

# A MEDICAL INTRODUCTION TO MYOFASCIAL PAIN

## INTRODUCTION

Myofascial pain is a very unsettling condition that often affects people with a history of musculoskeletal injury. Most commonly myofascial pain is considered in people still suffering, years after an apparent “strain” injury. Common examples include chronic lower back pain and neck pain with headaches. Myofascial pain is also the predominant problem in people with pain from repetitive motion injuries. The pain from acute injuries to muscle should also be considered to be myofascial in origin. Conditions diagnosed as muscular tears also have a significant myofascial component to pain and the chance for re-injury. Indeed, myofascial pain should be considered as being part of most any chronic pain condition.

## Myofascial Pain Model for Chronic Pain

Myofascial is derived from the words “myo” which means muscle, and “fascia” which is the connective tissue that covers and intertwines with muscle. Myofascial pain is the pain that is generated by hyperactive focal areas of irritability in muscle or its associated fascia that are called *myofascial trigger points*. A trained examiner can usually detect these trigger points with palpation. A skilled examiner can often tell where a person hurts, even without being shown by the patient. The diagnosis of myofascial pain is determined by physical examination, and not as much by medical testing.

Trigger points are described in three ways: active, latent, and satellite. An active trigger point typically causes pain at rest and more pain when the muscle is used. Active trigger points typically refer pain to other areas of the body. Latent trigger points do not usually cause pain that a person is conscious of, however they cause weakness and restriction of motion on an indefinite basis. They also may become active with use of the muscle, chilling, and leaving the muscle in a shortened position for a prolonged period of time. A common example of activation of latent trigger points is a phenomenon called a stiff neck. This may occur when latent trigger points in neck and upper shoulder musculature activate during the night and the next morning there is extreme neck pain and stiffness. Satellite trigger points develop in the zone of referred pain from another trigger point. If a neck muscle trigger point refers pain into the arm and forearm long enough, the musculature of the arm and forearm will develop trigger points even in the absence of direct trauma to the area. These satellite trigger points typically have the same characteristics as other active trigger points in that they generate pain, restrict motion, and cause weakness without atrophy.

Myofascial trigger points may generate different qualities of pain. The pain can be knife like and stabbing. It can also be dull and achy. The sensations of burning pain, numbness and tingling can also be myofascial in origin.

Typical examples of myofascial pain syndromes include headaches that are often diagnosed as tension, sinus, and migraine. Neck pain that radiates into the arm and forearm, as well as lower back pain that radiates into the thigh and leg are often myofascial in origin. When a person has this radiation of burning pain and numbness and tingling into an extremity associated with normal MRI scans and normal EMG studies, then the symptoms are almost always myofascial pain. These symptoms will usually improve and often resolve with treatment directed towards the myofascial component of the pain pattern.

### Treatment of Myofascial Pain to Diminish Chronic Pain

To lessen the pain from trigger points, the trigger points need to be made “less active”. This is accomplished by stretching the involved musculature to its normal and healthy resting length. People may need to stretch 10 to 15 times per day to succeed in treatment. Often, it is almost impossible to stretch effectively with exercises alone, and various tools become important. One such tool is application of pressure to the trigger point. Compression produces pain and causes the trigger point to become smaller and less active. The trigger point will subsequently generate less pain and the muscle will stretch further. Another tool is a vapocoolant spray such as Fluorimethane or Ethyl chloride. This spray blocks reflex pain and spasm during stretching, and allows the muscle to stretch without pain.

The most powerful tool for inactivating trigger points is a trigger point injection. After the trigger point is inactivated, the muscle must be stretched to its more normal length. All of the musculature involved in the pain pattern must also be stretched at the time of the office visit. Indeed, the stretch is the “cure”, and the injection is merely the tool that allows the stretch to happen.

When myofascial pain conditions are treated in this manner, the pain pattern evolves backwards in time and eventually resolves or reaches a plateau of improvement. This can take 6 to 12 months in many people with chronic conditions. Occasionally people will continue to improve during two years of treatment. It is easier to treat people soon after an injury. Even after 15 years of pain however, many people will improve with this treatment.

There are several factors that perpetuate myofascial pain and increase the likelihood that the pain pattern will progress to involve more of the body and subsequently cause depression and sleep disturbance problems. Perpetuating factors include: structural inadequacies (i.e. one leg shorter than the other), nutritional inadequacies (especially vitamin C, various B complex vitamins, magnesium), ergonomic factors (activities of daily living and work that physically aggravate the involved muscles), metabolic conditions (hypothyroidism), and others.

In treating chronic myofascial pain, these perpetuating factors need to be addressed. This will make it easier and in some cases, possible to improve a patient’s condition.

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