (GOT) in individuals with fibromyalgia syndrome (FMS). Methods: The trial was designed as a randomized controlled trial with 2 osteopathic interventions and 1 untreated control group. The patients in the two osteopathic groups received 10 osteopathic treatments (OI or GOT) within a time period of 12 weeks. The control group did not receive any osteopathic treatment. The primary outcome was the average pain intensity (API) assessed by visual analog scale (VAS). Secondary outcomes were the pressure-pain threshold rated by means of a tender point score, and disease severity, assessed by the Fibromyalgia Impact Questionnaire (FIQ). Results: 50 patients were randomized. The primary outcome parameter API decreased from 7.2 to 4.7 in the OI group, from 6.3 to 4.3 in the GOT group, and increased slightly in the control group from 6.2 to 6.6. There were significant differences for the change in API between the OI group and the control group (VAS: 2.9, 95% confidence interval (CI) = 1.12-4.52), and between the GOT group and the control group (VAS: 2.4, 95% CI = 0.65-4.11), but no significant differences between the OI group and the GOT group. There were no significant differences for

the secondary outcome parameters between the groups. Conclusion: A series of osteopathic treatments might be beneficial for patients suffering from FMS."

Castro-Sánchez AM, Matarán-Peñarrocha GA, Sánchez-Labraca N, Quesada-Rubio JM, Granero-Molina J, Moreno-Lorenzo C 2011 **A randomized controlled trial investigating the effects of craniosacral therapy on pain and heart rate variability in fibromyalgia patients.** Clin Rehabil Jan;25(1):25-35 <http://www.ncbi.nlm.nih.gov/pubmed/20702514>

"After 20 weeks of treatment, the intervention group showed significant reduction in pain at 13 of the 18 tender points ($P < 0.05$). Significant differences in temporal standard deviation of RR segments, root mean square deviation of temporal standard deviation of RR segments and clinical global impression of improvement versus baseline values were observed in the intervention group but not in the placebo group. At two months and one year post therapy, the intervention group showed significant differences versus baseline in tender points at left occiput, left-side lower cervical, left epicondyle and left greater trochanter and significant differences in temporal standard deviation of RR segments, root mean square deviation of temporal standard deviation of RR segments and clinical global impression of improvement."

"Craniosacral therapy improved medium-term pain symptoms in patients with fibromyalgia."

Castro-Sanchez AM, Mataran-Pearrocha GA, Granero-Molina J, Aguilera-Manrique G, Quesada-Rubio JM, Moreno-Lorenzo C 2011 **Benefits of massage-myofascial release therapy on pain, anxiety, quality of sleep, depression, and quality of life in patients with fibromyalgia.** Evid - Based Complement Altern Med <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3018656/>

"Fibromyalgia is a chronic syndrome characterized by generalized pain, joint rigidity, intense fatigue, sleep alterations, headache, spastic colon, craniomandibular dysfunction, anxiety, and depression. The purpose of the present study was to determine whether massage-myofascial release therapy can improve pain, anxiety, quality of sleep, depression, and quality of life in patients with fibromyalgia. A randomized controlled clinical trial was performed. Seventy-four fibromyalgia patients were randomly assigned to experimental (massage-myofascial release therapy) and placebo (sham treatment with disconnected magnotherapy device) groups. The intervention period was 20 weeks. Pain, anxiety, quality of sleep, depression, and quality of life were determined at baseline, after the last treatment session, and at 1 month and 6 months. Immediately after treatment and at 1 month, anxiety levels, quality of sleep, pain, and quality of life were improved in the experimental group over the placebo group. However, at 6 months postintervention, there were only significant differences in the quality of sleep index. Myofascial release techniques improved pain and quality of life in patients with fibromyalgia."

Gamber RG, Shores JH, Russo DP, Jimenez C, Rubin BR 2002 **Osteopathic manipulative treatment in conjunction with medication relieves pain associated with fibromyalgia syndrome: results of a randomized clinical pilot project.** J Am Osteopath Assoc Jun;102(6):321-5 <http://www.ncbi.nlm.nih.gov/pubmed/12090649>

Osteopathic physicians caring for patients with fibromyalgia syndrome (FM) often use osteopathic manipulative treatment (OMT) in conjunction with other forms of standard medical care. Despite a growing body of evidence on the efficacy of manual therapy for the treatment of selected acute musculoskeletal conditions, the role of OMT in treating patients with chronic conditions such as FM remains largely unknown. Twenty-four female patients meeting American College of Rheumatology criteria for FM were randomly assigned to one of four treatment groups: (1) manipulation group, (2) manipulation and teaching group, (3) moist heat group, and (4) control group, which received no additional treatment other than current medication. Participants' pain perceptions were assessed by use of pain thresholds measured at each of 10 bilateral tender points using a 9-kg dolorimeter, the Chronic Pain Experience Inventory, and the Present Pain Intensity Rating Scale. Patients' affective response to treatment was assessed using the Self-Evaluation Questionnaire. Activities of daily living were assessed using the Stanford Arthritis Center Disability and Discomfort Scales: Health Assessment Questionnaire. Depression was assessed using the Center for Epidemiological Studies Depression Scale.

Significant findings between the four treatment groups on measures of pain threshold, perceived pain, attitude toward treatment, activities of daily living, and perceived functional ability were found. All of these findings favored use of OMT. This study found OMT combined with standard medical care was more efficacious in treating FM than standard care alone. These findings need to be replicated to determine if cost savings are incurred when treatments for FM incorporate nonpharmacologic approaches such as OMT.

Perrin RN, Edwards J, Hartley P 1998 **An evaluation of the effectiveness of osteopathic treatment on symptoms associated with Myalgic Encephalomyelitis. A preliminary report** Journal of Medical Engineering & Technology January/February

"The term Myalgic Encephalomyelitis (ME) was initially used in the 1950s. ME describes a syndrome where there is general muscle pain associated with evidence of a disturbed nervous system. ME, commonly referred to as Chronic Fatigue Syndrome (CFS), or post-viral fatigue syndrome is a condition in which mental and physical fatigue predominate. It is characterized by gross abnormal muscle fatigue which occurs after relatively mild activity. Other symptoms regularly complained of include sleep disturbance, headaches, cognitive dysfunction, feeling depressed, bouts of low grade fever (not exceeding 38.6C), increased sensitivity to light, back and neck pain, sore throat, irritable bowel and bladder. The symptoms of ME typically become apparent following a viral infection"

"There has been a long-standing debate over the naming of this disorder. Some have expressed the opinion that ME is a highly specific disease, whereas CFS is an umbrella term covering many conditions which exhibit fatigue."

"The treatment of each ME patient consisted of the following techniques:

(1) Soft tissue massage of the paravertebral muscles, the trapezii, levator scapulae, rhomboids and muscles of respiration.

(2) High and low velocity manipulation of the thoracic and upper lumbar spinal segments using supine and side-lying combined leverage and thrust techniques.

(3) Gentle articulation of thoracic and upper lumbar spine, plus the ribs. This was achieved by both long and short lever techniques.

(4) Functional techniques to the suboccipital region and the sacrum.

(5) Stimulation of the cranio-sacral rhythm by functional-cranial techniques.

(6) Efflourage to aid drainage in thoracic and cervical lymphatic vessels.

(7) Exercises to improve the mobility of the thoracic spine, and to improve the physical coordination."

"Our hypothesis, based on clinical evidence, is that following osteopathic treatment the symptoms are reduced due to stabilizing nffment sympathetic flow. It is believed by the authors that this equilibrium may be achieved due to relaxation of soft tissue and an improvement in visceral function plus increased blood and lymph circulation."

"This present study has revealed a demonstrable improvement in ME symptoms as a result of osteopathic treatment."

Ekici G, Bakar Y, Akbayrak T, Yuksel I. 2009 **Comparison of manual lymph drainage therapy and connective tissue massage in women with fibromyalgia: a randomized controlled trial.** Journal of Manipulative and Physiological Therapeutics Feb;32(2):127-33 <http://www.ncbi.nlm.nih.gov/pubmed/19243724>

"The score for FIQ-2 (feel good) (P = .036) was higher, the score for FIQ-9 (anxiety) (P = .019) was lower in the MLDT group than in the CTM group"

"For this particular group of patients, both MLDT [manual lymphatic drainage technique] and CTM [connective tissue massage] appear to yield improvements in terms of pain, health status, and HRQoL [health-related quality of life]."

"However, MLDT was found to be more effective than CTM according to some subitems of FIQ (morning tiredness and anxiety) and FIQ total score. Manual lymph drainage therapy might be preferred"

Case controlled studies

Number of studies: 1

Reis MS, Durigan JL, Arena R, Rossi BR, Mendes RG, Borghi-Silva A 2014 **Effects of posteroanterior thoracic mobilization on heart rate variability and pain in women with fibromyalgia**. Rehabil Res Pract 2014:898763 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4060169/>

"Fibromyalgia (FM) has been associated with cardiac autonomic abnormalities and pain. Heart rate variability (HRV) is reduced in FM with autonomic tone dominated by sympathetic activity. The purpose of this study was to evaluate the effects of one session of a posteroanterior glide technique on both autonomic modulation and pain in woman with FM. This was a controlled trial with immediate followup; twenty premenopausal women were allocated into 2 groups: (i) women diagnosed with FM (n = 10) and (ii) healthy women (n = 10). Both groups received one session of Maitland mobilization grade III posteroanterior central pressure glide, at 2 Hz for 60 s at each vertebral segment. Autonomic modulation was assessed by HRV and pain by a numeric pain scale before and after the intervention. For HRV analyses, heart rate and RR intervals were recorded for 10 minutes. FM subjects demonstrated reduced HRV compared to controls. Although the mobilization technique did not significantly reduce pain, it was able to improve HRV quantified by an increase in rMSSD and SD1 indices, reflecting an improved autonomic profile through increased vagal activity. In conclusion, women with FM presented with impaired cardiac autonomic modulation. One session of Maitland spine mobilization was able to acutely improve HRV."

Case reports

Number of studies: 1

Dardzinski JA, Ostrov BE, Hamann LS. 2000 **Myofascial pain unresponsive to standard treatment: successful use of a strain and counterstrain technique with physical therapy**. J Clin Rheumatol Aug;6(4):169-74 <http://www.ncbi.nlm.nih.gov/pubmed>

"Chronic pain disorders, including fibromyalgia and myofascial pain syndrome often do not respond adequately to standard therapy. The cases reviewed herein suggest the strain and counterstrain (SCS) technique, described in 1981 by Jones, may be helpful in reducing pain and improving function in patients with localized myofascial pain syndromes. This was a case study and retrospective review of 20 patients who had had chronic pain for an average of 2.7 years and were treated with SCS for pain relief. For all these patients, prior medical treatment had failed to provide pain relief or return of function. The procedure is a fairly common osteopathic and chiropractic technique, which to our knowledge has not received any systematic evaluation. A reduction in pain and an increase in function of 50%-100% occurred in 19 of 20 patients immediately after SCS therapy. Partial improvement was maintained for 6 months in 11 of 20 patients, and 4 were still pain free. We believe that SCS techniques should be considered and evaluated further as adjunctive therapy for patients previously unresponsive to standard treatment for myofascial pain syndrome."

Mixed results (significant for some outcomes, not others)

Number of studies: 1

Castro-Sánchez AM, Matarán-Peñarrocha GA, Arroyo-Morales M, Saavedra-Hernández M, Fernández-Sola C, Moreno-Lorenzo C. 2011 **Effects of myofascial release techniques on pain, physical function, and postural stability in patients with fibromyalgia: a randomized controlled trial** Clin Rehabil Sep;25(9):800-13 <http://www.ncbi.nlm.nih.gov/pubmed/21673013>

"After 20 weeks of myofascial therapy, the experimental group showed a significant improvement ($P < 0.05$) in painful tender points, McGill Pain Score (20.6 ± 6.3 , $P < 0.032$), physical function (56.10 ± 17.3 , $P < 0.029$), and clinical severity (5.08 ± 1.03 , $P < 0.039$). At six months post intervention, the experimental group had a significantly lower mean number of painful points, pain score (8.25 ± 1.13 , $P < 0.048$), physical function (58.60 ± 16.30 , $P < 0.049$) and clinical severity (5.28 ± 0.97 , $P < 0.043$). At one year post intervention, the only significant improvements were in painful points at second left rib and left gluteal muscle, affective dimension, number of days feeling good and clinical severity."

"The results suggest that myofascial release techniques can be a complementary therapy for pain symptoms, physical function and clinical severity but do not improve postural stability in patients with fibromyalgia syndrome."