



# SENSORY OVERLOAD

EFFECTIVE TOUCH FOR FIBROMYALGIA

Massage therapy is commonly sought out by fibromyalgia patients to help manage their widespread chronic pain; in fact, nearly 75 percent have given it a try.<sup>1</sup> But performing massage on this group can be challenging, since some sufferers are so sensitive to touch they can barely stand the feeling of clothes on their skin, let alone manual therapy.

Because the wrong type of massage can cause pain flares and be disastrous for fibromyalgia sufferers, it is vital for any massage therapist to know how to choose the right techniques to use with their fibromyalgia clients.

As a physician and massage therapist team that focuses exclusively on treating fibromyalgia, we will share the most effective techniques we have found to use for this condition.

By Ginevra Liptan, MD, and Jamie Liptan





Author Ginevra Liptan, MD, has fibromyalgia that was diagnosed in medical school and that forced a medical leave of absence. It was only when she found the appropriate manual therapy that she was able to get enough pain relief and improvement to get back to completing her medical training. She says John Barnes's Myofascial Release Approach

was the most effective pain-relieving treatment she found. The benefit she received from this fascia-focused manual therapy led her to study the role of fascia in causing fibromyalgia pain, with more and more studies now confirming the key role that tight and inflamed fascia plays as a pain generator in fibromyalgia.<sup>2</sup>

#### IS FASCIA CONNECTED TO FIBROMYALGIA PAIN?

Fascia, often referred to as connective tissue, is a continuous network of weblike tissue that surrounds, supports, and gives form to the other tissues of the body. The densest fascia envelops the muscles grossly and surrounds every bundle of muscle fibers and each individual muscle cell. This connective tissue is richly innervated, highly vascularized, and very sensitive to pain. The fascia surrounding muscles actually contain more pain-sensing nerves than the muscle cells themselves, akin to the pain sensitivity of our skin.

Fascia is not just an inert covering wrapped around the muscle. It has a contractile ability, especially in response to activation of the sympathetic (fight-or-flight) nervous system. There are direct nerve linkages from the sympathetic nervous system to the fascia, and the fibroblasts (the primary cells of the fascia) have specific receptors for the chemicals secreted by this nervous system. Researchers believe rapid contraction of the fascia in response to sympathetic nervous system

activation is what creates the enormous extra strength that humans can produce in emergencies; for example, when a woman lifts a 2,000-pound car to rescue her child, or fights off a much stronger male attacker.<sup>3</sup>

What happens if the sympathetic nervous system goes haywire and is continually activating fascial contraction and tension? That scenario is what results in the widespread muscle pain and tenderness seen in fibromyalgia.

#### PATHOPHYSIOLOGY OF FIBROMYALGIA

In general, medicine has been slow to grasp the contribution of fascia to chronic musculoskeletal pain, although this is slowly changing. To effectively address this complex condition, the massage therapist must first understand the pathophysiology of the disorder.

Fibromyalgia is characterized by widespread muscle pain, tenderness to touch, and fatigue; it affects an estimated 10 million people in the United States. The majority of patients are middle-aged women, although it is now being recognized

more frequently in males, especially combat veterans. The current medical explanation for the pathophysiology of fibromyalgia is incomplete. Anyone who has seen a television advertisement for a fibromyalgia drug has heard that the condition is caused by “overactivity of pain-sensing nerves.” Studies on fibromyalgia do show that the brain and spinal cord in these patients increase the volume of pain signals, resulting in pain hypersensitivity.<sup>4</sup>

In fact, pain-processing problems are only the tip of the iceberg. Pain hypersensitivity is the result of a chain reaction started by a malfunction of the part of the brain that regulates the autonomic nervous system. In fibromyalgia, the hypothalamus continually activates the fight-or-flight nervous system, like a malfunctioning smoke alarm that sounds constantly, even when there is no smoke.

Several studies, using different methods of assessing the autonomic nervous system, describe a relentless hyperactivity of the sympathetic nervous system. The findings led one group to conclude that “fibromyalgia may represent a primary disorder of the stress system.”<sup>5</sup>

As part of the fight-or-flight activation by the sympathetic nervous system, the brain sends signals to tighten the fascia and muscles, thereby increasing their strength to fight or flee.<sup>6</sup> In fibromyalgia, there is no relief from this tension, to the point that a pressure-gauge needle inserted into fibromyalgia muscles shows increased pressure, compared to healthy controls.<sup>7</sup>

When the muscles and their surrounding fascia are chronically tightened, as in fibromyalgia, they become inflamed and painful. Two muscle biopsy studies revealed excessive and disorganized collagen and increased inflammatory chemicals in the fascia of fibromyalgia

subjects.<sup>8</sup> These are similar to changes seen in connective tissue in other painful conditions, such as plantar fasciitis and tendinitis. The fascia is rich with pain-sensing nerves, and the constant pain signals generated from the tight and inflamed fascia ultimately overwhelm the spinal cord and brain and induce a state of hyper-reactivity to pain. To understand it, imagine the tightness and pain of plantar fasciitis permeating throughout your whole body!

Thus, manual therapies that reduce that tightness and painful inflammation are critical to recovery in fibromyalgia. But how do you apply manual therapy to a nervous system super-sensitized to touch—one that has all its danger and alarm signals activated—and to tight and inflamed muscles and fascia? The key here is to focus on treatments that tone down the signals of the sympathetic nervous system and reduce fascial tightness.

Fascia is sometimes described as a dense gel (the ground substance) in which fibers of collagen, elastin, fibroblasts, and other cells are suspended, giving it colloidal properties. For manual therapies to be effective in fibromyalgia, they must take into account the colloidal properties of fascia. “This makes a gentle touch a fundamental requirement when attempting to produce a change in, or release of, restricted fascial structures which are all colloidal in their behavior.”<sup>9</sup> Therefore, only slow and sustained pressure will effect changes in the fascial tissue.

#### RESEARCH ON MASSAGE FOR FIBROMYALGIA

There is an expanding body of research on various manual therapy techniques for fibromyalgia, much of which is driven by connective tissue and myofascial techniques. A recent systematic review led by S. L. Yuan assessed 10 studies on massage therapy in fibromyalgia, including Swedish massage, connective tissue massage, manual lymphatic drainage, shiatsu, and myofascial release.<sup>10</sup> The studies found that all styles of





## Remember that your fibromyalgia client has amplified pain signaling and their body cannot recover from deep muscle manipulation in the same way a healthy client might.

massage, except for Swedish massage, had a positive effect on fibromyalgia symptoms, but that myofascial release provided the most pain relief, followed by connective tissue massage. The most exciting aspect of the myofascial release studies was that in addition to short-term pain benefits, it provided durable pain reduction that persisted at one month and to a lesser extent at six months postintervention.<sup>11</sup>

Myofascial release utilizes a combination of sustained manual traction and prolonged gentle stretching maneuvers to break up adhesions in the fascia. Essentially, the therapist slowly and gently tracts, then holds, the fascia at the barrier of resistance for 3–5 minutes to release “sticky” areas of excess collagen cross-links, called adhesions or restrictions. Connective tissue massage aims to produce an autonomic response by applying specialized strokes in areas of superficial fascia and at fascial attachments to bone. In the Yuan literature review, authors concluded that “although the focus of connective tissue massage differs from that of myofascial release, improvement in some outcomes might be explained by manipulation of the fascia in both styles.”<sup>12</sup>

Clinically, this is what we see on a daily basis with clients as well, especially when myofascial release is combined with self-care techniques between sessions. We’ve found that when clients are able to maintain the momentum of fascial realignment by replicating the gentle release of fascial restriction at home, their progress can be profound.

And while releasing a fascial restriction in the thoracolumbar fascia of the lower back, for example, certainly provides pain relief in that area, connected tensions in the shoulder, neck, legs, or any other part of the body will reveal themselves. In this way, myofascial release can open up holding patterns from the chronically overactivated nervous system for the therapist to read and address.

Moreover, we find a remarkable phenomenon occurs when the body begins to let go of these fascial holding patterns, some of which are decades-old: some of the original ability of the autonomic nervous system to fluidly balance sympathetic and parasympathetic returns, which can greatly lower the overactivated pain signal processing in fibromyalgia. The key to remember here is that the activation of the sympathetic nervous system makes pain signals louder, and activation of the parasympathetic response makes pain signals quieter.

### CHOOSING THE RIGHT TECHNIQUE

As a bodyworker, consider fibromyalgia as inflamed and tight fascia along with a fight-or-flight response gone haywire. Modalities and techniques that gently stretch, release, and elongate fascia over 3–5 minutes are the most helpful (such as myofascial release), along with those that can calm the sympathetic nervous system (such as craniosacral therapy). Craniosacral therapy, developed from the osteopathic medical tradition, involves applying gentle manual pressure at the base of the skull and near the tailbone. Because the nerves of the parasympathetic (rest-and-digest) nervous system exit

the spinal cord near the base of the skull (cranium) and near the tailbone (sacrum), gentle manipulation of fluid in those areas stimulates the relaxation response and lowers sympathetic nervous system activity.

But what if you’re not trained in these modalities? Can you still help clients with fibromyalgia? Of course! First, consider the specific pathophysiology of the disease. Remember that your fibromyalgia client has amplified pain signaling, and their body cannot recover from deep muscle manipulation in the same way a healthy client might. So, as much as the client may want a deep-tissue massage and feel they can grit their teeth through it, gently remind them that such a treatment may kick off a chain reaction in their nervous system that will lead to more pain.

Next, consider receiving bodywork yourself from a therapist trained in myofascial release. As a bodyworker, you know there is no teacher quite like sensation. Allow yourself to feel what the release of fascial restrictions is like, and bring that intention to your work with fibromyalgia clients.

If you perform Swedish massage primarily, focus on those strokes that give sustained pressure, and slow your pace way down. Again, think of de-escalating the autonomic nervous system. When you feel restriction in the tissue, keep a gentle pressure at that barrier, instead of pushing through it. After a couple minutes, you will feel a fascial release. It will feel like butter melting or taffy stretching. With fascia, gentle pressure plus time equals release.

Also consider staying away from stimulating techniques such as tapotement, deep petrissage, or quick, pointed compression work. These strokes may not only hurt the fibromyalgia patient more during treatment, but can trigger a body-wide pain flare that may last for days. Instead, consider compression strokes that sink into the tissue very, very slowly. Addressing trigger points can also be helpful in fibromyalgia—just be sure to take a lot more time than you normally would. Make

sure your client feels empowered to ask for less pressure, and respect it when they do.

Lastly, try beginning and ending your session with “still touch” for 3–5 minutes, such as cradling the occiput with soft hands (with the client supine) or gently laying one hand on the sacrum and the other on the occiput (with the client prone). We find this leaves the client with an elevated parasympathetic response, which not only helps them feel calmer, but also reduces the tightness of their muscles and has the added benefit of lowering excess pain-signaling.

## TIPS AND TRICKS

Finally, here are some tips and tricks we have learned the hard way about what works and does not work for fibromyalgia on the massage table:

- Develop trust: even more than you normally would, develop a sense of trust with your fibromyalgia clients, ensuring they know you will ease up or stop when they ask.
- Start and end gently: still touch is a great tool for calming an overactive sympathetic nervous system.
- Don't rush: focus on fewer techniques done more slowly. With fascia, gentle pressure plus time equals release.
- Don't get discouraged: bodywork for fibromyalgia is not easy. It may take time for you and your client to see significant results.
- Assess the pelvis: tension and misalignment in the pelvis can cause pain everywhere in the body. Look at the tilt and rotation of the pelvis as a starting point for assessment.
- Watch the prone position: don't let fibromyalgia clients lie for too long in the face cradle. Many have temporomandibular joint disorder and pelvic tension that can be exacerbated in the prone position.
- Keep it warm: the fibromyalgia body does not like the cold; consider a table warmer.
- Watch out for trigger points: these are common with fibromyalgia clients. When you find them, address them with sustained, focused pressure for at least 3 minutes.

- Offer client homework: give guidance on self-treatment to do between sessions, such as stretching or applying gentle pressure from a soft ball into tight areas.

Bodyworkers have an important role to play in helping fibromyalgia sufferers. With the right intention and some patience, you can make a huge difference in their daily lives. Feeling even a small measure of improvement can mean the world to these clients. Although we have found techniques that focus on releasing fascial restrictions to be the most helpful for fibromyalgia pain relief, we agree with the conclusion found by authors of the 2015 literature review article: “Overall, most styles of massage therapy consistently improved the quality of life of fibromyalgia patients.”<sup>13</sup> **m&b**

## Notes

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