

# Manual Osteopathic Management of Fibromyalgia

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**By:**

Joan Fay Ganaba-Bhargav, BSc (Pharm)(Phil), DOMP, DO(Spain)

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## **Manual Osteopathic Management of Fibromyalgia**

Fibromyalgia may be regarded as a long-term medical condition that causes pain across a body; pain can be felt in up to 18 symmetrical tender points in the body (Ngain et al., 2011).

Fibromyalgia often arises from abnormalities in the Central Nervous System as a result of an imbalance in the neuropeptides that regulate pain sensitivity (Hawkins, 2013). It has been observed that the underlying factor that leads to fibromyalgia is the sustained 2 to 3 fold elevation of cerebrospinal fluid substance P as well as other neuropeptides that help facilitate pain. (Hawkins, 2013).

### **Signs and Symptoms of Fibromyalgia**

Symptoms of Fibromyalgia may include (Clauw, 2014):

- Fatigue
- Sleep disturbance
- Temperature deregulation
- IBS
- Irritable bladder
- Depression/Anxiety
- Poor memory
- Headache
- Dizziness
- Mechanical low back pain
- Sciatic pain

Other conditions that may accompany Fibromyalgia include myofascial pain syndrome, dermatological disorders, myoclonic twitches, symptomatic glycemia as well as genitourinary

symptoms. Some patients have also been found to experience cognitive dysfunction in association with fibromyalgia. These cognitive dysfunctions are most expressed by impaired concentration, confusion, decreased performance speed and ability to get distracted easily (Buskila & Cohen, 2007; Leavitt et al., 2002)

But with regard to the American College of Rheumatology (ACR), the main symptoms of fibromyalgia have been diagnosed to be with respect to two main factors. The first factor is a generalized pain (usually on the left and right side, below and above the waist, and affecting at least one part of the spine and chest), while the Second is an increased pressure achiness at least 18 tender points (Chochowska et al., 2015). The American College of Rheumatology classifies fibromyalgia as a functional somatic syndrome (Hauser, 2009) while the European League against Rheumatism has argued that it is not a somatic syndrome but a neurobiological disorder; because both mental and physical symptoms usually accompany this illness. It is, therefore, essential to note that there are no specific diagnostic tests for fibromyalgia and treatment can also be considered difficult (Chochowska et al., 2015). Fibromyalgia has been observed to affect about 2-8% of the World's population and is said to affect women much more than men (Claw, 2014).

The cause of fibromyalgia is unknown, but research suggests that it arises as a result of prolonged psychological stress or illness causing undue inflammation in the stress pathway that regulate the person's mood and pain sensitivity (Clauw, 2014). According to a research, it has been observed that there is a relationship between physical and sexual abuse and fibromyalgia but this study is substantially limited (Hauser, 2011). It is also observed that Fibromyalgia is often associated with autoimmune disorders such as rheumatoid arthritis, systemic lupus erythematosus, and scleroderma (Buskila, 2006).

## **Treatment Of Fibromyalgia**

As stated earlier, Fibromyalgia is very difficult to treat although many medications exist that can be used to manage this condition. Usually, antidepressants, analgesics, and antiepileptic medications are prescribed for people suffering from fibromyalgia so as to control and alleviate the pain syndrome while at the same time ensuring improvement in the quality of life (especially concerning improved sleeping patterns) (Moore et al., 2015).

Osteopathy or Osteopathic Medicine refers to the aspect of medicine that primarily engages in treatment via manual manipulation, myofascial tissue, and readjustments of the body's muscles, nerves, bones, and illnesses (Synder, 2014). The Osteopathic approach involves techniques such as joint manipulation, craniofacial therapy, Soft tissue manipulation, trigger point release and spinal manipulation explicitly.

According to research, it has been observed that Osteopathic therapy spanning over 5 weeks may have beneficial effects on improving pain, anxiety, and depression (Li et al., 2014). Treatment above 5 weeks has also been shown to have significant improvements in pain, quality of sleep, anxiety and overall quality of life (Castro-Sanchez et al., 2011). Another research study has shown that Osteopathic treatment in association with gabapentin, a fibromyalgia medication is very effective of pain and other symptoms of Fibromyalgia (Marske et al., 2018).

Osteopathy or Osteopathic medicine basically views the body as interconnected, i.e., the organs, muscles, nerves, and bones all make up an entire musculoskeletal system. Therefore Osteopathy or Osteopathic approach to the management of Fibromyalgia applies 5 methods/models of osteopathic care to offer a patient-centered, functional and holistic management. These 5 models are instigated on the musculoskeletal system and the role in the body;

- Posture and motion, the fundamental aspects of reliability and motion are usually the most significantly affected in terms of Fibromyalgia. (Gambe et al., 2002)
- Respiratory and circulatory functions are directly impacted, but the intercostal cage

muscle tensions, as well as costal cage and Pain associated with such areas, may arise with regards to Fibromyalgia (Arnold, 2010)

- The Neurological system which includes the central, peripheral, autonomic, neuroendocrine, neuro-circulatory and reflex systems. It has been proven and understood that pains within the musculoskeletal system are as a result of changes in the processing of the Nervous system (Arnold, 2010; Napadove et al., 2010)
- Metabolic processes such as endocrine system, immune system, and biochemical nutrition processes all support the musculoskeletal system. Injuries to the musculoskeletal system, therefore, will affect the body's use of energy as well as energy transport through the body. Fibromyalgia patients often complain of fatigue and problems with their digestive system (Arnold, 2010; Cordeo et al., 2010)
- Relationships, lifestyle patterns, cultural beliefs, and practices all affect the Patients activity quotient. When the musculoskeletal system malfunctions as in the case of Fibromyalgia, patients are observed to suffer from psychological disorders such as depression, anxiety, etc.

The Musculoskeletal system can, therefore, be undeniably classified as the center that links all of these activities and this is the viewpoint from which the Osteopathic Five Models of Patient Care was incorporated (Knot et al., 2005).

The Five functional models therefore include:

- 1) Biomechanics
- 2) Respiration/Circulation
- 3) Metabolic Energy
- 4) Neurologic
- 5) Behavioral

Therefore Osteopathic Mechanical/ Osteopathic Manual Therapy will help eradicate these

dysfunctions and thus bodily functions. Generally, a combination of any of these Models modified by the patient diagnosis, abilities, beliefs, and other therapeutic regimens will be adequate for improving quality of life.

### **Biomechanical Model**

The Biomechanical Model incorporates the structural system of the body including joints, muscles, and connective tissues. Given the patient diagnosis, spinal problems arising from fibromyalgia may have altered posture and motion. Decreased compliance between tissues around affected joints may cause a decrease in performance of Lymphatic, Neurologic, and Microvascular systems. Such activities may also impede other body functions including quality of life of the patient. The biomechanical perspective enables through assessment of the patient's altered body structure with relation to the various body functions and therefore applies manipulations that will lead to better motion and posture (AACOM 2009).

### **Respiratory/Circulatory Model**

The Respiratory/Circulatory Model lays emphasis on the respiratory and circulatory system, in view of their relationship with musculoskeletal problems. In this model, Osteopathic approach seeks to improve the diaphragm and costal cage motion, thoracic myofascial features as well as cranial compliance. This approach aims at improving the patient's sleep quality as its most central goal. Increased quality of sleep will help patients enhance the circulation of oxygen to the body tissues, improve their metabolic processes as well as improve concentration.

### **Neurological Model**

The Neurological Model focuses on everything that encompasses the body's neurological system and by so doing relates it to the responses featured in the Respiratory-Circulatory structures and functions, metabolic activities as well as behavioral activities. This model's objective is to optimize the body's neural function through Osteopathic techniques centralized at improving peripheral soft tissues, regulatory functions, and therefore improving movement. This model will

further help improve the metabolic system and ultimately improve the activities carried out by the patient.

### **Metabolic/ Energy Model**

This Model emphasizes the metabolic energy and its proficiency in different organs.

Fibromyalgia patients have been observed to have low cortisol levels, CoQ10 deficiency, oxidative stress and extensive mitophagy which can thus add to the disparity of cell biogenetics, hence leading to decreased cell functionality (Riva et al., 2010). Osteopathic Approach will help enhance the efficiency of motion and posture, increase arterial supply and help correct venous and lymphatic drainage which eventually will stabilize neurologic functions (Knott et al., 2005). Some other patients may have hypothyroid conditions, and therefore hormones may be administered to replace and stabilize the body system (Arnold, 2010). This model also includes the use of prescription medication to improve the metabolism and systemic functions.

### **Behavioral Model**

The Behavioral Model focuses on the perspective of mental, emotional, lifestyle as well as the spiritual well-being of the individual. Explorations will be made into the reasons that led to the diagnosis as well as all lifestyle factors that may have contributed to the present condition. The osteopathic mechanical technique is applied to help improve and enhance the adaptive capability of the body towards other stressors. Behavioral therapy may involve the use of antidepressants and another strategy including the use of aerobic exercise, elimination of certain habits and proper nutrition. Psychological help and support will be given to patients to help restore health.

### **Integrating the Osteopathic Manual Approach**

Osteopathic Manual Approach incorporates the use of the biochemical technique through a drug-free, non-invasive form of manual medicine. Most often this may be regarded as the true form of

Osteopathy since it strictly relies on manual adjustments without any input from medications and others. The main objective of the Osteopathic Manual Therapy is to focus on the body via the strengthening of the musculoskeletal framework and other functional areas including the Nervous system, Circulatory system and lymphatic systems that may be affected. The osteopathic manual approach can be used in the treatment of an acute and chronic condition such as:

- Headache, Migraine, and Tension Headache
- Discomfort during Pregnancy
- TMJ Orofacial Pain
- Neck Pain
- Upper Back and Lower Back
- Sports-Related Injuries
- Muscle Aches and Pains
- Irritable Bowel Syndrome (IBS), Heartburn and Indigestion
- Infertility
- Fibromyalgia and Chronic Pain
- Arthritis
- Stress, Depression, and Chronic Fatigue Syndrome
- Sinusitis
- Tinnitus (Ringing of the Ears)
- Plantar Fasciitis
- Sacroiliac Joint/Hip problems



Many Techniques abound in Osteopathic Manual Therapy like Muscle Energy Technique, Mobilization Technique, Soft tissue therapy is like massage and also as a Manual Osteopathy we recommend also a Therapeutic exercise to help enhance the natural healing ability of the body. Some of the most popular techniques are discussed below.

### **Myofascial Release**

Myofascial is a dense tissue that encloses the muscle and bones. When the Myofascia is healthy, the body will be able to move without restrictions, and the Myofascial can be said to be quite soft at that time. When any inflammation or trauma becomes occurs in this tissue, it becomes more restrictive towards movement, and this causes tension all over the body.

Functional Myofascial Release Therapy involves a soft tissue therapy that will identify and breakdown all problematic areas around the body to improve muscle stiffness, weakness, pain, and numbness. This technique usually involves the use of the hand as well as other specialized instruments to restore this tissue to its proper state. This therapy is highly recommended for Athletics as they are exposed to repetitive strain injuries. This therapy will work perfectly well with people who have Fibromyalgia especially when pain occurs in areas such as the Lower Back, Neck Stiffness, Shoulder Pain, Headaches, Muscle Spasms, Joint Pain and Muscle and Fascia Tension (Ajimsha, 2011).

In a clinical trial involving 65 post-menopausal women, myofascial therapy was successfully used in the improvements of Venous Insufficiency. Venous Insufficiency usually results in swollen and achy legs. It was found to be more effective than Venous return therapy (Ramos-Gonzalez et al., 2012).

### **Craniosacral Massage Therapy**

Craniosacral Massage Therapy is another non-invasive technique that centers on the treatment of the body through the rhythmic pulse that travels around the entire body system; this is a holistic approach. The Craniosacral system is made up of the soft tissue and bones around the head

(cranium) as well as the extensions namely the spine and pelvis. In the Craniosacral Massage therapy, the membranes, and cerebrospinal fluids are targeted to improve circulation, by gently manipulating areas around the brain, spine, and pelvis including all soft tissues.

Craniosacral Massage Therapy as a part of the Osteopathic Manual Therapy is especially efficient for that treatment of Fibromyalgia. It is also particularly effective for the treatment of Post-traumatic Stress Disorder but the existence of cranial rhythm which is the basis of this the treatment procedure is still quite questioned by the scientific community (Hartmann & Norton, 2002).

### **Visceral Manipulation Therapy**

Visceral Manipulation involves the treatment of various parts of the body such as liver, spleen, stomach, bladder, and intestines. Visceral manipulation focuses on the improvement of space and mobility within these organs of the body. With the employ of the hands as well as other speculated instruments, the Osteopathic Manual Practitioner will manually move these organs and the fascia surrounding it to ensure that there is a complete restoration of its movement.

### **Lymphatic Drainage**

Lymphatic Drainage technique is used to perform and assist lymphatic flow. This technique will stimulate the lymphatic system to move excessive fluids from the lymphatic system of the body. This technique helps to detoxify the metabolic system of the body as Lymph fluids usually contain cells that remove harmful bacteria and other infectious substances. Therefore this improvement in flow helps drain the body of such infectious substances, and faster flow of lymph fluid is ensured.

### **Strain-Counter Strain Technique (Jones Counterstrain)**

Strain-Counter strain technique (Jones Counter Strain) involves finding tender points and then

passively manipulating associated joints until the tenderness decreases. Like muscle-energy work, strain-counter strain progressively increases the range of motion and, it is hoped, decreases muscle spasm and pain (Jones, 1988)

The Manual Osteopathic Approach to the patient with fibromyalgia addresses every bit of the problem through the central focus on the musculoskeletal system and its connection with other physiological functions such as posture and motion, respiration, neurological, circulatory and a metabolic process as well as behavior.

We as a Manual Osteopathy have the understanding how the bones and muscles are located in the relation to the body and work of each other. We palpate to find out any biomechanical imbalances in the ligaments, muscles or joints and then we use our techniques such as Mobilization, Muscle Energy, and Soft tissue and also deep tissue (because of some area that causing them pain sometimes is calcified muscles in which DTT is good also to combine) to improve their mobility and function.

Some Fibromyalgia patient they cannot tolerate deep tissue, start with soft tissue than MOB and MET. And also correct their posture and also the way they sit. One more thing is their supplements like B12 and Vitamin C etc. I do refer my patient to the naturopath, but before that, we have to be aware of their other condition also, we have to warn them before over the counter supplements to avoid contraindication whatever other medication they take, they have to consult first with their family physician.

This approach is regarded as a broad, practical, health-oriented technique that reinstates the adaptive capabilities of the Patient. By incorporating all the techniques the patient is very much benefited whatever makes them comfortable and feel more relaxed. Osteopathic Manual Therapy, therefore, results in an improved lifestyle of the patient.

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