

Myofascial Pain

by Mary Biancalana, C.M.T.P.T., L.M.T.

Understand The Role of Hypermobility Syndrome

orking with clients who present with chronic and recurring myofascial pain can be challenging under standard conditions. For clients who not only have this pain but also possess the characteristics of someone who may fall along the continuum of genetically

inherited hypermobility disorders, being able to reduce their pain can be extra-challenging.

There are six common types of genetic disorders of collagen within the hypermobility syndrome, Ehlers-Danlos spectrum, but this article concerns itself with the most common of these disorders, Type III, known as hypermobility syndrome. This condition is a primary contributor to musculoskeletal pain and dysfunction as well as many other body-wide problems, including anxiety; low exercise threshold; gastrointestinal problems; female reproductive system challenges, including painful menstruation or ovulation; hypervigilance, or fear of movement or activities; joint subluxations; being double-jointed; and sleep difficulties. It is also recognized that one can be hypermobile and have no musculoskeletal pain. (That



Dysfunction

stage of the continuum is referred to as asymptomatic hypermobility.)

As a clinician and trigger-point therapist who has spent her entire manual therapy career working with people presenting with muscle pain, I can say that persons with hypermobility syndrome are the most overlooked subcategory of people who have muscle pain of unknown etiology, and can account for more than 50 percent of people seeking relief from muscle pain. They

often end up in my office after having been through a battery of tests given by a small army of doctors, physical therapists. acupuncturists, voga instructors and, sometimes, psychiatrists. It may seem overwhelming, but with careful planning, empowerment with education about hypermobility syndrome, and a few adaptations to manual treatment strategies and selfcare education, hypermobility syndrome symptom reduction and management can become a lifechanging possibility.

Everything feels tight

We all know what it feels like to palpate dense, hypertonic and dysfunctional tissue, but do we know what we are up against when we palpate loose connective tissue? We may be able to pinch and pull up segments of skin and subcutaneous fascia. We may be confused when we look at a painscale diagram done by a client who draws huge areas as having pain at 6 or 7 out of 10, then when we perform range-of-motion tests. the average or above average ranges and the wonderful ease of motion may not be what we were expecting to see.

Being able to bend forward and easily place the paints of the hands on the foor (top) and to bring. the little finger into 90° of passive extension (bottom) are two criteria for hyputmobility syndrome.



For example, a client reports constant pain around his shoulder blades; describes it as a sense of never-ending deep discomfort and tightness that just won't go away; and says be has a sense of constantly needing to stretch or crack the back. After hearing these symptoms, a massage therapist would expect to get her hands on this shoulder and upper back and feel it dysfunctional and hard as a rock. Rather, upon palpation, the area is soft and supple, maybe even doughy. Rather than seeing a

> shoulder rife with painful, motionrestricting trigger points and taut bands, we watch as the client abducts his arm a full 180 degrees. goes into humeral extension of 60 degrees, then supine humeral external rotation of 98 degrees; and, to our confusion, he may have no pain or discomfort upon these full and easy motions.

This is the challenge of hypermobility.

Myo means muscle. While we all have hundreds of muscles, we are made up of so much more. If we consider our fascia-an interconnected web of collagenous fibers surrounding and interpenetrating all soft tissue structures of the human body-having a good structure of molecules in this fractal chaos seems extremely important.

In people with connective tissue disorders, it has been recognized they have a higher ratio of Type III collagen fibers rather than the more dense and higher tensile strength Type I fibers. This may explain the extensibility in skin and subdermal fascia, as well as the sense of very loose, or double-jointed limbs.

Another characteristic is a reduction in myofibroblasts; this can reduce the contractile properties of fascia, which may be why we feel extensible or doughy tissue in hypermobile persons with painful symptoms when we expect to feel dense, dysfunctional tissue usually associated with pain.

Can't stretch enough

People with hypermobility syndrome often report that their muscles feel tight, can frequently be found squirming around trying to find a comfortable position. and are not happy at jobs where they have to sit for long

periods. This constant need to stretch muscles would be expected to be seen in someone with dense, shortened muscle tissue-but when we perform standard rangeof motion assessments on people with hypermobility syndrome, they are well within the normal range, or quite far beyond what would be the expected end range.

As we have learned so much recently about fascia and its role as a sensory organ, perhaps the sensation of need to stretch already lax and loose muscle or joint areas is due to the lack of sensory input from dysfunctional collagen

fibers in the fascial matrix. Is this sense. of tightness really just a cry for any stimuli to help remind the body where it is in space? I say yes.

As for clinical application, this is where addressing the client in a stretched position would not be optimal; rather, treating while the area is in a minimal state of resisted contraction would bring more sensory input to an already lax area. This deliberate contract-hold-relax training during massage therapy would help reduce the habit many people with hypermobility syndrome have: needing to crack or overstretch areas while holding muscle tension.

A massage therapist can help retrain the client out of this habitual behavior that never seems to give relief anyway. In fact, this need to stretch deeper, stronger or farther beyond the reasonable end range of motion further perpetuates the laxity in ligaments and tendons around ioints.

More input, please

Within our soft tissue matrix, we have nociceptors, Golgi tendon organs and other sensory mechanisms that act as information providers to our brain. In people with collagen disorders, the sensory pathways can be disrupted, leading them to have reduced proprioception; that is, a reduced sense of knowing where they are in space. This can lead to anxiety, hypervigilance or worry about movement or activities, sleep disruption, poor spatial planning (clumsiness), frequent falls or frequent muscular injuries such as sprains and strains.

We now know that our dense ligaments, tendons and even

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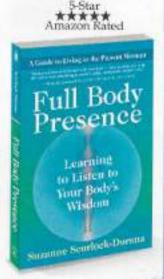
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meniscuses are mere extensions of this systemwide matrix of fascia in areas where tension and biomechanical stress has required a denser collection of the same fascial fibers. This system of ligaments is critically important to maintaining tensegrity, or tension within our structure. These ligaments need to be in constant tonus or tension in order to communicate information through our entire musculoskeletal matrix. Imagine how it would feel to not have strong communication or connectivity between your bones; it would be quite stressful and confusing to the brain, right? This reduction in peripheral proprioceptive function can lead a hypermobile person to be in a heightened state of awareness of her myofascial challenges, in a chronic state of low-level worry and central nervous system facilitation.

In hypermobility syndrome, when this fascialtendinous-ligament system is not in its optimal state of tone, the cascading result of symptoms-myofascial pain, trigger points, anxiety, hypervigilance, bony subluxation and compensatory movement behaviorscan be debilitating. These problems can be some of the many characteristics within the whole-person syndrome of hypermobility, and can be seen in a wide range, from mild to severe.

Assessment

The most widely used assessment to determine hypermobility is known as the Beighton scale. It assesses the ability of the client to:

- 1. bend forward and easily place the palms of the hands on the floor
 - 2. bring the little finger into 90' of passive extension
- 3. have extreme thumb abduction very near the radius bone
- 4. and 5. show hyperextension beyond 90' in the elbow and knee, for a total score of 9 points. (One point for torso flexion and two points for the other joints, right and left side.)

A score of 4 out of 9 can indicate high probability the person has hypermobility. These overly simple criteria, however, did not capture any multi-system and multiarea involvement so characteristic of hypermobility syndrome, so experts developed a more comprehensive and revised set of diagnostic criteria known as the Brighton Criteria.

To assess your clients for characteristics according to the Brighton Criteria, consider two major criteria; first, a Beighton score of 4 out of 4 or greater; and second, pain for longer than three months in four or more areas or joints.



The minor criteria can include those two above, as well as dislocation at some time in more than one joint: soft tissue diagnosis at some time; current or past bursitis or tendinitis; a tall, slim, slender height-to-weight ratio; extensibility of the skin and subcutaneous fascia; drooping eyelids; varicose veins; and urinary or rectal prolapse.

Hypermobility syndrome can be considered in the presence of two major criteria; or one major and two minor criteria; or four minor criteria

Life-changing

With advanced treatment education in triggerpoint therapy techniques and study in hypermobility syndrome, the massage therapist should be able to make adaptations to manual treatment strategies so that hypermobility syndrome symptom reduction and management can become a life-changing possibility.

Mary Biancalana, C.M.T.P.T., L.M.T., is president of the National Association of Myofascial Trigger Point Therapists, and a continuing education provider. She is the founder and owner of the Chicago Center for Myofascial Pain Relief (www.chicagotriggerpointcenter.com), Advanced Trigger Point Seminars and Trigger Point Sports Performance. She is the co-author of Trigger Point Therapy for Low Back Pain. @

4-Part Massage Technique for **Hypermobility Syndrome**

- Compression. Hold more static compression. While many massage therapists employ broad strokes or effleurage over large areas, due to the disruption in the collagen matrix within the fascial structure, it would seem to me more of a positive impact to decide on a particular region, apply more static compression and then slowly and gently. increase pressure. If the client becomes aware of this regional sensory input, he will learn how to relax unnecessarily held muscular tension and to rather use the muscles for the job they are primary for. This can be repeated all over the body.
- 2. Dialogue. Keep an open, flowing dialogue with the client so he can provide you with feedback on pressure sensation on a particular area or particular muscle. A simple scale of 1 to 10 will suffice, including subjective sensation descriptors such as burning, deep, sharp or nagging pain.

This neuromuscular re-education can become a useful tool as dynamic retraining takes place. As the client feels the pressure sensation on his muscles. skin and fascia, he will get proprioceptive information that he may or may not get from the disrupted collagen matrix in the soft tissue. Be careful not to press too hard; again, we now know that peripheral sensory structures are disrupted, so the hypermobility syndrome client may say, "Just keep pressing,"

- while we are pressing to a strong degree. Have him really focus on whatever sensation he is getting and concentrate on recognizing that on a lesser-pressure scale.
- 3. Normalize. During treatment, always employ active contract-hold-exhale-relax techniques. This is an integral part of the trigger-point model and is hugely successful in normalizing dysfunctional tissue. This will again provide neuromuscular re-education in recognition of what it feels like to have muscles. in tension, and in contrast, in the state of relaxation, These same techniques can be used by the hypermobility syndrome client at home to reinforce proprioception.
- 4. Integrate. I provide dynamic balance and integrated strength-movement training as a certified personal trainer as well as a massage therapist. If you are not so qualified, establish a network of those to whom you can refer your clients, who will develop a careful and deliberately graduated movement and strengthening program that employs dynamic balance boards. These practitioners need to have an understanding of limits and exercise thresholds common to those with hypermobility syndrome.

-Mery Biancalana, C.M.T.P.T. L.M.T.