Bodywork and movement therapy can help with contracted fascial tissue.

fascial contraction

Fascia can be divided into two general categories: subcutaneous fascia and deep fascia, also known as muscular fascia. Subcutaneous fascia, as the name implies, is located immediately deep to the skin. It is largely composed of adipose (fat) cells, giving it its gel-like consistency. Collagen fibers and fibroblast cells are embedded within this mix of adipose cells. Deep fascia is located deeper in the body and is primarily comprised of densely packed collagen fibers, accounting for its description as fibrous fascia. Fibroblasts are located between these collagen fibers (Figure 1).

Endomysium, perimysium and epimysium, which create the tendons and aponeuroses of muscles, are examples of deep fibrous fascia, as are ligaments and intermuscular septa. The loosely packed structure of subcutaneous fascia allows for a healthy blood supply, giving it strong reparative properties when injured. Alternatively, the dense arrangement of fibrous fascia does not allow adequate room for blood vessels; therefore, fibrous fascia has a poor blood supply and does not heal well when injured. In addition to collagen fibers and fibroblasts, both

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types of fascia contain elastic fibers that give them the ability to shorten back to their original length after being stretched.

The traditional understanding of the role of fascia within the musculoskeletal system is that it is an inert noncontractile tissue. Because of its high concentration of collagen, it has been understood to be extremely effective at withstanding tensile (pulling) forces without being torn. However, any pulling force it possesses has been considered to be passive. That is, when the fascial tissue is pulled upon, its collagen fibers passively resist being lengthened and stretched, having the ability to transfer these pulling forces to other tissues. For example, when a muscle belly contracts and pulls upon its tendons, these fibrous tissue tendons transfer that pulling force to the bony attachments of the muscle. Indeed, collagen fibers have long been heralded for their passive tensile strength.

Until recently, muscle tissue has been considered unique in its ability to contract. In other words, only muscle tissue can create *active* tension forces. However, recent research has provided a more sophisticated understanding of the contractile role of fascia within the musculoskeletal system. What is now becoming clearly understood is that fascia does not function only in a passive tensile manner, resisting and transmitting tensile forces. Instead, like muscle tissue, it can also create contractile active tension forces.

We now know that fascia also contains another type of cell called myofibroblasts (Figure 2). The root "myo" comes from the Latin word for muscle, indicating that myofibroblasts have contractile activity. The distinction between fibroblasts and myofibroblasts seems to be the presence of a protein called alpha smooth muscle actin (α-SMA) in myofibroblasts. α-SMA seems to be the principle molecule that confers upon fascia its contractile ability.

The degree of myofibroblasts present within a fascial tissue varies, but seems to be related to the degree of