

FIBROMYALGIA

THE MYOFASCIAL TRIGGER POINT CONNECTION

As the number of chronic pain patients in the UK increases, especially patients suffering with fibromyalgia and chronic myofascial pain, a need exists to promote a better understanding of what these conditions are and how best to treat them. This article is for the therapist and the patient and for those with previously unexplained symptoms associated with fibromyalgia, myofascial trigger points and chronic myofascial pain. It will help to bring some clarity to the topic of fibromyalgia. Every member of the medical team involved in the treatment of chronic pain needs to be familiar with myofascial trigger points.

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BACKGROUND

Fibromyalgia is neither musculoskeletal nor rheumatic. Fibromyalgia does not *cause* aching muscles. It does not *cause* numbness or tingling. Patients with fibromyalgia can have these and many other symptoms, but those symptom origins have been terribly misunderstood. So have the patients. Fibromyalgia is the term given to a family of illnesses that have in common central nervous system sensitisation and chronic diffuse *systemic* pain. Fibromyalgia is *systemic*, not local. A person cannot have fibromyalgia only in the hands or in the back. The central nervous system is the brain and spinal cord becoming the peripheral nervous system touching every cell in the soma. Fibromyalgia affects the whole body, causing a diffuse pain all over. Fibromyalgia does not cause localised pain. If there is localised pain, it is caused by something else, although fibromyalgia may also be present. Often, but not always, localised pain is caused by one or more myofascial trigger points (1).

Fibromyalgia is a chronic body-wide muscle (myofascial) soreness syndrome associated with central and peripheral sensitisations. Sleep disturbance, chronic

fatigue and visceral pain syndromes (including irritable bowel syndrome and interstitial cystitis) regularly accompany fibromyalgia. Fibromyalgia is characterised by hyperalgesia (amplified pain) and allodynia (which occurs when stimuli that are normally non-painful, such as touch, sounds, light and smells, are interpreted as intense pain by the central nervous system) (2).

It is a critical point that myofascial pain syndrome is characterised by the presence of myofascial trigger points located in any of the millions of individual muscle fibres body-wide and not just where the 'X marks the spot' (as seen on so many of the myofascial trigger point posters). This is not only misleading but can, I propose, provide the foundation for a false understanding of the location, aetiology and pathophysiology of myofascial trigger points and, therefore, hinder the possibility of positive therapeutic interventions (3).

The problem these syndromes pose lies not in making the diagnosis of muscle pain but rather the need to identify the underlying cause(s) of chronic muscle pain in order to develop

a specific treatment plan. Chronic myalgia may not improve until the underlying, precipitating or perpetuating factor(s) are managed.

PERPETUATING FACTORS

Precipitating or perpetuating causes of chronic myalgia can include structural or mechanical causes like scoliosis, localised joint hypomobility, generalised or local joint laxity, spastic activity and metabolic factors such as depleted tissue iron stores, hypothyroidism or vitamin D deficiency. Sometimes, correction of an underlying cause of myalgia is all that is needed to resolve the condition.

Myofascial trigger points are one of the main factors generating and perpetuating fibromyalgia pain and other symptoms, no matter what initiated the fibromyalgia (1). Myofascial trigger points can cause acute or chronic pain, as well as seemingly unrelated symptoms that are often mistakenly linked to fibromyalgia. The myofascial trigger point can mimic many conditions, causing diagnostic confusion (2). Also, myofascial trigger points tend to refer pain in specific

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referral patterns (Fig. 1) (3).

Peripheral stimuli, such as myofascial trigger points, may initiate noxious sensations including pain, nausea or dizziness. Amplified by fibromyalgia, the pain or other sensations can outlast the stimulus. Research verifies that the central sensitisation of fibromyalgia can be initiated and/or maintained by peripheral pain (2). The referred pain of myofascial trigger points is itself a manifestation of central sensitisation (4). In fibromyalgia the filters that protect healthy people from central nervous system overstimulation are not working adequately (5). The fibromyalgia patient may not be able to pinpoint sources of pain, because his or her brain is totally preoccupied with attempting to handle a deluge of pain and other stimuli. In uncontrolled fibromyalgia, anything that can shock the central nervous system – including pain, loud noises and any other

startling stimuli – must be moderated or avoided. Any central nervous system assault can lead to fibromyalgia 'flare'. During flare, old symptoms worsen and new ones may appear as new myofascial trigger points activate. Everything is hypersensitive.

Try not to be overwhelmed if you realise that your patient has a whole dragon pack following them, or even riding on their shoulders. Tame those dragons, one at a time if need be. Make a list of things they can change. Work together with the patient to find a way for them to function without causing harm. Become function-oriented: medications and therapies are needed to function – not to avoid function – and movement is key. Patients and therapists need to be aware of this (2).

Pay attention to diet, sleep habits, excess alcohol consumption, smoking and the quality of the environment at home and at work. Consider posture and alignment. To control the fibromyalgia pain amplification, you must control the pain generators. Far too many have insisted that myofascial trigger points are too complex to understand, and they lump everything under the label 'fibromyalgia', using it as a garbage-pail diagnosis.

Anything that can perpetuate a myofascial trigger point is called a 'perpetuating factor'. The initiating factor, the factor that causes activation of a specific myofascial trigger point, may be different from the aggravating or the perpetuating factors, but they

are commonly all called perpetuating factors. *The key to controlling any symptom is the identification and control of as many perpetuating factors as possible.* If myofascial trigger points are the 'what', then perpetuating factors are the 'why'. An appropriate medical history will indicate if pain patterns are stable or evolving (1). Chronic myofascial pain (CMP) is not progressive. The development of satellite myofascial trigger points that worsen symptoms, or cause the appearance of new symptoms, are indicators of perpetuating factors that are out of control. To control symptoms, you *must* identify and control perpetuating factors. If you do not, in spite of the best treatments in the world, the myofascial trigger points will recur (1).

Most medical solutions currently centre on 'fibromyalgia' pain medications. Meanwhile, many treatable myofascial trigger point symptoms go untreated or mistreated, and many perpetuating factors remain unidentified and out of control, because not enough UK therapists have been appropriately trained to manage myofascial trigger points. Failure to comprehend the combination of myofascial trigger point pain-generation plus the pain amplification of fibromyalgia leads to undertreatment of the pain itself – yet another perpetuating factor. Therapists and patients alike must understand myofascial trigger points as well as fibromyalgia.

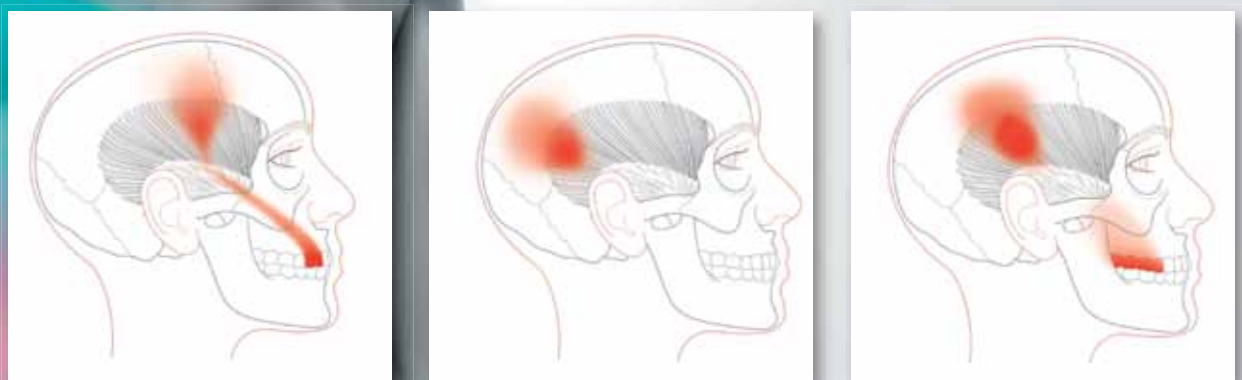


Figure 1: Myofascial trigger points in the temporalis muscle can cause myogenic ('tension') headache. This aching pain can extend to the upper teeth and include hypersensitivity to cold, heat and pressure. The teeth may not meet correctly, and there may be uncoordinated chewing, opening and closing of the jaw. These myofascial trigger points can contribute to teeth grinding. Temporalis myofascial trigger point proprioceptive dysfunctions include vertigo, nausea and hearing irregularities such as hypersensitive hearing and tinnitus. (Image reproduced with permission from Healing through Trigger Point Therapy: A Guide to Fibromyalgia, Myofascial Pain and Dysfunction by D. Starlanyl and J. Sharkey. Lotus Publishing 2013.)

TREATMENT OF MYOFASCIAL TRIGGER POINTS

The following list summarises the key points for treating myofascial trigger points:

1. To help differentiate the myofascial trigger point from pain points, cardinal signs must include: nodule and taut band, jump sign, twitch response, painful end-range of movement, referred pain and autonomic responses.
2. Treat myofascial trigger points that are most superior and medial first.
3. The deltoid seldom develops its own myofascial active myofascial trigger points. Instead most are 'baby' or 'satellite' myofascial trigger points so treat associated muscles within its functional unit.
4. The upper trapezius is the 'grand central station' of myofascial trigger points.
5. Active myofascial trigger points, when irritated by a competent therapist, will result in referred pain or changes in sensation that the patient recognises.
6. Latent myofascial trigger points generally result in pain or change in sensations that the patient does not recognise. These myofascial trigger points may be contributing to but are not the true source of a patient's problem.
7. Myofascial trigger points can form in any muscle fibre and not just in the centre of a muscle or where the 'X marks the spot' on so many myofascial trigger point charts; this is misleading (3). Identify and remove/change the perpetuating factor/s.
8. Excellent palpation skills are required to locate myofascial trigger points.
9. Upper or lower limb tension tests should be provided to rule out nerve insults including compression and/or inflammation.
10. Any patient suffering with unresolved pain or changes in sensations should have the possibility of myofascial trigger point involvement ruled out as a primary or secondary cause or contributor.

After a long career in treating

myofascial trigger points I have come to the opinion that the most effective method for the eradication of myofascial trigger points is by means of dry needling. Dry needling saves therapist's joints from stress while getting straight to the point. For the fibromyalgia patient the pain relief experienced from dry needling, warranted by appropriate health history and physical screening, is instant and much appreciated. If a patient complains of undue increased pain following a myofascial trigger point treatment it is imperative that the therapist be aware that this may be due to failure to identify (and therefore treat) all the myofascial trigger points in any one muscle. Failure to do so is akin to taking a stick and shaking up a hornet's nest. As a clinical anatomist I appreciate the importance of excellent anatomical knowledge, palpation skills,

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clinical knowledge and experience all required for safe, appropriate and effective dry needling.

Another effective therapeutic intervention for fibromyalgia and myofascial trigger points involves integumentary taping. The integumentary system is rich in sensory organs and free nerve endings. The skin takes information regarding the outside world to the brain providing a rich source of data required for various anatomical

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functions. Free nerve endings are located in both the dermis and the epidermis (3). The brain is where pain is generated. Changes in nociceptive signalling can be influenced by the monosynaptic reflex arc. Appropriate taping provides a therapeutic unloading of special nerve endings including bulbous corpuscles, Pacini endings and Meissner corpuscles and free nerve endings associated with Merkel cells. This unloading can reset monosynaptic reflex arc dysfunction providing a solution to chronic or acute pain problems.

SUMMARY

Myofascial trigger points are an ignored yet common cause of acute and chronic pain in the aetiology of numerous chronic pain syndromes. As well as being a significant contributing factor in conditions such as medial and later epicondylalgia, headache, low back pain and fibromyalgia, myofascial trigger points can mimic many other conditions. This article is intended to better inform manual medical practitioners as well as general practitioners and other health care providers regarding what fibromyalgia is and what it is not and the importance of controlling or changing perpetuating factors, especially myofascial trigger points. In order to treat myofascial trigger points effectively one must understand the pathophysiology of trigger points and must recognise the cardinal signs that differentiate myofascial trigger points from tender points. More foot soldiers are desperately needed in the United Kingdom to fight the war on chronic pain and fibromyalgia. A need also exists for therapists of every stripe to consider myofascial trigger points as the main source or contributing factor in unresolved pain conditions.

References

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FURTHER RESOURCES

1. *Healing through Trigger Point Therapy: A Guide to Fibromyalgia, Myofascial Pain and Dysfunction* by D. Starlanyl and J. Sharkey. **Lotus Publishing 2013. ISBN 978-1583946091**
2. Improve your practice with a part-time course from the National Training Centre in Ireland leading to an Advanced Certificate in Neuromuscular Therapy (www.ntc.ie/massage-courses-uk).



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 John Sharkey holds a medical degree (MSc) in Clinical Anatomy (BACA), he is an accredited exercise physiologist (BASES), and is founder and programme leader of the MSc in European Neuromuscular Therapy, accredited by the University of Chester. John is an accepted authority on the topic of chronic pain and is a member of the editorial board of the *Journal of Bodywork and Movement Therapies*. John is available for presentations, workshops or advanced CPD courses. Contact John at: john.sharkey@ntc.ie



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Video: Myofascial Trigger Points. Courtesy of John Sharkey <http://spxj.nl/1yIzVXD>



KEY POINTS

- Fibromyalgia is neither musculoskeletal nor rheumatic.
- Fibromyalgia does not cause aching muscles.
- Myofascial trigger points can form anywhere in a muscle.
- Fibromyalgia is the term given to a family of illnesses that have in common central nervous system sensitisation and chronic diffuse systemic pain.
- Fibromyalgia is systemic, not local. A person cannot have fibromyalgia only in the hands or in the back.
- Myofascial trigger points are a major perpetuating factor in fibromyalgia and chronic myofascial pain.

- Why is the presence of myofascial trigger points critical in characterising myofascial pain syndrome?
- Why is dry needling the most effective method for treating myofascial trigger points?
- Where is pain generated?



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