Fibromyalgia
A new paradigm for its origins and treatment

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Ever since the term fibromyalgia formally entered the medical lexicon in 1990, the exact nature, etiology and
cure for this syndrome have remained elusive. In the year 2000 nearly six million people were said to be
suffering from fibromyalgia,1 and since 1997 it is the second most commonly diagnosed musculoskeletal
disorder.2

Blood tests and muscle biopsies have yielded no conclusive evidence as to its origins, and treatments have
had limited efficacy. These facts have led to two generally accepted conclusions: first, that fibromyalgia is
the result of numerous interacting factors, and second, that successfully treating it requires looking beyond
the traditional medical paradigm in which medical problems are the results of organic or biochemical
causes.3

What Causes Fibromyalgia?

Patients are diagnosed with fibromyalgia when they feel pain in response to pressure on at least 11 of 18
designated "trigger points" on the body where muscle tendon and ligaments attach to bone. In our view, the
pain syndrome that characterizes fibromyalgia is the long-term result of three interacting forces: a) skeletal
malalignment; b) excessive contraction of the musculature resulting from skeletal imbalances and/or from
trauma or chronic stress, and c) connective tissue or fascial adhesions, which both result from and
contribute to (a) and (b). The existence of any one of these forces tends to bring the others into play, and the
severity of resulting dysfunction tends to reflect the autonomic nervous system's relative ability or inability to
respond adaptively to stress.

As a simple example of how these three forces might interact, when a person has an anteriorly tilted pelvis,
the spine loses its structural basis of support, and the muscles assume functions intended for the spine. The
muscles of the low back contract to resist the forward-falling impetus of the pelvis. The excess tension in the
lumbar region generates compensatory contractions in neck, jaw and shoulder muscles, as well as
restrictions in the fascia that envelop muscles and ligaments. These combined muscular and fascial
restrictions in turn encourage compensatory contractions in the diaphragm, and so forth.

As this process persists, intensified muscle contractions and fascial adhesions pull the pelvis further
anterior, which encourages increased muscle contraction, leading to greater dysfunction and discomfort.
Since the source of the problem involves the entire neuromuscular system, pain will be widespread.

In the case just described, where skeletal malalignment is a possible trigger for the development of
fibromyalgia, a purely physiological stress induces heightened neuromuscular tonus and fascial adhesions.

The excessive neuromuscular tonus characteristic of fibromyalgia, however, can originate independently of
skeletal imbalances, from an individual's tendency toward chronic arousal, or a habitual "fight or flight"
response. Neuromuscular tension is typical of sympathetic nervous system activation. Under the pressure of
daily anxiety, fear or anger and particularly where these emotions find no socially acceptable release, chronic
neuromuscular tension becomes an individual's everyday state rather than an occasional occurrence. So too
can other symptoms of fibromyalgia that research indicates are typical of long-term sympathetic nervous
system arousal. These symptoms include coldness of hands and feet, irritable bowel syndrome, tissue
inflammation, sleep disorders, hormonal imbalances and chronic fatigue.4

Just as a chronic fight or flight response tends to create habitual and unconscious muscular tension, so too
does habitual neuromuscular tension contribute to the emotional stress that underlies the fight or flight
response. The reciprocal rather than uni-directional link between neuromuscular tension and emotional
reactivity (e.g., fear, anxiety, anger) is key to the rehabilitation of patients with fibromyalgia. It is also a core principle underlying psychophysical approaches to healing as diverse as meditation, Feldenkrais Method®, the Alexander Technique® and biofeedback.5-10

All of these techniques teach a person how to overcome fight or flight responses through conscious bodily relaxation and muscular release. They recognize that mastery over neuromuscular responses is a vehicle for conscious control over the emotions.

The intimate link between neuromuscular stress and negative emotions helps elucidate a further potential contributor to fibromyalgia: physical and emotional trauma. John Upledger, DO, OMM, recognized leader in research, education and development in the field of craniosacral therapy, and John Barnes, PT, founder of Myofascial Release® therapy, have written extensively about the connection between physical and emotional trauma, and about the habitual tissue contractions that result from trauma.11-12

The relationship between trauma and tissue contraction is also an integral part of the work of Alexander Lowen, MD, founder of Bioenergetics, a body-centered form of psychotherapy that helps clients address and resolve emotional conflicts through neuromuscular release.13 Physical therapists may observe the relationship between trauma and tissue contraction with patients who relive emotionally charged memories while undergoing manual therapy techniques to decrease tissue restrictions.

While skeletal imbalance and neuromuscular contractions are both contributors to fibromyalgia, the functioning of fascia as the third contributor is virtually inseparable from the functioning of the muscles. Fascia is a tough connective tissue that spreads throughout the body in a three-dimensional web. Every muscle of the body is surrounded by a smooth fascial sheath; every muscular fascicle is surrounded by fascia, every fibril is surrounded by fascia. Fascia and muscle are so interdependent that it is impossible to separate their functioning.14

Physical or emotional trauma, structural imbalance or soft tissue inflammation, which can result from overproduction of the corticoid stress hormones, can create inappropriate fascial strain, and this can in turn exert abnormal pressure on muscles, skeleton and organs. Fascial strains can slowly tighten, reducing flexibility and spontaneity of movement. Fascial restrictions in one part of the body tend to generate restrictions elsewhere, gradually pulling the body out of its three-dimensional alignment with the vertical gravitation axis. This results in mechanically inefficient movement and posture, stiffness and eventually pain and spasm.

How to Treat Fibromyalgia

The search for a single, preferably biochemical cause of fibromyalgia has been elusive because fibromyalgia is a systemic dysfunction affecting the entire soft tissue structure, and this structure is by its very nature intimately connected to a patient's mental and emotional state. Treatment programs should address both the physical and the mind-body forces contributing to fibromyalgia, and the way these two forces interact at the level of soft tissue responses.

Treatment should include manual therapies that release fascial and muscular tensions and realign structural imbalance. It should also focus on patient reeducation to repattern generally unconscious fight or flight responses, to release traumatic physiological and emotional memories, and to engage an empowered stance toward life. The complex process of reeducation and patient healing can best be performed through a combination of five interrelated approaches:

1. Skeletal Alignment: Skeletal alignment can be promoted through a combination of both physical therapy and postural training. Postural training is critical, since a patient's poor postural and movement habits can undo the benefits of even the most competent physical therapist's manual adjustments. Among the most effective approaches for teaching patients postural integration are instruction in the Alexander Technique and in yoga.

2. Manual Therapies to Soften Fascial Adhesions and Muscular Contractions: Because fibromyalgia involves muscular stiffening and fascial adhesions, softening the tissues through gentle manual therapies encourages rehabilitation. The subtle touch techniques of craniosacral therapy and myofascial release invite a softening of contracted tissues and enhanced elasticity. The techniques utilized by both forms of therapy specifically promote a healthy rebalancing of the autonomic nervous system. In addition, the gentle touch of
craniosacral and myofascial techniques can assist patients who have suffered long-term stress to move toward a physiological experience of relaxation and safety that can shift their emotionally stress-based patterns.

3. Teaching Patients to Soften Tissues: Since the physiological stress characteristic of fibromyalgia reflects unconscious habits of body use, manual therapies aimed at softening the patient's tissues should be accompanied by patient reeducation. Patients can learn how to consciously release physical tension and soften their own tissues through instruction in movement therapies such as the Feldenkrais Method's Awareness Through Movement® and the Alexander Technique. These approaches heighten the patient's awareness of bodily sensation, thereby enhancing recognition of neuromuscular contractions. They guide clients through the use of sensory exploration, suggestion and imagery, helping them to discover how to move with less effort and more ease. T’ai chi and biofeedback also achieve some of these goals, as does meditation that focuses on deepening and softening the breath. These therapies can teach patients how to use body awareness on a moment by moment basis to conquer tensions that can enter into the simplest activities.

4. Patient Education on the Sympathetic Nervous System: Instruction in how an overactive sympathetic nervous system contributes directly to pain can further help motivate patients to make a priority of a more physiologically relaxed stance toward life. Although patients trained in movement therapies and meditation discover that by consciously relaxing muscle tension they can reduce stress, it can nonetheless be difficult for them to make a commitment to daily physical release. This commitment can be deepened by demonstrating to patients the direct relationship that exists between unabated sympathetic nervous system activity and hormonal imbalances, depressed immune system functioning, sleep disturbances, chronic fatigue, and other symptoms. Habitual sympathetic nervous system overactivity can reflect feelings of disempowerment. People move toward fight or flight when they feel overwhelmed, and if their system is habitually aroused, they feel continually overwhelmed. Identifying areas of disempowerment and assisting clients in the process of personal change is another key ingredient in rehabilitation.

5. Personal Empowerment: For many people, the high-speed pressures of modern living, combined with cultural restrictions on how they can "vent" their reactions to life's events, combine to create a situation in which they feel they have no control. Pervasive social conditions may themselves be a contributor to fibromyalgia. It is also worth noting that 90 percent of patients with fibromyalgia are women, who may find greater difficulty than men in actively creating their world. When such conflicts go unrecognized or unaddressed, feelings of disempowerment can translate into physical symptoms. If a therapist treats the physical symptoms as a purely physical problem, treatment will have limited results.

Personal and physical empowerment are intimately related. A gradual strengthening exercise program builds not only strong muscles but also a sense of independence and confidence. For this reason, as well as for its obvious physical benefits, a monitored aerobic program and a carefully guided exercise program should be part of an effective treatment program for fibromyalgia.

The five approaches described above are currently being integrated into The Fibromyalgia Empowerment Program offered at Physical Therapy at Briarcliff and Jefferson Valley, P.C., in Westchester, NY.

References are available online at www.advanceforPT.com. Select "References" on the left menu bar.

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