# How Hydro and Massage Therapy Can Help Decrease Symptoms of Fibromyalgia

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**Abstract:**

Fibromyalgia is a systemic disorder, that affects an estimated two to six per cent of the adult population in Canada. Two-thirds of those diagnosed, state they “hurt all over”. Approximately four women are affected for every man.

The course of this syndrome is unpredictable; it may be chronic, go into remission or become cyclical with periods of flare-up alternating with periods of remission.

Fibromyalgia is not a disease of the joint or an inflammatory process or degenerative condition, it

will not cause permanent damage in the muscles, bones or joints.

People with Fibromyalgia may look well, but may in fact be experiencing a lot of pain. The onset of Fibromyalgia may be attributed to a triggering event such as a severe illness, a traumatic incident or a stressful, emotional experience.[i]

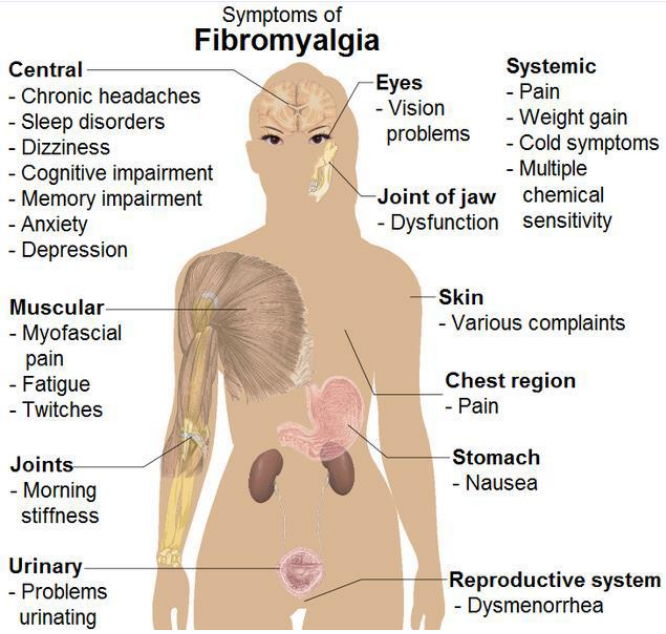
The patient was treated in the context of a relaxation massage, working progressively in a repetitive and predictable manner, with superficial-to-deep techniques in order to increase relaxation and decrease muscle tone.

Over the course of 3 months period, the patient experienced an immediate overall increase in relaxation with a reduction of self-reported pain that lasted longer after each treatment.

In addition to this, the patient reported that with the reduction of pain associated with the treatment resulted in an increased ability to perform activities related to their ADLs. It also improved the quality of sleep due to the decrease of muscles stiffness, waking up the day after without pain.

Massage therapy could not provide long lasting results in treating FMS, but it helped to reduce its symptoms and alleviate the patients' discomfort within the 24 hours, and improve the quality of life, offering temporary relief.

**Introduction**



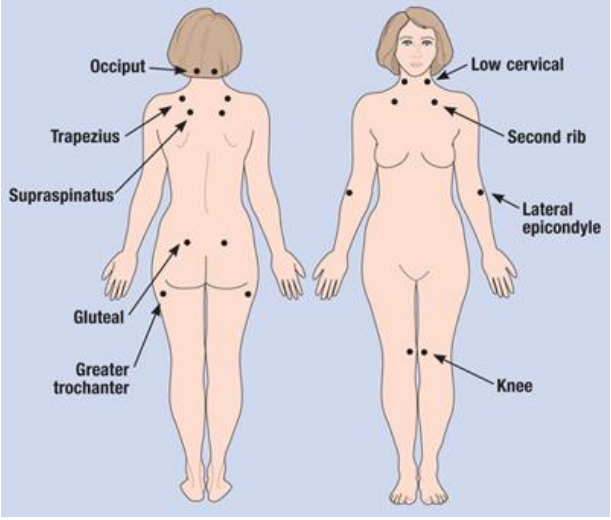

The etiology of the disease is currently unknown, but several hypotheses have been developed, given that Fibromyalgia syndrome is a multidisciplinary problem approached from different perspectives. Histological and histochemical studies have demonstrated that it is not an inflammatory process [3]. The most widely accepted hypothesis is that chronic pain in FMS is of muscle origin, although plasma muscle enzyme levels, electromyographic studies, and muscle biopsies have proven completely normal [4–6]. The methodological approach to muscle studies has been varied, from muscle biopsies for structural study to electromyograms and muscle metabolism studies using spectroscopic nuclear magnetic resonance (NMR). Results have shown characteristics associated with pain perception changes, sleep alterations, decrease in brain serotonin levels, and abnormalities in microcirculation and muscle energy metabolism [7]. Taken together, these alterations contribute to neuronal hyperreactivity and myofascial distress, indicating that the origin of the pain may be related to myofascial trigger points or musculoskeletal changes.

Modifications of adrenocorticotropic hormone levels and a decrease in plasma serotonin have been reported in some of these patients, indicating central nervous system (CNS) involvement and neurohormonal axis changes. In this regard, there is evidence of interaction between low sleep quality and low plasma levels of serotonin, a neurotransmitter that functions in the neuromodulation of sleep, pain, and mood [8–10].

The most frequent peripheral pain generators in FMS include: myofascial trigger points, degenerative joint disease, inflammatory joint disease, bursitis, tendinitis, development alterations, hypermobility syndrome, neuropathic pain, injuries, traumas, repeated muscle pulls, visceral pain, disk herniation, spinal stenosis, and recurrent cephalalgia [14, 15].

There is no evidence of muscle disease in FMS but there are reports of dysfunction intramuscular connective tissue or fascia; fascial inflammation triggers a peripheral nociceptive stimulus that leads to central sensitization in FMS [16–18]. Immunohistochemical studies of fascial tissue biopsies reveal an increase in collagen levels and inflammation mediators in connective tissue surrounding muscle cells [16]. In line with these findings, an exploratory and tentative study suggested the presence of latent and active myofascial trigger points in patients with FMS and myofascial pain syndrome [17–20].[ii]

There are 18 symmetrical tender points, 11 of which need to be present in order for the pathology to be diagnosed. Fibromyalgia involves mainly skeletal muscles and indirectly affects other bodily structures, such as joints, nerves, fascial layers of the areas involved. There is no obvious origin of the pain.




Fibromyalgia affect points above and below the waist including the low back, shoulders, including the trapezium muscle, neck back of head, upper chest, arms, hands, thighs and legs.

Other area such as the temporomandibular region and anterior chest may also be affected.

Massage-myofascial release therapy can decrease pain, anxiety, depression, and improve quality of sleep and of life in patients with Fibromyalgia.

Several studies have proven that massage therapy can help achieve the above-mentioned goals, improving the quality of life of an increasing percentage of population that get diagnosed with this condition. This systemic disorder affects about 2-6% of the adult population.[iii]

The current treatments available are General Swedish Massage, Myofascial release therapy, deep oscillation and hydrotherapy.

Massage-myofascial is used to release fascia and muscle throughout the body. The “tight-loose” concept is an integral part of myofascial release. Tightness creates shortness, compression and therefore asymmetry in the tissue. Looseness in another area permits this asymmetry. The tightness creates a tethering effect, which further restricts movement and allow for more tissue compression to occur.

Myofascia is also addressed. Tissue relaxation is achieved through the reflexive effects of the automatic system and the application of appropriate techniques that stress the dysfunctional tissues.

The treatment reduced the sensitivity to pain at sensitive points, mainly at the lower cervicals, gluteal muscles, and right greater trochanter.

Safety and effectiveness of vibration massage by deep oscillation is to assess the safety of treatment with vibration massage using a deep oscillation device and the effects on symptom severity and quality of life in patients with primary Fibromyalgia syndrome (FMS).

Vibrations can be used to create a different stimulation of the body because of their unusual feel, this is useful in painful areas and those which are hyposensitive. Vibration can be used to decrease muscle tone if they are applied to a muscle tendon for up to 30 seconds.

The results suggest that deep oscillation massage is safe and well tolerable in patients with FMS. It even might be an efficacious single modality treatment, which should be confirmed in a controlled study.

Treatment Rationale: Massage Therapy applied in the context of a relaxation massage will help reduce the SNS firing and skeletal muscles hypertonicity, allowing the patient to improve their quality of life by increasing ROM, reducing the sensitivity of their tender points, as well as perceived pain and subsequent anxiety and depression.

Hypothesis: Specific Hydro and Massage Therapy will help manage Fibromyalgia symptoms.

**Material & Methodology**

Study was carried out in the CCMH student clinic under the supervision of an RMT.

Each session included 30 minutes of initial intake with assessments such as postural, visual assessment of ROM of iliofemoral joint, palpation such as Tone, Temperature, Texture, Tenderness, gait and special orthopedist tests; following, one hour of hydrotherapy and one hour of massage and lastly 5 minutes for a reassessment and home care exercises.

The patient presented with hyperlordosis in the lumbar spine, anterior head carriage, both shoulders protracted and the right shoulder lower than the left one.

Furthermore, during the visual assessment of ROM of iliofemoral joint, it was noticeable a restriction with pain in Active ROM and Resisted ROM in flexion, abduction, internal and external rotation on bilateral iliofemoral joint.

Palpation indicated hypertonicity on bilateral Gluteal Maximus, Medium, Minimum, Tensor Fascia Lata, Iliotibial Band as well as Upper Fiber Trapezium, Levator Scapulae and Scalenes.

The patient was treated in the context of a relaxation massage, working progressively with repetitive and predictable techniques into deeper muscular layers, so that the hypertonicity of the structures involved could be addressed and decreased.

The procedure was carried out as follows:

*Hydrotherapy:*

- Steam Cabinet; 15 minutes, to increase relaxation and circulation, as well as to help the patient get acquainted with the following full body heat immersion
- Hot Tub; 20 minutes, to increase relaxation and circulation, and decrease muscle stiffness
- Paraffin Wax to the right iliofemoral joint; 15-20 minutes, to locally decrease muscle stiffness with deep moist heat able to reach deeper structures

*Patient Sidelying Position:*

- Full body stroking
- Static contact on the cervical and lumbar spine
- Rocking from the pelvis to the feet
- Effleurage on bilateral Gluteal Maximus, Medium, Minimum, Tensor Fascia Lata, Iliotibial Band

- Petrissage such as wringing, c-scooping, compression, knuckle and fingertips kneading
- Gentle forearm stripping on bilateral Gluteal Maximus, Medium, Minimum, Tensor Fascia Lata, Iliotibial Band
- Passive ROM at bilateral iliofemoral joint in all ranges available
- Use of myofascial trigger point (MTP) release with ischemic compression, fingertips stripping, followed by passive stretching of the muscle involved

*Patient Supine Position:*

- Effleurage on bilateral Upper Fiber Trapezium, Levator Scapulae as well as Scalenes as a group
- Petrissage such as wringing, c-scooping, compression, knuckle and fingertips kneading
- Gentle forearm stripping on bilateral Upper Fiber Trapezium, Levator Scapulae as well as Scalenes as a group
- Passive ROM of the cervical spine in all ranges available
- Use of myofascial trigger point (MTP) release with ischemic compression, fingertips stripping, followed by passive stretching of the muscle involved

Treatment focused on manual trigger point therapy, including both ischemic compression and post-isometric relaxation, as well as functional postural correction.

The treatments were modified in the sequence and specificity of techniques applied, from time to time, according to the patient's response to it.

Implementation of pillowing, for comfort and support, on the cervical spine as well as iliofemoral joint.

The outcome measures were subjective, based on the patient's description of the amount of relaxation. The objective outcomes were measured by visual assessment of the ROM.

The treatments were not arranged with regularity due to the patient's schedule as well as the pain management to come to the clinic leading to rescheduling the session not as regularly as initially planned.

In addition to this, the patient dropped the treatments after five sessions because they left the country, altering the results of the final outcome.

**Results**

Over the course of the five treatments performed over a 3 months period, the patient experienced an immediate overall increase in relaxation combined with a reduction of pain with an improvement after every single treatment.

The results of those treatments indicated an increase in ability to perform the activities related to the patient's ADLs, such walking, running, and being able to work comfortable without any pain. Moreover, upon visual reassessment at the end of each session, the treatments resulted in improved ROM of iliofemoral joint and cervical spine.

The palpatory reassessment performed at the end of treatments also showed how the techniques used helped to decrease pain in the muscles such as: bilateral Gluteal Maximus, Medium, Minimum, Tensor Fascia Lata, Iliotibial Band as well as on bilateral Upper Fiber Trapezium, Levator Scapulae and Scalenes as a group.

After the 5 treatments the results were very impressive, considering that when the patient came to the clinic the first time, they were in pain all over the body especially on bilateral iliofemoral joint, cervical spine and bilateral later epicondyle of the humerus.

The study focused more on the right iliofemoral joint where the patient was more in pain, and also on the compensatory side (left iliofemoral joint), as well as the cervical spine in order to address the patient's tension.

At the end of each treatment the result was impressive because the patient improved the ROM without pain in all the ranges available in the iliofemoral joint.

The results achieved include: increased relaxation; improved ROM of the iliofemoral joint; decreased hypertonicity of muscles such as: bilateral Gluteal Maximus, Medium, Minimum, Tensor Fascia Lata, Iliotibial Band as well as on bilateral Upper Fiber Trapezium, Levator Scapulae and Scalenes as a group.

A decrease in antalgic gait could be noted, due to less restrictions in the muscles around the iliofemoral joints.

**Discussion**

The outcome of the study was overall positive.

The patient had been diagnosed with Fibromyalgia 12 years ago; the patient's mother suffers of Fibromyalgia as well, and she has the same discomfort on her right iliofemoral joint as the patient.

Despite the study was shorter than initially expected, the patient reported a reduction of the pain experienced thanks to the treatment, as well as an increased ability to perform activities related to their ADLs, such as walking, working out, and less discomfort while the patient is in their work environment.

The use of hydrotherapy helped overall to increase relaxation (decrease SNS), and also through the moist heat helped to decrease the muscles stiffness and facilitate the therapist during the treatment.

Hydrotherapy was really useful in order to achieve the results that the therapist had initially planned.

In addition to this, the patient noticed an improvement of quality of sleep without any pain all over the body after each treatment was performed. The effects of quality of sleep and reduction of pain were although temporary, and were felt mostly in the first 24 hours after each treatment.

Fibromyalgia is a chronic syndrome characterized by generalized pain, joint rigidity, and intense muscular fatigue.

Massage therapy could help to reduce these symptoms and ease the patients' discomfort, as well as improve their quality of life, but can not eliminate the causes of this syndrome, offering only temporary relief.

Potentially, if the patient received massage therapy regularly, it might help decrease the intensity of the symptoms for a longer period of time, but unfortunately it wasn't possible to determine with this study due to the limitations that occurred.

**References**

*Benefits of Massage-Myofascial Release Therapy on Pain, Anxiety, Quality of Sleep, Depression, and Quality of Life in Patients with Fibromyalgia* Adelaida Marıa Castro-S ´ anchez, ´ 1 Guillermo A. Mataran-Pe ´ narrocha, ˜ 2 Jose Granero-Molina, ´ 1 Gabriel Aguilera-Manrique,1 Jose Manuel Quesada-Rubio, ´ 3 and Carmen Moreno-Lorenzo4

*Safety and Effectiveness of Vibration Massage by Deep Oscillations: A Prospective Observational Study* Karin Kraft,1 Susanne Kanter,2 and Hubert Janik1

*Massage Therapy for Fibromyalgia: A Systematic Review and Meta-Analysis of Randomized Controlled Trials* Yan-hui Li, Feng-yun Wang*, Chun-qing Feng, Xia-feng Yang, Yi-hua Sun

*Clinical Massage Therapy* – Fiona Rattray, Linda Ludwig – Talus Incorporated, Jan 2005 11th printing – pages 981-990

[i] Clinical Massage Therapy – Fiona Rattray, Linda Ludwig – Talus Incorporated, Jan 2005 11th printing – pages 981-990

[ii] Benefits of Massage-Myofascial Release Therapy on Pain, Anxiety, Quality of Sleep, Depression, and Quality of Life in Patients with Fibromyalgia Adelaida Marıa Castro-S ´ anchez, ´ 1 Guillermo A. Mataran-Pe ´ narrocha, ˜ 2 Jose Granero-Molina, ´ 1 Gabriel Aguilera-Manrique,1 Jose Manuel Quesada-Rubio, ´ 3 and Carmen Moreno-Lorenzo4

[iii] Benefits of Massage-Myofascial Release Therapy on Pain, Anxiety, Quality of Sleep, Depression, and Quality of Life in Patients with Fibromyalgia Adelaida Marıa Castro-S ´ anchez, ´ 1 Guillermo A. Mataran-Pe ´ narrocha, ˜ 2 Jose Granero-Molina, ´ 1 Gabriel Aguilera-Manrique,1 Jose Manuel Quesada-Rubio, ´ 3 and Carmen Moreno-Lorenzo4