

Fascia – The New Buzzword a GYROTONIC® Trainer Needs to Know?

By AMT Juergen Bamberger

'FASCIA' has become the new buzzword in the mindful movement culture which includes the practices of the GYROTONIC® Method as well as Pilates and Yoga. Progressive physical therapists, massage therapists and body workers alike are paying attention to new studies on this topic and the possible implications for their professional fields.

The word 'fascia' is Latin for 'band'. In anatomical terms, the fascia is a layer of tough, collagenous connective tissue that spreads throughout the entire body without interruption, just like a three dimensional web. Fascia surrounds, encloses, supports and protects all structures within our bodies: muscles, bones, ligaments, tendons, blood vessels and organs. Even the brain and the central nervous system are wrapped and supported by fascial sheets.

The term fascia is used as a general umbrella name for different types of connective tissues. There are distinctions between superficial and deep, and dense and non-dense fascia. The superficial fascia is a thin layer of loose fatty connective tissue underlying the skin, binding it to the parts beneath. The deep fascia is the fascia that both separates and binds muscles together, allowing for them to slide over each other. The visceral fascia suspends the organs within their cavities. Fascia is a product of **mesenchyme**, a type of connective tissue, which develops in embryos before differentiating into numerous other structures like bone and cartilage.

If you think of this fascial network as a braided web of inter-connected ropes, you can imagine that it would respond to directional tugging and pulling. If you pulled on it, the whole web would change and adjust its form according to the pull applied, while maintaining its tensional integrity. This is exactly what is happening with each movement that the body makes. The fascia is designed to follow the movement of muscles, bones and organs that it encases by allowing a glide between neighboring fascial layers. Because of the wavy orientation of its fibers, fascia is a flexible yet strong structure that can be stretched. As some research suggests, it can contract and release by itself. This can also happen as a response to stress. Injury, surgery, lack of movement and dehydration can inhibit the fascia's natural glide and stretching capacity. Any adhesion or perforation may lead to dysfunctional movement patterns in the fascial network with possibly far reaching health consequences for the whole organism. As a tensegrity system, the fascial network gives form to our bodies and keeps things in place. Most importantly, it participates in every movement, allowing for movement to occur without the body falling apart.



Recent studies have found that fascia has a very high quantity of receptors, free nerve endings, blood vessels and circulating fluid. With that, fascia could be one of our strongest sensory organs. In regards to proprioception, the responsible receptors are the mechanoreceptors. They give us feedback on where we are in space, our symmetry and the biomechanics of our movements. These receptors can change the tension of the muscles that pull on fascia. Free nerve endings in the body's viscera are linked to our interoception, the sense of overall well-being which is non-symmetrical and subjective. Information fed from the visceral fascia helps us with the perception of our body, whether we feel heavy, light, tall, short, dense, open and so forth. It is part of our sensuality and the feeling of being at home in our body. We rely on interoception when using our body awareness after working out and while meditating to see how we feel inside but also to get a sense of our physiological condition.

This basic knowledge of the fascial system can change your way of looking at movement. As a trainer and teacher you can, by understanding the fascia, look for movements that span over as many joints as possible. Instead of isolating muscles you would try to activate whole muscle chains that run from the top to the bottom of the body and vice versa. You would visualize the fascial layers that span through the whole body and discover ways to affect them through movement. Indeed, your perception, analyses and interpretation of movement as well as your strategies can completely change when you become familiar with the fascia.

From this altered point of view it becomes a necessity to add fascial health, function and nourishment to our fitness goals. We want to keep this intricate, hydraulically functioning system lubricated by drinking enough water and eating foods that have a high water content like fruits and vegetables. We want to maintain the un-inhibited glide of the fascial layers by using the movement stimulation that keeps them supple and prevents injury and adhesions.

Dr. Robert Schleip, PhD and a Rolfier, who does fascial research at the university of Ulm in Germany, recommends the following approach in an online interview: "Instead of training a muscle group by exhausting it through loading and repetition, we need to change the angle of movement constantly. Facial training needs loading, especially in the end range. We need to spread the movement along fascial lines over as many joints as possible. Fascia can be strengthened. However, it will respond slower than muscles but will keep its strength longer." He adds: "Take the shoulder girdle as an example, it was built for hanging, we have the rotator cuffs and latissimus dorsi, both need loading. Any monkey like movement is perfect to stretch the fascia and to activate these structures."

Reading these paragraphs, I hope you feel a sense of recognition. Those of us who are teaching and practicing the GYROTONIC® Method are familiar with some of these ideas, at least from an experiential point of view. We almost take it for granted that we systematically change the angle of our movements while

working out on the Gyrotonic equipment or during a GYROKINESIS® class. Increasing the load or resistance in the end range of any given movement is second nature. As our exercises pass through all dimensions and planes during their execution, we increase our proprioception, which leads to a three dimensional body awareness. We do this by stimulating the mechano- receptors in the more superficial fascia. The use of movement qualities reaches deeply into our viscera, for example when moving 'as heavy as a walrus' or with 'stickiness' or as if 'pushing through mud'. The 'yawning quality' of some slow and sustained movements stretches out fascial fibers while also awakening alertness and well-being. Moving with a hydraulic quality during the pulsation series on the handle unit, pushes fluids through the fascial layers, increasing their hydration and nourishment. The use of rhythmical movements promotes the same benefits. We are loading muscles, bones and fascia through both the gentle weight resistance from the equipment and through the neuromuscular tension that we activate in our bodies. When we push or pull against the equipment, the tension that we produce with our muscles and fascia gets dispersed and transmitted through the fascia.

Whenever you hang from the rungs of the Archway while twisting the propeller below you with your feet, or when you slide the independent sliders of the Jump-Stretch Board in opposite directions to experiencing a progressive spiral in your torso, or when you push the handles of the GYROTONER® to stretch one side of your body to the maximum, in all these actions you are responding to a moving environment. The actions are loaded while allowing free directional changes without any compression in the body. There is always an expansion and an opening at the end of a movement.

Anywhere you move in the Gyrotonic Method you are moving fascia. This has been an intrinsic aspect of our work and it is intentional. Its intelligent design came from an intimate and deep process of observing the true nature of the body. The vision that resulted from this process has led the inventor, Juliu Horvath to create the methodology we have today.

While Juliu continues to develop his methodology, it is very exciting to follow the ongoing and rapidly progressing fascia research. It is a bonus to be validated by science in what we do. Incorporating new research will further support our understanding of certain aspects of the work we teach and practice. New findings will also offer us additional precise language to communicate details and background information that was previously either unknown or speculative.

When John Godman, MD wrote 'Fascia of the Human Body' in 1824 he stood alone as a mechanistic and overly dissective approach to science took hold. Consequently his findings were disregarded and fascia was left out of our anatomy books. It was considered useless scrap material in dissecting rooms. In the early 20th century, when Ida Rolf emphasized the importance of fascia in her manual work 'Rolfing', she stood alone as well. But with the beginning of the 21st century this has changed. Since the Rolfer, Tom Myers brought a re-organized and updated vision of the human fascial system under the name 'Anatomy Trains' to body workers and movement professionals, his initiative has gained great momentum. In 2007 a first International Fascia Research Congress took place in Boston. The third congress happened in 2012 in Vancouver. Scientists as well as practitioners from all over the world have taken on the topic and are cooperatively pushing fascia research forward. Leading forces in this field, among many others, are Dr. Robert Schleip PhD, MA, Rolfer, Ulm/ Germany, Thomas Findley, MD, PhD New Jersey and Thomas Myers, Rolfer, Main.

Fascia is a living, breathing and communicating tissue. We know now that it holds the key to some of the mysteries of our human design. As these mysteries will be revealed, the word 'fascia' will stay in our awareness with evolving meaning, affecting our profession for the foreseeable future.



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