

## What is Fascia

Fascia is a band or sheet of connective tissue, primarily collagen, beneath the skin that attaches, stabilizes, encloses, and separates muscles and other internal organs.

Fascia is a specialized system of the body that has an appearance similar to a spider's web or a sweater. Fascia is very densely woven, covering and interpenetrating every muscle, bone, nerve, artery and vein, as well as, all of our internal organs including the heart, lungs, brain and spinal cord. The most interesting aspect of the fascial system is that it is not just a system of separate coverings. It is actually one continuous structure that exists from head to toe without interruption. In this way you can begin to see that each part of the entire body is connected to every other part by the fascia, like the yarn in a sweater.



Fascia can make up 30% of the mass of our muscles and for this reason muscle is more technically referred to as myofascial.

Fascia is a latin word which means 'band' or 'bandage'. We now realize that fascia is very important for our overall health, ability to move and proper functioning of our internal communication systems.

A way to understand how our fascia works and how we hold together is to imagine an orange. An orange without its peel still holds its shape. All of that white pith allows it to hang together. We are like that just underneath our skin in which we have a superficial layer of fascia that holds everything together. But you know that you can take sections out of the orange and each section stays together and each section holds its shape. We are like that. All of our organs and muscles have their own container of connective tissue. But the saga continues, when you open up a section of orange you know what you're going to see..individually wrapped pulp. We are like that all the way down to bone. And bone is just mineralized fascia!

Fascia is protective and responds by squeezing when you get a fear signal. Much like a seat belt, it will lock up on you when there's sudden movement or even just the thought of danger. The purpose of this is biological. If you get in a fight and get cut, you don't want to bleed too much so the fascia is squeezing your blood vessels because the blood vessels are buried in the fat and fascia. It also squeezes your nerves so you numb and don't feel as much pain. Now when it heals, it will heal criss cross and diagonal like plaid. The nature of their scar tissue is more granular, more resistant, less flexible, and you lose range of motion. During freeze responses the fascia can act like a tunicate and that slows down circulation, lymph flow, and light into the area. When we walk away from that many of us still have freeze response contained within our body.

Read 'The Myofascia-Tendon Complex' and 'Tendon Changing' sections in your book (page195-198)

## The Deep Fascia

Fascia is ubiquitous and found all over the body. Besides fibers, fascia also includes

1. Ground substances → extracellular fluids that create pools of watery gel through which cells can migrate
2. Living cells (fibroblasts) → secrete the fibers mentioned above, as well as the molecules that attract and hold water in place

Fascia can vary in thickness and density depending on where it is and what it's being used for. As previously stated, it is often found in sheets and bags.

**Superficial Fascia/Hypodermis** → Type of fascia that is located just beneath the surface of the skin

**Deep Fascia** → Directly beneath the superficial fascia which is usually tougher and tighter than the superficial fascia. Embedded in this deep fascia there are tissues of the muscles, blood vessels and all the other tubes that wind through the body.

### Deep Fascia

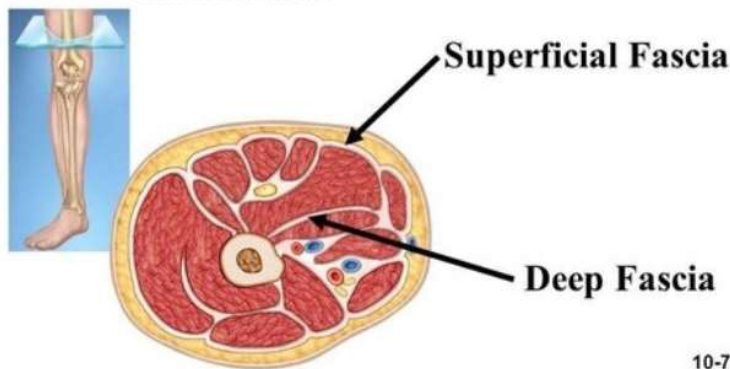
1. Binds the muscles together while ensuring proper alignment of the muscle fibers, blood vessels flowing through the muscles, nerves and other components of the muscle
2. Transmits the forces applied to the muscle evenly to all parts of the muscle
3. Lubricates the various surface that need to move or slide along each other.

## Deep fascia

– found between adjacent muscles

## Superficial fascia (hypodermis)

– adipose between skin and muscles



Everything is interconnected and all the tissues work together. The deep fascia merges with all the other tissues embedded within it. Even the organs are continuous with the fascia. Muscle tissue and deep fascia are one continuum. What we do to one, we do to all.

Therefore fascia is not just continuous with the muscles, organs and all tissues but it is connected together throughout the body.

- Is it Fascia that holds us together
- It is Fascia that keeps the bones connected and upright → without fascia bones would collapse to the floor

A small movement in one area of the body pulls on the whole web of fascia connected in the body.

The slightest movement at one end of the body can be felt at the other end. That's what makes it possible to feel the movement of the breath everywhere in the body but it requires attention and practice.

## *Fascia and Proprioception*

Fascia is like a fishnet or web in how it communicates. It allows your body to know where it is in space and how one part is in relationship to another, also known as proprioception.

Proprioception is the medical term that describes the ability to sense the orientation of your body in your environment. It allows you to move quickly and freely without having to consciously think about where you are in space or in your environment. Proprioception is a constant feedback loop within your nervous system, telling your brain what position you are in and what forces are acting upon your body at any given point in time.

The way that we can tell that an arm is raised above our head, even when our eyes are closed, is an example of proprioception. Other examples may include your ability to sense the surface you are

standing upon, even when you are not looking at the surface. If you are walking along the sidewalk, and then turn to walk upon a grassy surface, your body knows how to adjust to the change in surface because of proprioception.

## Anatomy of the Proprioception System

Proprioception comes from sensory nerve endings that provide our brain with the information of the limb position. There are specialized nerves in your muscles and joints that communicate with your brain and tell it what position your joint is in and how much stretch or strain in on the muscles surrounding a joint. The nerves surround each muscle bundle, creating a system of communication with your brain about what is happening to the muscles and joints of your body.

The body has a system of light pipes that form the internet of the body and share information through photons. These light pipes account for the speed upon which information is shared faster than any nerve impulse. Again..this is fascia!!

While scientists used to think fascia was made up of connected parts, more recent knowledge reveals that it's actually one single sheath. While this in itself is amazing, it also highlights the fact that if one part of this webbing is flawed, the entire system is impacted. Fascial therapies are even linked with the increased production of endorphins and greater mind/body relaxation.

Fascia is a type of connective tissue that forms a continuous body-wide web inside of us, surrounding and inter-penetrating all of our muscles, bones, organs, nerves, and blood and lymph vessels. In fact, in addition to forming the architecture that weaves our inner structures together, our connective tissue system as a whole also absorbs and transmits force inside of us, working in conjunction with our muscular system to create smooth, efficient movement. Such insights have the power to expand the way we understand movement, which is very exciting!

## Fuzz

When fascia is too dry, the sliding surfaces will start to stick together. Sometimes adhesions glue the surface together and mobility is lost. These adhesions are made of collagen fibers that begin as thin wips of fuzz.

The body produces fuzz between the muscle groups when we sleep. When we wake up and move and stretch the body, we break the fuzz. Now when we get injured and can't move our bodies, the fuzz doesn't get broken and then each night another layer of fuzz is laid down upon the old fuzz. After a couple of days of not moving, the fuzz start to intertwine and tangle and become thicker which causes our range of motion to be reduced.

## Samskaras

The soul carries karmic impressions, which are imprinted memories, gifts, vows, contracts, and experiences. There is a Sanskrit word that is the basis for this karmic theory: Samskaras.

Samskaras are mental impressions, rememberings, or psychological imprints that we carry at a soul level from lifetime to lifetime. According to various schools of Indian philosophy, every action, experience, or intent by a soul leaves a samskara which is imprinted on the individual. These impressions are then activated through the individual's current life experience. In ancient Indian texts, the theory of samskara explains how and why we have past life memories, and the effect that these memories have on our experience in this life both in a positive and negative way.

The entire intention of yoga is breaking physical, mental, emotional and spiritual samskaras.

Yoga Sutra (II.16) states, "Heyam dukham anagatam," or "Future suffering is to be avoided." Lifelong patterns, relationship habits, addictions or personality traits can be revised with dedication. If we're serious and determined to find freedom from our most difficult samskaras, yoga philosophy offers a variety of tools for support.

The word samskara comes from the Sanskrit sam (complete or joined together) and kara (action, cause, or doing). In addition to being generalized patterns, samskaras are individual impressions, ideas, or actions; taken together, our samskaras make up our conditioning. Repeating samskaras reinforces them, creating a groove that is difficult to resist. Samskaras can be positive—imagine the selfless acts of Mother Theresa. They can also be negative, as in the self-lacerating mental patterns that underlie low self-esteem and self-destructive relationships. The negative samskaras are what hinder our positive evolution.

## Connection Fascia and Samskaras

In a way, we might consider that fascia in the body is a little bit like literal samskaras. Stressful experiences that we have can be stored in the fascia and create tensions and knots which impact how we inhabit our body, how we move, and even how we think and react. When we start to stretch the tissue through yin yoga, areas of the body that have been deeply held closed for any period of time begin to open, and the original experiences can present in any number of ways, including as anger, anxiety, fear, or grief.