



The flexible strength of the connective tissue

By Chris Watts-Motion Dynamics

It was shocking to hear of a new statistic coming out of the USA, which stated that over 100 million people are suffering from chronic pain of one sort or another!

The soft tissue in our body comprises of around 45% of our total body weight. Muscles, tendons, ligaments fascia and bone itself are all part of the connective tissue system.

This strong somewhat pliable collagenous matrix of binding material gives us our shape, our structural integrity and joins every part of your body to every single cell and organism from head to toe.

Whichever line of direction you move in or draw a line through is bound together by this strong but flexible, highly sensory tissue that is underestimated in what it can do for your upright posture, movement patterns but also for your general health. When fascia doesn't move well and is stuck, the whole body feels it. Circulation is diminished and inflammation increases.

As you move, healthy connective tissue and fascia allow tissues to glide smoothly past one another. Fascia is also there to protect, suspend and to cushion your organs and it also binds your trillions of cells in place while relaying messages between them.

Today, Manual therapists study fascia as a complete separate system to the traditional muscular model that used to be practiced.

Prompted by John Barnes (Myofascial release) and Tony Myers (Anatomy Trains) with their outstanding research on fascia and Connective tissue we now know that the health and internal communication of the fascia whether neural or vascular is essential and integral to optimal health.

This connective tissue network is so extensive and ubiquitous that if we were to lose every organ, muscle, bone, nerve, and blood vessel in our bodies, we would still maintain the same upright posture but of course we would not be able to move.

I was always taught that "disease" lies in the fascia, not in the highly vascularized muscle tissue. The connective tissue layers where blood, water and Oxygen is restricted by the lack of blood cells can become dry and highly adhesive and this in turn causes a shortening or a pull on the rest of the connective tissue structures that will affect the whole body alignment and therefore slow down your movement patterns.

Chronic musculo-skeletal pain often comes about from poor mechanics, muscle imbalances, weakness and the source of all this in my opinion is fascial restrictions.

Stretching the fascia.

At a clinical level we are seeing more cases of inflammatory conditions of the soft tissue. Whether this has come about from poor ergonomics or sitting too long or auto-immune system dysfunctions and disorders. To be sure, musculo-skeletal pain levels are on the increase.

As manual therapists we are evolving new ways to perform fascial release techniques to unglue the adhesions and restrictions that cause the whole kinetic chain to go out of sync and alignment, creating these faulty movement patterns that lead to wear and tear and of course chronic pain.

Until recently, Connective tissue has been seen and taught as a kind of passive viscoelastic material not offering much in the way of force and power transfer. But today sports science and physiology researchers are now beginning to demonstrate just how much fascia and connective tissue impacts the elastic recoil spring like reaction from the connective tissue that generates huge mechanical changes from the ground upwards.

Those of us who have had the pleasure to read Christopher Mcdougall's new book "Natural Born Heroes" where he discovers a hill farming tribe in Crete (land of Heroes) where they have learned to bounce and spring their way up the mountain almost as if they are walking downhill even when carrying heavy loads on their backs. He attributes this to their style of walking and the way they have tapped into their connective tissue system.

"The art of the hero, is the art of natural movement," Christopher Mcdougall

"The answer to the question of how the Cretan mob were able to achieve so much boils down to two basic strands: one is the idea that true physical strength comes not from muscle power but from the fascia profunda, the net of fibres that envelopes our bones and muscles and imparts the energy of "elastic recoil" that allowed us to spring across the

savannah in pursuit of lunch, as well as chuck the rocks or unleash the slingshot that killed the lunch for us.”

“Learn to use your fascia profunda, says McDougall, and you'll find yourself able to do things you never thought possible.”

One of the reasons that low-back pain is so difficult to manage is that large numbers of people have no detectable structural abnormalities of the spine and associated soft tissues, and the source of their pain is unknown. Ultrasound studies demonstrate that the connective tissues that surround the muscles of the back are, on average, thicker in people with chronic low back pain.

This may suggest that pain is arising from these less elastic more fibrotic and adhesive connective tissues on either side of the spine, severely decreasing mobility. We now know that connective tissue has its own highly sensory nerve supply which generate these acute pain sensations.

However, during chronic inflammation, myofibroblasts can drive an excessive deposition of collagen, and the increased tissue tension can result in the development of tissue contractures that restrict full range of motion.

Indeed, fibrotic, or scarred tissues, become stiffer, and cancer cells have been shown to spread more easily on fibrotic matrices.⁷

In contrast to the general neglect of connective tissue in the conventional medical and scientific fields, lifestyle wellness practitioners and especially clinical practitioners, have for many years recognized the potential importance of connective tissue in health and disease. Assisted Stretch and Mobility clinics are offering a layered approach to unwinding restricted connective tissue .

Keeping the fascia moist and hydrated like a wet sponge that is springy and resilient. This will help maintain tissue mobility and integrity as well as strength. You can wring it and twist it and it will be hard to tear or break.

Stretching of surgical scars and joint tissue that have contracted and stiffened after prolonged immobilization is widely believed to cause remodeling of connective tissue.

Alternative secondary healthcare therapies such as myofascial release and Roling focus on stretching as a treatment modality for musculoskeletal pain, even in the absence of an obvious past injury or scarring. Indeed, a variety of alternative manual and movement-based therapies work under the collective assumption that connective-tissue pathology lies at the source of musculoskeletal pain, and that this can be ameliorated with manual treatments.

When we think of stretching the soft tissue we often think purely at the muscle layers but it is the fibers of the connective tissue; the collagen layers that glide along the top of mucous like proteins called glycosaminoglycans or GAG's for short. These layers when well hydrated, are as slippery as ice. Healthy fascia transmits the ground reaction force

through the body as if you had a built in trampoline in your system. To stay well hydrated you will need to rest often and vary the type of movements and tempo of movements.

When they are poorly hydrated they can become gluey and brittle and are at a greater risk of injury, erosion and rupture. So working on realigning the fascial layers will allow you to regain your natural spring.

The elastic quality of your fascia will let you run faster, jump higher and throw farther!

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