

Structural Integration and the Living Matrix

by Jean Louise Green

Every living creature has form and a relationship to gravity. All things have structure that is affected by the gravitational field in some way. Our bodies have living, dynamic structure that also relates to gravity.

We are made of major body segments that include the head, shoulders, hips, knees and ankles. Each of these major body segments has a center of gravity. In an organized body, the centers of gravity of these major segments line up directly over each other. If you were to drop a plumb line down the center of that body from the top of the head to the feet, you would see equal amounts of body mass to the front, back and sides of that person's structure. That body will relate well to the gravitational field. It will have ease, flow, and organization within it.

In Structural Integration, we organize the major body segments to balance around that central plumb line. We call it the “Rolf” line in honor of Dr. Ida Rolf, the founder of the work. In order to do this, we use a series of 10 sessions that Dr. Rolf described as a **recipe**. Each session proceeds in a sequential order with specific goals and areas of the body that are addressed.

The recipe addresses superficial and deep layers of body tissue. The first three sessions open up the outer layers of the body. By addressing the superficial layers, a Structural Integration practitioner then has access into tissues closer to the core of the body in the next four sessions. As a lessening of tension occurs in those deeper layers, changes in tensional balance in those deep tissues get transmitted back into the outer layers of the body, creating more changes in the superficial layers. During the last three sessions, the practitioner integrates tensional changes between the inner and outer body layers so the body can work homogeneously as an integrated structure.

This ability of the connective tissue to spread compressional force in the body is known as a **tensegrity** quality. Buckminster Fuller first coined the word tensegrity. It can be used to refer to the function of the guy wire like connective tissues that are responsible for holding the body upright. It is the connective tissues that we have to thank for our upright posture, not our bones.

Regarding Dr. Rolf's recipe, one of its ingredients is **time**. If a person proceeds in the recommended manner of receiving one session a week, it takes ten weeks to experience the full Structural Integration or Rolfing series as it is also called. As the structure of the body changes during that time and becomes more at ease, the functioning of the body will also change. Structure and function are like two peas in a pod. They are very intertwined. As structure changes, function will change; as function changes, the structure will shift. Both occur in Structural Integration. People's bodies can change a lot during their

series. The more compromised a person's body is, the greater their potential for change.

In the process of easing structure, a practitioner will educate the client in new ways of moving, such as standing, walking, sitting, and lifting. Disorganizing habits may need to be changed. Lifestyle changes could be called for. If people want different results in their body, they may need to do something different. Dr. Rolf described Structural Integration practitioners as educators first and foremost. A practitioner assists change in the body, but the body does the changing.

The wisdom of the body will emerge within a structurally integrated individual. By the end of a ten series, a person's body is much more intelligently connected and will give quick, accurate feedback when a person does something that creates strain in their body. As the slate becomes wiped clean, so to speak, that still small voice of internal wisdom becomes louder. Internal feedback can be more quickly heard and responded to. People will do things differently after a ten series. They do not want to put back the same strain we so diligently worked to remove.

When I take someone through the 10 session Structural Integration series, I follow that recipe and customize it for each person. Everyone of us is different from anyone else. So each person's series will be a unique expression of that person; as it should be. We all have different histories, personalities, and traits that have affected our bodies in different ways. So the work will vary according to the history and needs of each person. I like to consistently address problem areas for a person as I take them through a Rolfing series.

A practitioner of Structural Integration works to release patterns of strain in the body. Neal Powers, one of my first teachers of Structural Integration, described strain as stress that has become internalized. That stress will show up as hard tight places where the tissue has shortened or twisted. Perhaps it will be dense with scar tissue adhesion. Strain shows up in a multitude of ways in the body.

In order to release the strain, a practitioner slowly uses their fingers, knuckles, elbows, or forearms to stretch the connective tissue or fascia of the body. Fascia includes ligaments, tendons, cartilage, bone, adipose, blood, and the layers of connective tissues within muscle tissue.

Areas of strain may resist pressure by the practitioner's hands. When this happens to me, it feels like I am running up against a road block in the tissues. There will not be a transmission of movement through those areas when they are initially touched.

To ease those areas, I will move into them slowly with the intention of their release. Art Riggs, a structural integration practitioner once described it like like pushing a heavy boat away from a dock. You push, push, push; and nothing happens; then suddenly the boat moves. Getting movement through strained tissue is like that. As the tissue starts to move, it feels like a “melting” of hard areas under the practitioner's fingers. We call that “melting” of the tissue, myofascial release.

Myofascial release is a good thing. Sometimes it is accompanied by a strong sensation of burning or heat release or pain. If the sensation is painful, it shouldn't be for very long and it should feel like a good pain; the release of pain leaving the body. Within seconds of myofascial release, the practitioner can often move through that same area of the body again, at the same speed and depth with little or no uncomfortable sensation for the client following its release.

According to Thomas Meyers, a teacher of Dr. Rolf's work, known for his book "Anatomy Trains," there are three different types of pain in the body. There is pain that enters the body, pain that is stored in the body, and pain that occurs when the stuck pain is being released.

During Structural Integration, the practitioner releases stuck pain in the body. It's not the intention of a practitioner to create more pain for their client. Rather, a person shows up with the stresses and strains they have accumulated, and we help them release it. As areas of strain release, that body becomes longer and more spacious. A practitioner stretches and lengthens the fascia to create more space within that body. That spaciousness creates potential for optimal functioning.

Because all the major systems of the body including the circulatory system, nervous system, digestive system, lie within the fascia, easing strain there will help each system function more efficiently. Circulation will flow better, electrical impulses will conduct efficiently, nutrients can be delivered and wastes removed, energy levels will rise, and that body can have more freedom of movement.

Regarding the fascia, there are superficial and deep layers. The superficial layer lies just underneath the skin and surrounds the entire body from the top of the head to the bottom of the feet. Dr. Rolf likened it to a shopping bag because the contents of the body are held within it. The deeper layers of fascia are embedded within layers of muscle tissue. Their endings, called tendons, connect the muscle into the bone. A practitioner stretches and lengthens the fascia to create more space within the body.

Fascia has different functions. One of the functions of fascia is that it gives the body its shape and form. If you were to remove every other structure and tissue in the body, but leave the connective tissue, that body will still discernibly look like a human form. That's because the fascia is what holds everything in place. Remove the fascia, and we turn into liquid like blobs of salt water.

There are two major components that comprise fascia. They include collagen fibers and ground substance. The collagen fibers are structural proteins that spiral around each other in a rope-like fashion. These bands of fibers can create very strong tissue. I liken these fibers to that of a Slinky. They have a quality of elastic recoil to them. They can be stretched out, but they also have the ability to return to their original resting shape. The other component of the connective tissue is a liquid medium known as ground substance that surrounds each cell. This is where cellular metabolism

occurs. That is, the all important delivery of nutrients and removal of wastes into and out of each cell..

The fascia also has a special quality to it called **thixotropy**. Because of the thixotropic quality of connective tissue, when it gets stirred up, it becomes soft, supple and hydrated. When it is stagnant, it becomes dense, thick, congested and unyielding. That's why movement is so important to our bodies. Movement helps keep our tissues hydrated and responsive with an elastic quality. Dr. Rolf referred to this changing biochemical state of fascia when she described it as a plastic medium. A practitioner can move, mold and sculpt fascia, changing its quality of thixotropy to a more hydrated state as they stretch it. That changing biochemical state of fascia is what occurs during the “melting” of myofascial release.

Fascia has another quality. It has the ability to contract. People didn't think of fascia as contractile tissue until recently through the studies of a German scientist named Dr. Robert Schleip. Dr. Schleip is a practitioner and teacher of Structural Integration, as well as a laboratory scientist. His clinical studies have proven that fascia has the ability to contract in a slow rhythmical manner similar to smooth organ muscle. Many people can relate to hamstrings that feel like they shorten every year if left unstretched, or lower backs that seem to tighten up on their own. Oh, yes.

Well, the good news is that Structural Integration can bring back freedom of movement to the body. Contracted tissues that just won't yield, can become supple again. A head that is pulled forwards out in front of the body can come back into alignment over the shoulders. A twisted, rotated pelvis that is tilted forwards or backwards can become horizontal and balanced once again. Legs that are uneven can regain their original length.

I remember working with a client in Hilo, Hawaii who wore a significant lift in his right shoe. It must have been an inch and a half high. He had contracted polio as a child. Polio shortens intrinsic or core level muscles in the body. When I worked with him, I found very contracted deep and superficial muscles on the right side of his abdomen below his rib cage. As we worked to release these contracted tissues, his leg length equalized and he was able to throw away the lift in his shoe. This is just one example of the big and little miracles that happen on a Rolf practitioner's table every day. For that client, it was life changing.

One of the things I have been studying lately in peoples' structures is spinal rotations. I am extremely curious about this and have seen patterns of strain that repeat themselves in different peoples' bodies.

In order to understand my ideas, it is necessary to think of the spine as a big cork screw. This big cork screw of the spine is affected by the tensions and pulls of the muscles attached to it. One of those sets of muscles are known as the psoas. They are core level. That means they attach to the spine. In the case of the psoas, they attach along each side of the spine at bony side projections called the

transverse processes.

These psoas muscles are huge players in sciatic pain and disc problems often caused by injuries of lifting and twisting. That's because the tendons of these muscles actually attach not only into the spine, but into the intervertebral discs as well. Uneven tension in these core level muscles can cause tissue around the spine to become damaged, creating inflammation, pain, and dysfunction. Balancing these core level muscles can often take the strain off of discs and nerves so the tissue can heal. Many people have recovered from disc injuries and chronic sciatic pain through this work. It has been my experience that when you take the tension off the tissue, the body can heal.

The psoas muscles originate along the transverse processes of the lumbar spine from L1 at the bottom of the rib cage beneath the diaphragm to L5, just above the sacrum. The iliacus muscles that line the inside of the pelvis join up with it forming a common tendon known as the ilio-psoas that weaves its way under the inguinal ligament and then attaches at the top inside edge of the leg bone.

If one side of the psoas muscle contracts, it shortens, pulling that leg up higher into the pelvis. This is often what often happens when people have one leg that is longer than the other. Because of its attachment to the spine, a tightness along one side of the psoas will initiate a pull that causes the spine to rotate.

On the side where the psoas has shortened, the crease of the gluteal fold underneath that hip will look higher. That same leg will present forward of the other one when the person is standing, and the rotation on that side will be an inward one.

In the cork screw of the spine, by the time that spine twists, an inward rotation on one side of the body will become an external rotation on the other side. As this plays out on the horizontal plane, or side to side axis, something similar occurs in the vertical plane or up and down line of the body. A shortening on the right side of the psoas can be the cause for strain and instability of the neck muscles on that same side all the way up at the other end of the spine!

When the spine twists, autonomic nerves of the sympathetic and parasympathetic nervous systems that run along the side of the spine can become tweaked as well. Those nerves affect blood flow, heart rate, breathing, and digestion, to name a few. They are part of the fright/flight and rest and repose complex of the body. Rotations at the spine can affect them, causing a variety of responses including anxiety, agitation, panic attacks, and indigestion. Functions can become compromised that we are not even aware of. Fortunately, the process of Structural Integration is very effective body work for de-rotating the spine and the extremities of the body.

I remember the “Aha” turning point experience I had in my understanding of the connectedness of connective tissue. My hands were in the lower part of my client's tight right psoas muscle, when

suddenly they experienced a strong release of tension all the way up into their neck muscles on that same side of their body the moment the tension in their psoas released. A tight, short area in the psoas had been pulling all the way up to the other end of their spine via the anterior longitudinal ligament that runs along the front side of the spine into the scalene muscles at the side of the neck. What an example of the tensegrity quality of the connective tissue to transmit tensional forces through it!

Structural Integration is transformational work. We are body, mind, emotion and spirit. Significant changes in any one of those aspects will cause shift in the other parts of our being as well. I have seen many people release old emotional trauma through body work. Memories sometimes come up for people when they receive this work. They are stored in the tissues, and they can be released through changing the tissue. Freedom is our birthright, and sometimes a little house cleaning in the body can go a long ways. It can allow people to reclaim different aspect of themselves and move on into the fullness of their potential. I have often seen people spring board into phenomenal life changes after receiving a ten series of Structural Integration.

Positive changes from the work don't stop after a 10th session. The higher level of organization that has been inputted into that body will continue working for it long past the time when the 10th session is done. It has been documented that a person will often change even more in the 6 to 12 months after a 10th session than they did during their series! That is the result of the synergy effect of so much organization that has been inputted into the body.

Dr. James Oschman, an inspiring scientist that has studied Structural Integration, wrote a book called "Energy Medicine in Human Therapeutics and Human Performance." He describes the connective tissues of the body as a Living Matrix. He states that this living matrix conducts energy and information throughout the body. About the Living Matrix, he says the following:

"Scientists have now begun studying the entire living matrix as a structural, energetic and informational system that reaches to and into every cell. All forms of energy are rapidly generated, conducted, interpreted, and converted from one to another in sophisticated ways within the living matrix. It delivers energy and information at the fastest possible means that nature has available. No part of the organism is separate from this matrix. Memories are stored within this system, and the totality of its operations gives rise to what we refer to as **consciousness**. This system is accessed by acupuncture and other complementary medical approaches."

Stress from physical, mental or emotional origins can be cleared out of the body with intelligent hands that know how to release places where stress has become internalized. James Oschman described the healing hand as "One of the most sophisticated healing devices in the universe." Good bodywork can become a vehicle for purification, clearing, and re-connecting. It's a way to get

connected back into the whole of ourselves; a tool for balancing body, mind, emotion and spirit.

Dr. Rolf once said that when the body is aligned, gravity would flow through and become the therapist. Perhaps she was referring to electromagnetic energy. And could that electromagnetic energy be none other than what we call life force? My sense is that by aligning our bodies within the gravitational field of the electro magnetic polarities of heaven and earth, life force can flow through us. The liquid crystalline matrix of our fascial connective system can give expression for that life force to enliven the circuitry of our bodies. We can be charged and renewed like living crystals.

Each one of us is a unique expression of the life force within us. It is my desire to be as connected with that life force as much as possible. I want to be a living, breathing potential of all that I can be. By putting my attention on that life force that lives within the energy fields of my body, I **can** be connected to the whole of me. I **can** live my life from that place of connection with universal life force or Source, as I call it. My decisions and actions will then naturally arise from that place of connection within me. It is my birthright and everyone else's by virtue of having a human body to be able to do so.

This Living Matrix or connective tissue is what we Rolf practitioners work with. As we help align body segments and assist in clearing physical, mental and emotional blockages in the body, life force can flow through. Then we can be energized and supported by the gravitational fields we live within. We can be connected with our Source, charged and renewed like living crystals.