

More than skin deep

Understanding myofascial connection is to look beyond a horse's conformation and movement to what lies beneath. **Dr Vibeke Elbrønd** explained more at the recent Horses Inside Out conference

“The fascial system is a continuous, web-like structure of connective tissue”

The therapist's 'map'. Myofascial lines are chains of interconnected anatomical structures that direct the basic motion pattern

MYOFASCIAL CONNECTION DOESN'T really sound like something the average horse owner needs to know much about, unless you happen to be studying for a veterinary science degree in all that spare time you may have now. Feed, water, hay, skip out, assess myofascial connection status...? No, it's not something most people will ever have done as part of their beloved equine's daily routine!

What is the fascia?

The fascia is the tissue made of white, glistening fibres that you see when you pull apart a piece of meat. The fascial system is a continuous, web-like structure of connective tissue that enrobes an animal's entire body like a flexible net, providing support and shock absorption from top to toe, inside and out.

We pay so much attention to muscle development and topline as an indicator of whether our horse's training is going well, but what about the fascial system that holds all those muscles and sinewy bits together? It turns out that these are a lot more relevant to horse owners than previously thought.

Fascia refers to all connective tissue, whereas myofascia (myo meaning muscle) relates to all fascia surrounding, connecting to and contained with the muscular tissue. It surrounds, connects and protects everything within the body. Every nerve, blood vessel, bone, organ, muscle and cell lies within the fascia.

This connective tissue simultaneously joins and separates every part of the body, creating a vital framework that allows all bodily systems and structures to work in synergy. Collagen fibres are tough and provide shape, strength, shock absorption and support; elastin allows for stretch and minor shock absorption; and everything is bathed in a gel-like, viscous fluid that creates space around the cells and supplies nutrients and oxygen.



MEET THE EXPERT

DR VIBEKE ELBRØND is an associate professor of anatomy and biochemistry at the University of Copenhagen. Alongside lecturing she runs a small practice where she treats the locomotion system of horses and dogs using chiropractic and fascia release, as well as laser and acupuncture treatments.

PHOTO: DR VIBEKE ELBRØND



Myofascial lines are believed to play a role in functionality, connection and balance of the body

PHOTO: DR VIBEKE ELBRØND

Sticking points in the system

Although the fascial system is a perfectly tough and well-adapted system by nature, it is surprisingly easy to break or damage certain fibres, causing 'sticking points' in the system and resulting in a loss of flexibility, gait adaptations and pain. Imagine a small piece of gravel in your shoe causing relatively minor discomfort, yet within a short space of time it can affect your way of walking, with knock-on effects for your whole body.

Likewise, a horse's structural alignment can be altered by fascial restrictions which can lead to uneven paces, a loss of power, lack of flexibility, lameness, pain, behavioural changes and fatigue. In other words, the full range of training problems you may have encountered over the years. The answer, however, is not necessarily to just throw more schooling exercises at the problem. Assessing the horse's movement, muscle development or conformation, as we commonly do, is only the tip of a very complex iceberg where most of the clues lie way beneath the skin's surface.

Potential problems

When left untreated, damaged fibres result in fascial restrictions that continue to tighten, pulling throughout the horse's body along this continuous web, with a knock-on effect on other structures. So, instead of being able to 'glide and slide' in precise union with each other over multiple layers of muscles and tissues, movement is compromised. Hollow backs, tense necks, crooked halts and uneven paces are just some of the common physical challenges that can result.

Elastin can become overstretched and lose its resilience, collagen can become too dense and fibrous, and the gel-like surrounding substance begins to dehydrate and harden. Since fascia is a single system,

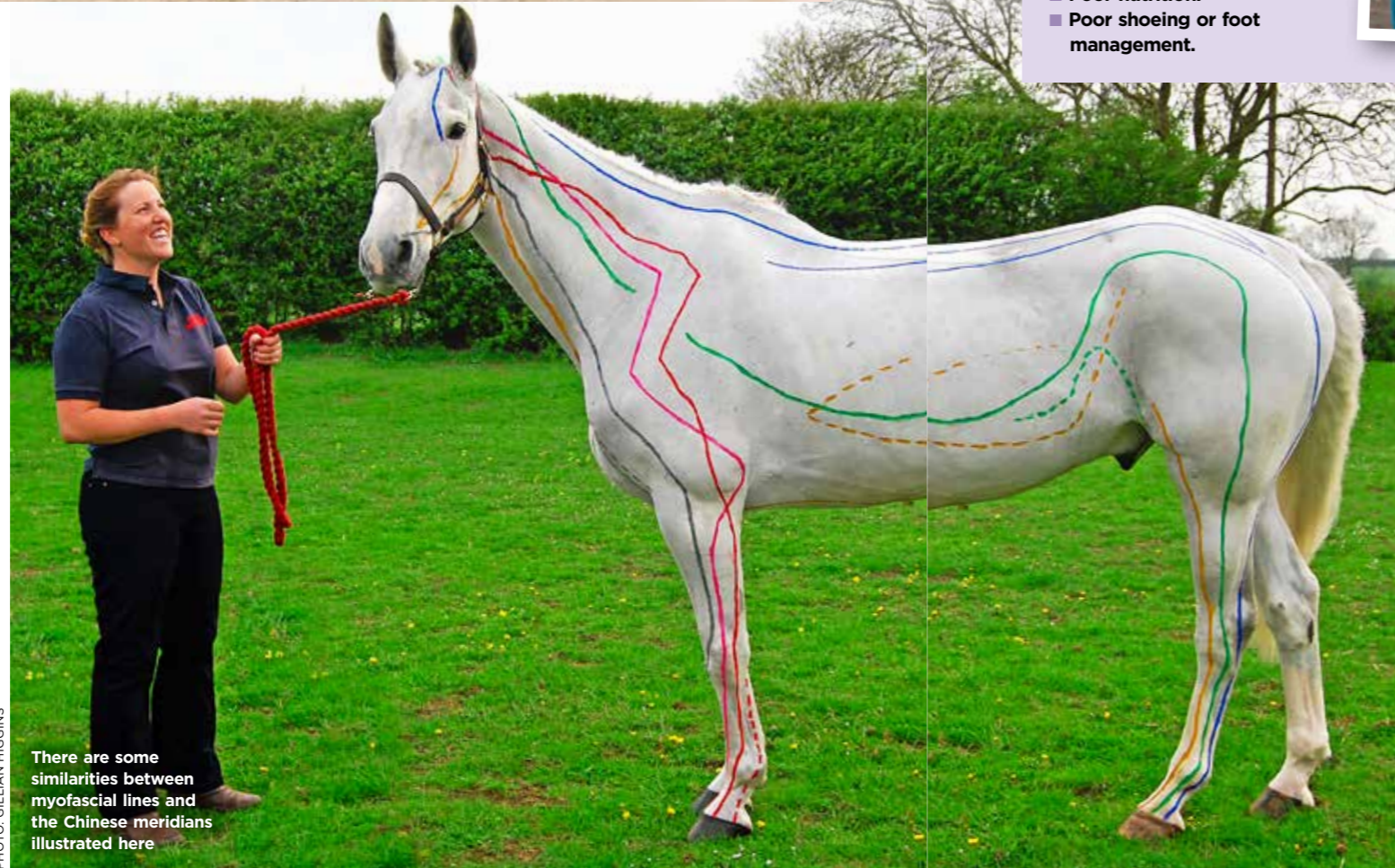


PHOTO: GILLIAN HIGGINS

There are some similarities between myofascial lines and the Chinese meridians illustrated here

the pulling caused by restriction begins to affect remote areas of the body, which can lead to numbness or pain from nerves being stretched or compressed, decreased blood flow, a lack of strength and endurance in the muscle and an altered structural alignment. So schooling a horse with these fascial restrictions is a bit like trying to knit with a

knotted, tangled mass of baler twine (to use a horsey metaphor). It requires a lot more effort and the results won't be pretty.

A fine net

The fascial system and myofascial connections (ie, the bits that connect the bits that connect) embrace the entire horse like a

POSSIBLE CAUSES OF FASCIAL RESTRICTION

Fascial restriction can result from many equine issues, with the most common including:

- Direct injury or trauma (physical or emotional).
- Inflammation.
- Overuse or repetitive/inappropriate training.
- Ill-fitting tack — often the saddle, but also the bridle, girth, bit, or even rugs.
- Poor riding or mirrored dysfunction between horse and rider (where his problems become yours and vice versa as you both try to compensate for each other).
- Surgery.
- Poor nutrition.
- Poor shoeing or foot management.



Tack that may not fit as well as it should may cause fascial restriction

PHOTO: BAUER LIBRARY

What can a therapist do?

The complex fibres of the fascial system are normally relaxed and wavy. They are capable of deforming and reforming according to the tension placed on them, and then they 'ping back' once the tension is released. Muscles and fascia layers can move freely over each other, but tight connections or damaged fascia lose this 'slide and glide' ability, which affects the horse's movement and recovery at a fundamental level.

Limited glide caused by fascial restrictions affects other connected structures, preventing them from doing their job. And, of course, it's not just those obvious movements that require obvious muscular effort which are affected — such as jumping a fence — but the vital, although less visible functions of tissues, such as those involved in breathing and digestion.

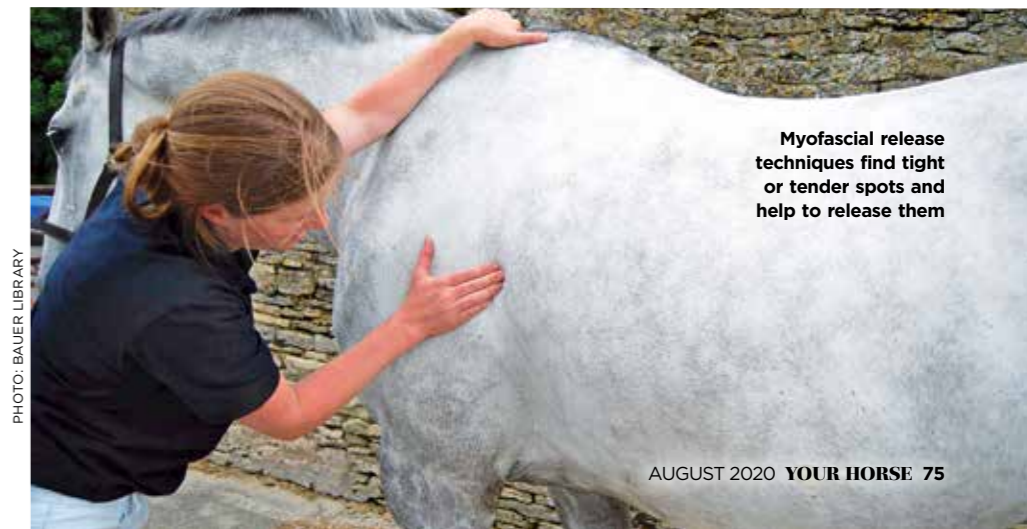
Which of us hasn't had a knot in a muscle

from time to time? These knots develop when individual muscle fibres are overstimulated and unable to release their contracted state due to pain, overuse, strains or trauma. Muscles around the painful area bunch up and tighten into a knot to protect the area from further injury. But, unlike the horse, we can remove the load and give the sore spot a rub.

Trigger points

Trigger points are the tight tender spots in the middle of the knot that create pain and dysfunction within the muscle. They reduce blood flow like a kink in a hosepipe and prevent muscle fibres from functioning normally and getting rid of toxic waste products, such as lactic acid.

These are what a therapist will look for in order to practise myofascial release.



Myofascial release techniques find tight or tender spots and help to release them

PHOTO: BAUER LIBRARY

fine net under the skin, and exert minuscule but crucial cellular pulls. Our riding and management of the horse influence them, for better or for worse, every day. So the answer is yes, you do need to understand it, and you probably know more than you think already. For example, most of the causes of fascial restriction are management related.



Gillian Higgins' horse Freddie Fox, now 24 years old, has certainly benefited from the techniques

PHOTO: GILLIAN HIGGINS

What happens during therapy?

"During myofascial release therapy, the therapist locates myofascial areas that feel stiff and fixed instead of elastic and movable under light manual pressure," says Gillian Higgins of *Horses Inside Out*.

"Effective release requires the correct pressure to be applied at the correct frequency. Myofascial release techniques, combined with rhythmically moving the horse, can be particularly effective. This technique is sometimes described as myofascial unwinding, or rhythmic overpressure."

Who can treatment help?

"Whether a pleasure or a top competition

horse, myofascial release therapy is particularly effective for horses who have postural, compensatory, or asymmetrical issues," says Gillian. "I have often been impressed by the degree of release and improvement shown by older horses who have held tensions and postural compensations within their body for a very long time."

How does taping ease pain?

Have you ever seen human athletes, particularly tennis players, with brightly coloured strips of sticky tape on their legs? Kinetic taping is thought to relieve myofascial pain by elevating the

subcutaneous space which then increases the blood circulation and lymph fluid drainage to reduce the chemical factors causing pain in the region.

Myofascial taping is now increasingly being used to help reduce pain in horses.

How much does it cost?

Every horse and the way he responds to therapy is different. The number of sessions depends on the problem, the horse's age and his condition. Each treatment session lasts about an hour and can cost £35-£85 per hour.

How do I find a therapist?

To find a local therapist, check the Register of Animal Musculoskeletal Practitioners at rampregister.org, or the Animal Health Professions' Register at ahpr.org.uk.



Myofascial taping has been used in human sports for several years

PHOTO: GIORGIO ROSSI

Thanks to *Horses Inside Out* for its help with this feature. Due to coronavirus it has had to postpone its courses and demonstrations for 2020. However, it is producing new literature and preparing online videos and is also regularly updating the *Horses Inside Out* website, sharing information and producing a weekly blog.

Details of some courses and demonstrations for 2021 can be found on the website's 'What's on' page at horsesinsideout.com.

