

Beating Fasciiasm

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An article published in the Journal of Manual Therapy suggests that the causes of hamstrings injuries are multi-factorial and that these injuries may be treated and prevented by manual therapy techniques on areas distant to the hamstring.

The Article suggests that tight thoracolumbar fascia (TLF) is implicated in the cause of Hamstring injuries and that the TLF and its' muscular attachments may be the source of the problem. The thoracolumbar fascia is a thick sheath of connective tissue in the lower back/pelvis area and connects several large muscles. When considering that the TLF attaches to the latissimus dorsi, Transversus abdominus, internal obliques, rhomboids and splenius capitis muscles, you begin to realize what they are implying.

That Muscles attaching to the shoulder and neck, amongst others, have an influence on the hamstrings!!!!

Big statements, but how do they justify it?

It follows the line of thought of T.W. Meyers, the author of the book Anatomy Trains. This book, using the metaphor of trains, describes lines of interconnected myofascia (muscles and fascia) running the length of the body. For example, the TLF and hamstrings will be the train tracks and the Femoral condyles, Sacrum and Ischial tuberosities will be the stations in-between.

A "fascial train" is formed by following a line of "consistent tension through continuous myofascia".

There are five main trains: Superficial front line (SFL), Superficial back line (SBL), Lateral line (LL), Spiral line (SL) and the Deep front line (DFL).

Knowing that the "lines" of myofascia are present is important, as it shows interconnectedness of the body and further emphasizes that no muscle or joint, works in isolation.

For the ease of study and nomenclature, humans have broken the body into segments and sections that we have seen and studied in isolation. It is this potocol that has led us to neglect the bigger interconnected reality of our bodies and movement. Fascia does not obey our human invented demarcations. And so we can approach hamstring injuries from another perspective.

What is fascia?

Fascia is connective tissue that wraps itself around every muscle, tendon, ligament and bone. It connects individual muscle fibers together, and then groups these muscle fibers into distinct structural compartments, which then connects these compartments to other compartments and then to joint capsules, tendons, ligaments and bone. Fascia can be seen as a network or reinforcing that binds all our tissue together (Think the white gooey stuff around Biltong). The "anatomy trains" are essentially lines of connective tissue with disregard to the human invented distinctions.

This interconnectedness of fascia, allows us to accept the suggestion that hamstring injuries may be related to fascial restrictions in other areas besides the hamstrings, the same way traffic in Hatfield will be slow if there's an accident at the Brooklyn Circle. It is this principle that encourages us to evaluate patients as a whole and not as individual limbs.

Living fascia

Although fascia is "just" connective tissue, it does not mean that it remains fixed and unchanged throughout life.

Like the rest of our body, fascia reacts and changes according to the stressors placed on it. Faults such as scarring, fascial thickening or trigger points may develop within the fascia due to injury and / or over-training. These faults then contribute to fascial tightness, which then hinders fluid movement of the "train".

Tight fascial systems lead to higher muscle tone due to increased output from nervous system, which is required to move restricted muscles. This increased tone results in less efficient movement patterns, thereby predisposing one to injury.

Interestingly, it is not only over-training that may result in fascial restrictions but under-training can also cause blockages.

Restrictions or blockages can occur anywhere along the length of the "fascial train" and these restrictions may have an effect both above and below the site of the restriction.

Implications:

When evaluating a person with an injury it is important not to fixate on the human invented demarcations but to look at the whole person.

Posture evaluation will give an indication of restrictions. Look further than the affected area, evaluate the areas above and below.

Static posture can only provide limited information.

Simple movement analysis that tension the train lines will provide information about where sufficient motion is taking place and where restrictions occur.

Fascia tends to adhere to underlying bony areas and other connective tissue. These restrictions or links need to be released as they result in dysfunction. Dysfunction in one line will result in compensatory movements, resulting in dysfunction and tightness in another line. These dysfunctions create muscular imbalances which lead and predispose to further injury.

Manual therapy techniques like massage, myofascial release and dry needling break down the excessive connective tissue at the restricting links thereby allowing normal movement.

Conclusion

Fascia is connective tissue found within the body. Like the rest of our body, it reacts and adjusts to exercise and posture. With excessive loading or prolonged posture, the fascia may become thicker and adhere to the underlying tissue, resulting in altered movement patterns. It is these altered movement patterns, that further stress the body and result in pain and dysfunction.

With complex movement patterns like bowling in cricket or rowing, a restriction in any length of the fascia will alter the whole movement pattern, thereby stressing structures along its length.

An athlete struggling with chronic hamstring tightness and not responding to local treatment may benefit from myofascial release along the length of the appropriate "anatomy train". This would involve release of fascia of the buttocks, lower back, latissimus dorsi, shoulder and neck. Results are also not immediate. Just as it took time for the restrictions to form, it will take time for the treatments to take effect thereby enabling smooth unrestricted movement of the whole fascial train 🌈