

Fascia. Fascia. Fascia.

Written by Chris L. Widlund, LMP
What's all the Fuzz About?

Many of you have heard me talk about fascia: what it is, why it is important and how it affects our ability to move. As I sat down to write a series of articles on the structure and function of the body, I realized that I needed to go back to the beginning. And the beginning is fascia.

Fascia is connective tissue.

Fascia has been described in many ways: the "glue" that holds us together, "plastic wrap", "a spider's web". Those words provoke images that just begin to give us an idea of what fascia is.

Fascia permeates the whole body. Fascia extends from head to toe and front to back in a continuous sheath of tissue. It surrounds every organ, nerve, blood and lymph vessel, muscle and bone in your body. In fact if you were to take away all the tissue in the body that was not fascia and just left the fascia, there would still be a recognizable human form. (You probably would not be able to say, "That's Chris." But you would be able to see height, gender and shape.)

Fascia is so critical in providing structure that it not only surrounds every muscle but also every muscle cell and muscle fascicle (group of muscle cells). The fibers of fascia are continuous from around the muscle to the tendon to the periosteum of the bone.

The name, density and molecular structure of fascia changes based on the anatomical location in the body. In other words, when the "highway" of fascia leaves one structure for a new one (muscle, tendon, bone) the name changes. Just as the road you are driving home from work on is the same road but the name of the road changes when you drive into a new town. As fascia moves to surround this new structure it is also tasked with new job. The fascia that surrounds a layer of subcutaneous fat is much less dense than the fascia that surrounds a muscle. Muscles contract and relax while fat simply pads; thus the fascia around muscles needs to be stiffer and denser.

Fascia is made up of two fibers: collagen and elastin. The big difference between collagen and elastin is stiffness. Both fibers stretch, but elastin will stretch farther before breaking than collagen. Just as we saw that fascia in adipose (fat) was less dense is also does not have to be as stiff. Therefore it has a higher percentage of elastin than does fascia in muscles.

The collagen and elastin of fascia exist on a substrate called ground substance. Ground substance is "snot" like material. It is the fluid medium of fascia. The most prevalent component of ground substance is water. Water is what allows the fascia to slide across other fascia. Thus, the less water there is in the ground substance; the stickier fascia becomes.