

UPMC Center for Integrative Medicine

Dedicated to increasing knowledge about safe and effective complementary and integrative medicine approaches.

Fascia: What it is and Why it Matters by David Lesondak, BCSI and Ronald Glick, MD

Obi Wan Kenobi described the Force as something that surrounds us, penetrates us, and binds us together. While he was referring to this mystical energy, he could have been describing fascia.

Fascia is a silvery white tissue that covers every muscle, organ, nerve, and bone in our bodies. For hundreds of years it was thought to be lifeless and inert. In the medical lab it looks about as interesting as wet insulation. Just like the Styrofoam peanuts in a FedEx box, fascia was thought to be a “packing tissue”, protecting our inner contents. The last 15 years of research has shown that fascia is doing so much more.

Fascia was thought to be passive, like a rubber band, elongating when we stretch, then returning to its original length. In 2004 at Ulm University in Germany it was discovered that when properly stimulated, fascia contracts against the stimulus. This was the first evidence that fascia, is a living, dynamic tissue. This helped open the door for more research and in 2007 the 1st International Fascia Research Congress was held at Harvard. Following this congress, research and our knowledge about this field has taken off.

In the same way that an orange rind creates organized sections of juicy pulp, fascia forms a pocket around each of our 600+ muscles and 200+ bones. Collectively, fascia forms a 3D, full-length bodystocking that keeps everything separate and at the same time connected.

Fascia assists in organizing and coordinating our every movement. It helps keep us flexible and supple. Like that rubber band, fascia elongates and returns to its natural shape. Problems can occur when our bodystocking begins to get stuck.

Collagen, a strong protein, is the building block of fascia. Collagen helps to maintain our posture. The cells that produce collagen respond to supply and demand, building up in areas under constant stress. Over 6-18 months this collagen build-up, known as densification, can restrict our muscles, change movement patterns, distort posture, and cause pain.

Our bodies have three times more sensory nerves (the nerves that feel) than motor or muscle nerves. These sensory nerves are responsible for a wide range of sensations; not just pleasure or pain, also hot, cold, itch, burning, and ache. These sensory nerves are interlaced in fascia.

The vast majority of sensory nerves are located in the sliding layers between the muscles. Fascia generates a lubricating

fluid, hyaluronic acid, that keeps everything sliding and gliding. When fascia begins to densify in this sliding layer, imagine dried glue, it can tug on these nerve endings and create uncomfortable sensations, which make us want to move even less.

This accumulation of fascial restrictions serves to functionally shorten some muscles, while letting others lengthen, becoming overly stretched or loose. Over time this can visibly distort posture and make even simple movements difficult or painful. Essentially, everything is tugging on everything else in the wrong way. For shorthand, you can think of fascial problems as Tension Deficit Disorder (TDD).

Fascia does not show up on standard imaging tests like X-Rays or MRIs, but it can be seen nicely on ultrasound. Since ultrasound imaging is performed in real-time, one can easily see the layers sliding on each other as well as restrictions in fascial movement.

How can one diagnose a fascia problem? Here is a list of common symptoms, although any of these also may have non-fascia causes.

- Soft tissue pain when performing simple movements such as rolling over in bed or putting on a shirt.
- Chronic pain that never truly goes away. Patients commonly complain that specific treatments or therapies help for a while, but they revert to the baseline level of pain in short order.
- Decrease in local and/or general range of motion, involving not just joints, but the surrounding soft tissue.
- Abnormalities of posture and gait, which can favor one side or the other or take us away from an upright posture, to being more hunched over.
- Compromised motor control and loss of coordination, often manifest as clumsiness.
- Reduced flexibility, lack of resilience or “bounce”.



Fortunately, fascia is a two-way street. What is restricted can become smooth again. There are a number of fascia-related modalities including: structural integration, fascial manipulation, myofascial release, fascial stretch therapy, and myofascial trigger

Inside CIM Newsletter	Research Opportunities	3
Fascia	1 Class/Lecture Series	4
David Lesondak – Interview	2 Staff and Practitioners	4

continued:

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point therapy. While these approaches have many differences, they have more in common. They provide a means to diagnose whole body patterns of strain and compensation. They each use a combination of hands-on fascial manipulation combined with slow stretching and other small movements on the patient's part.

A competent fascial therapist should be both strong and sensitive. Strong because densifications can be tough, and sensitive because stressed tissue can be very tender. Patients often report the sensation of fascia treatment as similar to pulling taffy. It can be full of sensation, because of all the sensory nerves living in the fascia.

The "mother" of fascial treatment was Dr. Ida Rolf. The system of treatment, which bore her name, was often quite painful. Structural integration has evolved and the sports mantra of "no pain, no gain" no longer applies. If you're wincing while using a foam roller (which can help re-hydrate fascial tissues) you're doing it wrong. The same is true when working with your fascial specialist, so keep an open dialogue.

Remodeling fascia initiates the reorganization of collagen, begins to reduce pain, and helps change patterns of compensation. These modifications are reinforced by specific movement cues and stretches as suggested by the therapist.

While actual mileage varies from person to person, the adaptable changing nature of your fascia makes it possible to realize your goals for lasting pain reduction and greater freedom of movement within a reasonable number of treatments.

David Lesondak is one of 20 clinicians who treat patients at UPMC's Center for Integrative Medicine. He has been here for eight years and brings expertise in the area of fascia and its treatment. He created and produced the video, *Fascia in Sports Medicine* and is soon to be a published author, with the book *Fascia: What it is and Why it Matters*, due out next year.



An Interview with Structural Integrator **David Lesondak, BCSI, LMT** by Ronald Glick, MD

How did you become interested in bodywork?

Out of college, I was working in advertising and media. Always good with my hands, I found myself working on my colleagues whenever they complained of muscle tightness or soreness. A coworker in my advertising agency experienced crippling pain. I provided massage over several weeks. As he felt better and better it started to occur to me that I might have a gift. When I completed my formal massage therapy training close to 20 years ago I realized that this was the direction I needed to go in my life.

What led you to shift your work from traditional massage therapy to Structural Integration (SI)?

In my work as a clinical massage therapist, I was puzzled that some people responded quickly, some took longer, and some didn't respond at all. At the same time, my sense of touch led me to look at the deeper fascial tissues and I started to appreciate the individual variability in this area. When I included fascial treatment I was able to help patients with chronic problems achieve more complete and more lasting changes. This brought me to studying SI. In addition to my massage schooling, I completed 750 hours of training in SI. But that wasn't enough. I needed to learn more about the anatomy and physiology and I have had the privilege to study with some of the leaders in the field. I was able to use my background in media to create videos that are used to train professionals working in treatment of fascia. At a certain point, the student becomes teacher, and I have been providing training for more than 10 years for students of SI, as well as advanced professionals in this field.

What surprises patients the most when they are undergoing treatment?

They're often surprised that they experience a tangible difference even after the first session. Some people feel lighter, like gravity is not weighting them down. Commonly, patients notice that they can move more freely without pain interfering. Often, they see a change in an area that they weren't aware was causing a problem. Kind of like the hum of the fluorescent light; you don't notice the light buzzing until you turn it off and then you hear the quiet.

For someone with arthritis can SI still help?

We don't expect that bodywork will change degeneration in the joint. We don't have research to guide us about what happens to fascia surrounding an arthritic area. My experience tells me that the fascia becomes restricted, feeling like it's dried up. In the same way that squeezing out a sponge allows it to absorb more water, fascial treatment can stretch things out and let nutrients come back in. Many patients with arthritis have discomfort in surrounding joints as well. That can be caused by restrictions in the fascia that extends from one area to another. SI can free up the motion of a joint and take some of the stress off of the neighboring areas. For people with chronic problems such as osteoarthritis or degenerative disc disease, they are pleased to see decreased pain, more fluid movement, and increased ability to engage in activities.

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GROWING EVIDENCE IN INTEGRATIVE MEDICINE

Help us advance Integrative Medicine through the

P.R.I.M.I.E.R STUDY

PATIENTS **R**ECEIVING **I**NTEGRATIVE **M**EDICINE
INTERVENTIONS **E**FFECTIVENESS **R**EGISTRY

This national study aims to show the important value of Integrative Medicine. If enough people participate in PRIMIER, then evidence will grow, making it possible for treatments to become more widely available.

PRIMIER results show patients report positive outcomes related to Integrative Medicine's 'whole person' approach:

- **significant reductions in depression;**
- **significant improvement in mood, fatigue, sleep and well-being;**
- **a more proactive role in overall health.**

WE NEED YOUR INPUT

- Survey is all ONLINE
- Seven 10-minute surveys over a 2-year period
- You will receive email reminders when it is time for your next survey
- Free parking for completing first survey

Pick up enrollment information at your next visit or ask to speak to a member of the research team.

UPCOMING RESEARCH STUDY: ACUPUNCTURE FOR CANCER PAIN

Acupuncture is a method of encouraging the body to promote natural healing and improve functioning. This is done by inserting needles at very precise acupuncture points on the body. In cancer treatment, acupuncture aids in the management of symptoms of cancer and side effects of treatments including pain, fatigue, nausea, and anxiety.

This Fall, thanks to funding by the Shadyside Hospital Foundation, the Center for Integrative Medicine will be enrolling patients in a new research study to evaluate the effectiveness of acupuncture in reducing cancer related pain. For more information contact the study coordinator at 412-623-6872.

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2016 – 2017 Classes and Lectures at the UPMC Center for Integrative Medicine

*The monthly lecture series is free and open to the public. UPMC employees receive 50 TAHS points for each lecture and class attended at CIM.

January 2017

Mon. 01/02	7:00 – 8:30	Monthly Mindfulness Intro/MBSR Orientation	Free	Greco/Burkett
Mon. 01/09 – 01/30	5:30 – 6:45	Kripalu Yoga Level I (4 classes)	\$50	Deanna Burkett, MA, MS, RYT
Thurs. 01/19	5:30 – 6:30	Fascia: What it is and Why it Matters* Fascia, the connective tissue that covers every muscle, nerve and bone in your body, plays a significant role in your overall health. This talk will help you understand and experience how fascia and the mind/body connection relates to chronic pain, decreased stamina and physical function.	Free (plus parking validation)	David Lesondak, BCSI <i>Structural Integrator</i>

February 2017

Mon. 02/06	7:00 – 8:30	Monthly Mindfulness Intro/MBSR Orientation	Free	Greco/Burkett
Mon. 02/06 – 02/27	5:30 – 6:45	Kripalu Yoga Level I (4 classes)	\$50	Deanna Burkett, MA, MS, RYT
Wed. 02/15 – 04/05	6:30 – 9:00	Mindfulness-Based Stress Reduction (8 classes)	\$325	Carol Greco, PhD
TBA	6:30 – 9:00	Mindfulness-Based Stress Reduction (8 classes)	\$325	Deanna Burkett, MA, MS, RYT
Tues. 02/21 – 04/11	12:00 – 1:45	Mindfulness-Based Anxiety Reduction (8 classes)	Varies	Dinnie Goldring, LCSW
Thurs. 02/16	5:30 – 6:30	Massage and Mindfulness* Mindfulness can help you be more productive and less stressed. Mindful Massage can add to your enjoyment of the massage experience as well as increase the effectiveness of the massage itself. Come find out how in a very relaxing and informative session!	Free (plus parking validation)	Jessie Larson, LMT <i>Massage Therapist</i>

March 2017

Sun. 03/05 – 04/30	1:00 – 4:00	Shiatsu Workshop (8 classes)	\$425	Kate Sherman, MSCP
Mon. 03/06	7:00 – 8:30	Monthly Mindfulness Intro/MBSR Orientation	Free	Greco/Burkett
Mon. 03/06 – 03/27	5:30 – 6:45	Kripalu Yoga Level I (4 classes)	\$50	Deanna Burkett, MA, MS, RYT
Thurs. 03/16	5:30 – 6:30	The Stories We Tell Ourselves* We all have stories to tell about our past experiences, successes and even our failures. Often these stories are slanted in a way that gives the best impression of ourselves to others. Privately we may tell ourselves very different stories. This talk will focus on how these stories reflect not only our past but also shape and limit our future.	Free (plus parking validation)	James Donnelly, MA <i>Psychotherapist</i>

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