

Trigger Points and Tender Points: Why the Difference Is Important to You

by Devin J. Starlanyl 12/2004

There is general confusion and lack of information concerning chronic myofascial pain (CMP). Many of the symptoms mistaken for fibromyalgia syndrome (FMS) may actually be due to myofascial trigger points (TrPs) instead. TrPs are easily treated if they caught early. Understanding the differences between FMS and CMP and how they can interact may be necessary before the most effective therapies for your symptom control can be chosen. ***There is no such thing as a fibromyalgia trigger point.*** You may have read about them in articles and even books written by respected physicians, but they do not exist. FMS *tender points* and myofascial *trigger points* (TrPs) are different in fundamental and *significant ways*. (1, 4, 7, 11, 14, 18) Failure to differentiate myofascial pain from TrPs may lead to unnecessary tests and procedures that may cause harm as well as unnecessary expense. (9)

Fibromyalgia is not progressive.⁽⁴⁾ If FMS is getting worse, there is at least one perpetuating factor that is out of control. This factor is often co-existing myofascial pain. Medical case reports indicate that even if a patient has been diagnosed only with FMS, identification and treatment of coexisting myofascial TrPs and adequate FMS support can provide considerable symptom relief⁽³⁾ and restore function. Yet many people have never heard of myofascia or of TrPs.

One type of myofascia, the fascia (a type of connecting tissue) you can see, is the thin, translucent material that covers chicken breasts at the grocery. You have myofascia too. Imagine "...a gauze-like network that shapes the entire body. Make that network three-dimensional, covering all of the interior, and then fill the gauze with structures including blood vessels, nerves, and lymph."⁽¹⁵⁾ That's one form of fascia. Your muscles are infiltrated with fascia down to the cellular level. Myofascia tightens in response to stressors like trauma or infection. It can entrap blood and lymph vessels or nerves, causing diagnostic confusion. Fascia surrounds your heart and holds other organs in place.

Myofascial TrPs are extremely sore points that can occur in taut ropy bands throughout the body. They may feel like painful lumps or nodules, and they restrict range of motion. ***They are not part of FMS.*** Because it is found so many places in the body, tight myofascia can cause a vast array of symptoms. Single myofascial TrPs can occur in anyone. If there are one or more TrP perpetuating factors out of control, TrPs may seem to spread. TrP perpetuating factors include anything that will perpetuate stress on the muscle, including trauma, body asymmetry, or co-existing conditions.

When you have a TrP in a muscle, it causes pain at the end of range of motion when you stretch that muscle, and it weakens the muscle even before it causes pain. Your ankle, knee or hip may buckle, or your grip may fail, depending on which muscle is involved (these symptoms are **not** part of FMS). You then avoid stretching this muscle because it hurts. Muscles are designed to work best with motion. Since you don't stretch the muscle, it becomes less healthy and your range of motion lessened. Circulation in your capillaries, your *microcirculation*, becomes impaired around the TrP. Nutrients and oxygen can't be delivered easily, nor wastes removed. Your lymph system depends on muscle movement to move lymph, so that system begins to stagnate as well. Other muscles do the work of the TrP-weakened muscle. These overworked muscles develop secondary TrPs. Satellite TrPs develop in the areas of pain referred from the primary TrP. These additional TrPs cause the false impression of a progressive disease process unless the TrPs are recognized. Nearly everyone who sees the cover of my last book⁽¹⁵⁾ recognizes some TrP referred pain patterns as their own. They don't always recognize that the patterns are **not** FMS.

Secondary and satellite TrPs can spread until overlapping pain patterns cover three or all four quadrants of the body.⁽¹³⁾ At that point, although they are still regional in nature, the TrPs may be misdiagnosed as FMS. In a study of 96 patients, seventy-two per cent had both FMS and CMP.⁽⁵⁾ This study was done by a doctor who understood the difference between FMS and TrPs. Thirty-five percent of the myofascial pain patients in this study had generalized pain in three or four quadrants, but they had chronic myofascial pain and not FMS. Among the FMS patients in this study, twenty-eight percent had FMS with *no* TrPs. Some clinicians mistakenly think that all FMS patients also have TrPs and that these conditions are the same. This is not a difference of opinion. This is an error that can have significant impact on the quality of patient care.

For example, you *can't* strengthen a muscle that has a TrP. People with TrPs who are sent to work hardening and weight training get *worse* because TrPs cause muscle fibers to be shortened even when they are at rest. Muscles with TrPs are contractured (physiologically shortened.) This means that you cannot voluntarily relax these muscles fully unless something occurs to change the physiology. That means TrP specific treatment. The area around the TrP is in severe energy crisis and is releasing sensitizing substances that irritate, aggravate and modify surrounding sensory and autonomic nerves.⁽¹⁴⁾ "Strengthening" exercise causes them to shorten and tighten even more. Inappropriate exercise is one of the most avoidable of TrP perpetuating factors.⁽¹⁴⁾ It can be harmful to a patient if a doctor, physical therapist, occupational therapist or other care provider does not recognize a TrP for what it is and know how to treat it.

A muscle that harbors a TrP cannot be strengthened because it is physiologically inhibited. You must be out of pain with normal range of

motion for two weeks before strengthening exercise is initiated, and then it must be gentle and introduced very gradually.⁽¹⁴⁾ Stretch slowly to full range of motion *once* only for each muscle. This single stretch must be repeated many times at intervals during the day. The stretch should be within the limits of pain and should not produce a lasting ache. When such an exercise produces only mild soreness which disappears on the first day, you can repeat the exercise the next day. When the TrPs cause only mild soreness that disappears quickly, you can add more muscle *lengthening* exercises gradually.⁽¹⁴⁾

When you can do 10 lengthening contractions easily, this daily exercise can be replaced with *one* muscle shortening contraction per muscle. (Holding a muscle in maximal contraction for 5 to 10 seconds daily is sufficient to maintain the strength of the muscle.) TrPs must be gone (not just latent) for two weeks before strengthening exercises are attempted. Then you can add *one* additional repetition each day *if* the exercise soreness disappears that day. Exercise must be prescribed *very* carefully and monitored closely to see that it is done properly.

Enough time must be allowed between exercise and/or bodywork sessions. TrP-involved muscle fibers are under substantially increased tension when at rest.⁽¹⁴⁾ You don't want to increase that tension. This means stair stepping, rowing machines, stretch band exercises, and Nautilus-type machine exercises are contraindicated if there are TrPs in the involved muscles. All the TrPs in the muscle function group must be gone first, and the perpetuating factor brought under control. All exercises require coordination with proper breathing techniques. You can't properly perform "abdominal breathing" if your respiratory muscles are inhibited by TrPs. TrPs in the respiratory and accessory muscles must be treated to allow for deep breathing.

Fibromyalgia *is not* associated with unexplained toothaches; carpal-tunnel like symptoms; localized aching or pain in the coccyx, shin, back, hands, pelvis, neck, fingers or eyes; tight muscles; trouble swallowing; weak or painful grip; numbness or swelling in the hands; pain or itching in the ears; frequent eye correction changes; unexplained toothaches; spatial disorientation; appendicitis-like pain; weak ankles or knees; restricted range of motion; angina-type pain; or dizziness. Specific TrPs can and do cause these symptoms. Information on some of these and other symptoms are given in *The Survival Manual*.^(15, Chapter 8)

Fibromyalgia *is* associated with central sensitization, including: *general*, diffuse (*not* localized) pain; hyperalgesia (pain amplification) and allodynia (pain from non-pain stimuli such as noise and light).⁽¹⁷⁾ To control FMS pain *amplification*, you need to control the pain *generators*.⁽¹⁾ FMS *amplifies* pain. Myofascial TrPs *generate* pain and other symptoms. The differences are important, because these conditions are treated differently, even when they

co-exist in the same patient and have some perpetuating factors in common. Some factors that can perpetuate a myofascial TrP (such as short upper arms or Morton's foot) will not, of themselves, perpetuate nor initiate FMS.

TrPs in the sternocleidomastoid muscle (in the neck) alone can cause: clumsiness; blurred or double vision; tension headaches; runny nose; maxillary sinus congestion; spatial disorientation; unintentional veering; or cause patterns of light and dark (such as shadows along the road or escalator treads) or head motion to result in dizziness (among many other symptoms), and if you know this, you may save worry and unnecessary testing and be able to do something to relieve the symptoms. If the bottom of your feet feel like you're walking on broken glass as you take your first steps in the morning and you know this may be due to TrPs, you can do something. Roll up a big towel and put it under your blanket at the bottom of the bed so that your feet can rest on it. That avoids allowing the plantar fascia to remain shortened overnight. (Keeping muscles in a shortened position is a common TrP perpetuating factor.) Chronic pelvic pain that feels like it comes from organ disease can come from TrPs.⁽²⁾ If you believe that these symptoms come from FMS, there is nothing to do for them but attempt to control the pain. Understanding TrPs and their perpetuating factors can give you some measure of control over your symptoms and your life.

We know what TrPs cause specific symptoms, what their perpetuating factors are, and what to do about them. These topics are discussed in detail in medical texts such as *Travell and Simons' Myofascial Pain and Dysfunction: The Trigger Point Manuals*. For example, the prickling tingling painful sensation along the jaw line that can move upward across the cheeks is caused by specific TrPs in a muscle called the platysma ^(15 p 82) and not by FMS. If the TrPs are treated and the perpetuating factors brought under control, the symptom will go away. If the perpetuating factors cannot all be identified or controlled, the TrP can still be treated and minimized.

When *active* (pain causing) TrPs become *latent*, they no longer cause pain, but they still cause restricted movement and muscle weakness. The latent TrPs still electrically inhibit the muscle.

Some people don't exercise because if they don't move they don't hurt as much. This is false reasoning. Their TrPs have merely become latent. Even a minor stressor can become a life-altering event if you have latent TrPs. Myofascial TrPs can cause: bloating, incontinence, impotence, rectal pain, sore throat, tender neck and armpit "swollen glands" feeling, muscle pain, headaches, pain in joints without swelling, dizziness, autonomic symptoms, weak muscles, ear pain, restricted range of motion, knee pain, shoulder pain, wrist pain, hand pain, neck pain, back pain, abdominal pain, pelvic pain, pain in the outer or inner vaginal area, stiffness in the morning (and after any immobility), shortness of breath, chest pains, tightness in the

chest, frequent nighttime urination, inability to empty the bladder fully, stiff neck, nasal congestion, trouble swallowing, hoarseness of voice, tearing eyes, gastroesophageal reflux, vomiting, heart arrhythmias, ringing ears, painful or itching ears, growing pains, painful menstrual periods, irritable bladder or bowel, belching, diarrhea, rapid racing heartbeat, painful intercourse, and many, many more symptoms.

If you have back pain that worsens with sitting but it improves with appropriate therapy, check for iliopsoas and quadratus lumborum TrPs. If the pain is in the hip and radiates down the back of the leg, check the piriformis muscle in the buttock for TrPs. If pain radiates down the side of the leg, check the side of the hip for the gluteus minimus TrPs. Myofascial TrPs can refer symptoms a good distance away from their location. TrPs in the scalene muscles of the neck can entrap lymph and blood vessels, causing swelling in the hands in the morning. They can cause tightness and pain in the chest and down the back of the arm in a specific pattern, including the top of the thumb and index finger. You and your care providers need to become familiar with the common TrP referral pain patterns. They can be very specific and are generally similar from person to person, so if you can identify the pain pattern, you can find the TrP. Don't work on the area of pain. Your jaw may be sore, but the source of the pain may be a TrP in your calf. Your doctor and dentist need to know this, and so do you for self-preservation. Innocent teeth have been pulled because dentists were unaware that TrPs can cause tooth pain and sensitivity to cold, heat and pressure. Teeth have been ground to adjust the bite, only to have a TrP-laden muscle contracture change, causing the bite to change as well.

Treating TrPs without treating the perpetuating factors means that the same TrPs will keep coming back. Treating the perpetuating factors *is* the key to both FMS and CMP, but it won't make existing TrPs go away. Latent TrPs are like land mines waiting to explode. If you fall, or catch a cold, or are hit with any other stressor, they may all activate at once. This may be mistaken for or even cause an FMS "flare."

Multiple latent TrP activation often happens in the elderly. Much of the aches and pains and muscle weakness of old age may be due to unsuspected TrPs and may respond to proper treatment.⁽¹⁴⁾ People who have been incontinent or have had sexual dysfunction for years due to myofascial TrPs may be relieved – and astonished – at their response to adequate TrP treatment. Then they often become angry as they realize that they have suffered needlessly because their doctors did not understand TrPs. TrPs cause muscle weakness and other dysfunction before they cause pain, so they may be unsuspected even by some doctors who have TrP medical texts. Some care providers just look at TrP diagrams. That is insufficient preparation to treat myofascial TrPs. Myofascial medicine requires study, and it is well worth the time spent on it. Many patients endure needless pain and medical tests due to lack of recognition and treatment of myofascial TrPs.⁽⁹⁾

Some researchers lump FMS and CFIDS together and ignore myofascial pain. We won't have clear research results until we distinguish these conditions. It is frustrating to see medical research that claims to be on FMS/CFS patients (written by researchers who lump these conditions together) and yet it describes nodules, ropy bands and restricted range of motion of myofascial pain. The authors of the article did not know better, and neither did their peer reviewers! This is a sad state.

Many dentists, psychologists and others use the terms "temporomandibular dysfunction" and "myofascial pain syndrome (MPS)" to describe the same jaw dysfunction. Their research conclusions may be honestly but erroneously used by other researchers to apply to MPS due to TrPs. Further research may build on those faulty conclusions. An article attempting to prevent this clarified the issue ⁽¹³⁾, yet this potentially misleading research still comes out in quantity.

An enormous amount of research has also been done on FMS patients with no regard for co-existing TrPs. Much of this research is suspect because some of the symptoms described could be due to myofascial TrPs instead. I believe it would reduce FMS clinical study variables considerably if patients in FMS studies were routinely screened for co-existing myofascial TrPs. Researchers may find that some symptoms now associated with FMS are more commonly due to myofascial TrPs, and some may not be associated with FMS at all. This may also be true for CFIDS. Many experts believe that one way deal effectively with these conditions is to separate them into meaningful subgroups that might give clues to effective treatment.

An important step to symptom control is to deal with the *causes* of the symptoms. When you have chronic unrestorative sleep, it is logical that you also have chronic fatigue. This is not the same as CFIDS. If pain from myofascial TrPs is disrupting sleep, or you waken often with urinary urgency or diarrhea caused by TrPs, you need to take care of the TrPs (and other factors disrupting your sleep). If you take care of the TrPs and their perpetuating factors, it will be much easier to deal with the remaining symptoms. It's not as easy for doctors as throwing a pill at the problem (and the patient), but it *is* good medical practice. The medical dictum "do no harm" is often lost in the field of chronic pain because care providers are unaware of the pervasiveness of myofascial TrPs.

Some symptoms once linked with FMS may not be. Carbohydrate cravings, weight fluctuations and some swelling may be due to insulin resistance. Research indicates that insulin resistance may be a common perpetuating factor of FMS.⁽¹⁸⁾ It can perpetuate TrPs. Sleep dysfunction, prevalent in FMS, may adversely affect glucose tolerance ⁽¹⁰⁾, and may unbalance the hypothalamic-pituitary-adrenal (HPA) axis.⁽⁸⁾ Treating the insulin resistance through diet, especially if it is the main FMS perpetuating factor, may ease the symptom load considerably and may make co-existing TrPs more treatable.

The concept of perpetuating factors is as valid for FMS as it is for myofascial TrPs, in my opinion. Many identified myofascial TrP perpetuating factors may also be perpetuating factors, aggravating factors, or even initiating factors of FMS. This has caused many clinicians to erroneously believe that FMS and myofascial pain are the same. This confusion must be eliminated. Common perpetuating factors need to be brought under control, but that is not enough.

For example, an intestinal bug can set up TrPs that will perpetuate symptoms of diarrhea and vomiting that will persist even *after* the virus is gone. The TrPs *have to be* identified and treated first (and not with antibiotics). Doctors *must* learn to identify TrPs. "Most of the six million Americans with fibromyalgia have at least one associated syndrome which mandates specialized attention in addition to traditional therapeutic approaches."⁽¹²⁾ In the vast majority of chronic pain patients, including FMS and arthritis patients, myofascial pain is a co-existing condition.

It is important to learn individual TrPs to learn their specific referral patterns, but it is also important to understand that complex overlapping pain patterns may exist in chronic pain patients. Body-wide TrPs may cause widespread pain, with TrPs in many areas and layers of many muscles. (The TrPs in the text diagrams are common, but they can occur anywhere.) As the perpetuating factors are addressed, single muscle pain patterns will eventually become apparent and then those TrPs can be treated.

Spray and stretch and TrP injections are part of therapy for myofascial TrPs, not for FMS. One study showed that patients with both FMS and myofascial TrPs find TrP injections more painful, they have less effect (although they are still worthwhile to treat the TrPs), and the post-injection soreness would be worse than if the patient only had TrPs.⁽⁶⁾ This is often the case with bodywork as well. Physical therapy, other bodywork, exercise and other therapies must proceed *carefully* and *gradually* if FMS and TrPs coexist. The amount of pain involved should not be underestimated. Any treatment will be more complicated and less successful than if the patient had only one of the conditions, and some bodywork may require extra medication to prevent added central sensitization. Each patient can vary in many ways. In the chronic myofascial pain component there is a wide variety of TrP combinations plus there may be different nerves, blood and lymph vessels entrapped. There may be different perpetuating factors. In the FMS component, there may be different biochemicals affected in different ways, and they may be affecting other biochemicals in different ways. Each case is different. Care providers and patients must understand both of these conditions to ensure adequate medical care. Insurance companies must understand that they will save money in the long run if the TrPs are treated promptly and adequately by trained providers, and the perpetuating factors controlled. Once the TrPs are appropriately treated and their perpetuating factors brought under control, you may find that remaining FMS symptoms

are more easily managed. Some people may even find that they do not even have FMS after all.

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