

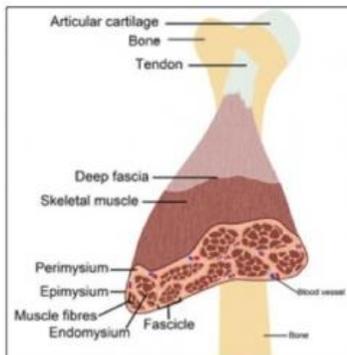


## **Fascia: Best supporting actor or star of the show?**

Everybody's talking about fascia these days. But it's a bit like the "core." We've heard about it and we know it's important. But what exactly is it, why does it matter and what can we do with it?

Let's start by acknowledging that we work with our fascia all the time. It's an integral part of our bodies. So every time we move, our fascia moves too. But until recently we didn't fully understand it or know how to work with it directly. In fact, fascia was traditionally discarded in dissection labs, so scientists could study muscles more closely!

However, in the last 10-15 years there has been an increasing amount of research into fascia and how it works. As a result we now have a much clearer understanding of the role fascia plays in supporting and moving our bodies.



*The different layers of fascia from tendons attaching to the bone right through to layers covering individual muscle fibres*

### **What is fascia?**

Fascia is connective tissue. It is composed primarily of collagen, a protein. And it is everywhere in our bodies!

Fascia covers many kinds of tissues, including the tendons and ligaments that attach muscles to each other and to bones. There's also fascial sheets like our lumbar fascia in our low backs and the iliotibial bands that runs along the outside of our legs.

But the fascial network goes beyond that. It holds our organs in place and weaves in and around all our muscles. A deep layer (endomysium) surrounds each muscle fibre like an envelope. Another layer (perimysium) surrounds bunches of muscle fibres. A more superficial layer (epimysium) surrounds whole muscles.

### **What does fascia do?**

Fascia is an organ of support, power and elasticity. It helps us move, it helps us stand and it helps us feel where we are in space. In fact many of our proprioceptive nerve endings are in our fascia, not our muscles!

Fascia is also an organ of communication. The web of fascia throughout our bodies communicates tension and release from one fibre to the next, one muscle bundle to the next and one whole muscle to the next.

#### **Fascia as a source of support**

When we think of support, we think muscles. As Pilates instructors we are very familiar with how muscles provide support. We also know how our ligaments and tendons add stability.

Fascial research now shows that based on the kind of exercise we choose we involve more or less of our fascia, even within our muscles. A study comparing standard workout activities, yoga-like stretches and so-called dynamic stretches showed that dynamic stretching involves the most fascia.

Dynamic stretches involve eccentric contractions of the muscles. In dynamic stretches, the limb or body part is active as opposed to passive, static stretches which relax the muscles. In a dynamic stretch, because some of the fascia is buried within the muscles, it is activated at the same time and provides additional support.

**To do:** Get into a lunge position with one leg forward and the other behind. Reach the back heel strongly into the floor and pull the thigh bone up into the hip socket. Feel the two-way stretch and activation in the back leg. This kind of lunge gives us muscular support in the front leg (primarily through our glutes), and muscular and fascial support in the back leg.

### **Fascia as a source of power**



*Images of fascia (white) throughout the body*

We are meant to have a spring in our step! Where does it come from? Partly from our fascia, specifically our Achilles tendon in the case of jumping and other similar activities. Research shows that animals like kangaroos and gazelles can jump as far as they do because they store energy in their fascia. We humans can too! Storing energy can make a difference in how we walk, run and jump.

The question is how do we store energy?

Research suggests that small mini bounces increase the energy storage capacity of our fascia—like that found in our Achilles tendon, IT bands, and lumbar fascia. The key is to find a way to bounce that is less muscular and more fascial.

**To do:** To increase the spring in the Achilles tendon, Robert Schleip and Divo Muller, creators of Fascial Fitness, a training approach based on fascial research, recommend little jumps. Stand on both feet and keep your knees relatively straight. Do little springy jumps, as if you're on a pogo stick. The key is to land softly and quietly. Another way to practise this is to go up and down the stairs as silently as possible.

### **Fascia as a source of elasticity and flexibility**

Some of us find it easier to bend and stretch than others. Stiff people tend to think of themselves as having tight muscles. But a lot of our flexibility has to do with our fascia and how it is created. Fibroblasts are cells within connective tissue that produce collagen, the building block of fascia. Some of us are “designed” to produce more collagen than others. The more we produce, the stiffer we become!

Research shows that people of Scandinavian descent tend to produce more collagen and, hence, are stiffer. Those from the tropics produce less and are more flexible. It turns out that being stiff in Scandinavian countries is an advantage. Every movement produces friction which, in turn, produces heat! On the other hand, tropical folk want to move with the least friction possible to stay cool. So they create less fascia to stay more mobile.

**To do:** The Fascial Fitness program recommends that stiffer people focus on trying to increase their reach while they stretch. The idea is to stretch whole fascial chains rather than isolated muscles. They also recommend using rollers to hydrate fascia and suggest that the best way to achieve release is through very slow and smooth motions. Faster movements stimulate and activate tissues.

If you tend to be looser at your joints you may want to contain your reach to create more support at the joint—unless you're planning to move to the tropics!

And the winner is...

Previously scientists paid little attention to fascia. But now we know that fascia an active player in our movement system. Muscles and bones couldn't do what they do without the help of fascia. It helps us move, provides support and keeps us supple. Credit where credit is due!

**By Jane Aronovitch|April 21st, 2015**