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The Craft of Teaching Eccentricity of Function

By Kevin Frank, Certified Advanced Rolfer™, Rolf Movement Instructor

What is Eccentricity?

Dr. Ida P. Rolf did not invent the idea that bodies should lengthen and broaden as they inhabit space. She also didn't invent the idea that bodies can lengthen and broaden under challenge. Nevertheless, these are smart ideas worth learning about. Though many traditions might lay claim to their origin, the simple fact is that it is what our bodies like to do. The human form, its architecture, and its motor patterns for walking, running, twisting, pushing, and reaching are the product of nature's laboratory. Eccentricity follows from the human form itself. What Rolf did is make a 'recipe' that reveals it. She packaged restoration of human posture in an accessible format, and made it possible for plain folks to do what formerly was the province (on a good day) of yogis and other adepts. She established a way to discover/rediscover how to meet demand and get bigger rather than smaller. People like this feeling, once they stumble on to it.

Rolf called her work 'structural integration' (SI) before the service mark – Rolfing® SI – came along. The 'structure', or rather the structures – the shape, the parts, and motor patterns of the body – are integrated, differentiated, and linked with each other. She established a field of inquiry that involved fascial mobilization; she also, out of necessity, included the art of coaxing forth body awareness and discovery. She precipitated unusual experiences and helped people anchor these experiences so they might get some use out of them.

Whatever strategy begets it, eccentricity of function is a hallmark of integration – what we like to see as our 'product'. Eccentricity means 'away from the center'. It is the opposite of concentricity, which means 'toward the center'. Those of us who work to find concentrated power in the center of the body, or concentrate to improve performance, might not like this idea. That's not a problem. We tell people to choose what works for them, and consider adding eccentricity to their tool bag. Then they can compare the results. Rolfers aren't the only ones who know the blessing of eccentricity, but we are, perhaps, in one of the best positions to teach it and market it.[1]

How Do We Arouse Eccentricity?

Eccentricity of function follows from eccentricity in perception – which is to say, we imagine it, feel it, and then we do it. Our body has the bundled software, so to speak, to do it. How does this aspect of body come alive? If we arouse a spark of interest and introduce easy imagination based on support and weight; if we entice the client to explore distance and directionality; if we offer these invitations while watching carefully for effort or overwhelm, while exploring playful investigation with the client, most bodies are interested and take the bait. Now and then, to suit the client, we have to slow the process way down, so it might take weeks or months for one client, whereas another would do the same discovery/integration in an hour. There's no hurry. When in doubt, do far less – find an easier way.

Feet and Eyes

An obvious first step in inviting forth eccentricity of orientation is to rekindle the relationship between feet and eyes . . . or rather *gaze*, since eyes aren't really the point. The eyes are anatomy. 'Gaze' means the range of ways we engage vision to embrace, receive, analyze, recognize, feel, and be touched by the world. Gaze is an activity.

Often in a first session, I introduce this relationship of feet and gaze and invite the client to feel how the front line of orientation, and therefore the front line of the body, can more easily open/lengthen. One feels this ease by feeling eccentricity of activity between the toes (pressing softly against a wall surface) while the gaze opens to the space (frequently the space that exists beyond the top of the head). Each session provides creative use of the feet and gaze. Linking feet and gaze to every session isn't part of the Recipe, yet it belongs in a revised edition. Why? Orientation is the pillar on which Rolf's whole argument rests. Eccentricity of orientation sits squarely atop that pillar.

Rolf's 'Normal' Versus the Medical Model (Where's the Orientation?)

Sometimes clinical practice yields a client who concisely illustrates differences between the field of SI and more conventional/medical forms of body therapy/rehabilitation. The following example shows how the 'body as parts' paradigm differs from the 'body as movement system' paradigm – the latter inseparably linked with body orientation and eccentricity.

The Referral

Recently, a physical therapist (PT) referred one of her patients to me – she had worked with him intensively for three years. Five years previously, he had a snowboarding accident and sustained multiple fractures in one ilium. After some rehabilitation, he was able to start snowboarding again. Then, however, he immediately suffered a relapse with new pains and restrictions. Surgery in the opposite hip putatively repaired a torn labrum but offered no relief from pain and restriction. Now, five years later, after seeing practitioners of different stripes, the PT sent him to me. I truly wondered, "Would I be of any use? Is there something a Rolfer can do that she hasn't done?" I figured my PT colleague had, over three years' time, pressed and pulled on every square centimeter of her patient's body. This particular PT does standard manipulations and exercises plus myofascial work and postural work, and is a very successful and gracious practitioner. You never know – or, I should say, *I* never know.

The Client Presents . . .

In our first meeting, during the first ten minutes, some things were surprisingly clear. When the client did a knee bend, his body prepared for the movement by carefully and comprehensively bracing what looked like *all the muscles he could think of*. His attention was internal; his attention was concentric, meaning towards the center of his body. I made no comment but asked him to try a simple exercise using a handle on an elastic therapy band, something I call 'shot-put'. When he reached forward, pressing the handles forward against resistance, he showed no evidence that he believed there was space to reach or press

into – his peripersonal space (the space that the body imagines around itself) was missing. It was as though his peripersonal space was not outside his physical body.

Whatever this man had accomplished, through his own diligence to recover, plus all the well-meaning and intelligent sources of therapy he had received, the sum total was expressed in gestures of concentricity and containment – there was no visible evidence of awareness beyond the boundary of his skin. Furthermore, a subtle *folded in* nature of his body shape and demeanor looked like this strategy (of containment and concentricity) was deliberate and well-rehearsed. One more thing: he had also been working with the PT to try to recover freedom in his breath. He felt he had spent several years never being able to take an easy or full breath. He felt his breath as distress.

The Practitioner's Role Reveals Itself

My role for this man's journey felt clear and I told him so: I would teach him about pre-movement, teach him about perception, teach him that breath exists first as orientation, and teach him that eccentricity of body will follow from eccentricity of perception. I gave him a concrete demonstration of each so he could see exactly what I meant. In the first session, he learned to do all of these things and in a manner that he could recognize as changed coordination. Upon returning for session two his gait had shifted significantly toward normal. It was an example of paradigm shift. When the issue is no longer *primarily* in the tissue, how do we define the purpose and efficacy of our work?

How do we recognize – how do we learn – how do we explain – how do we teach – one of the single most potent hallmarks of Rolf's work? How do we embrace her vision of elongation and spacious response to demand? It is this response to life's challenges that we wish to impart, that we wish to cultivate in Rolfing students in such a way that they might teach it to others.

The Recipe as Orientation and Eccentricity of Function

The work with this man continued. In each session he learned to find support from one direction and imagine movement in a different direction. We did the Recipe. Each step of the Recipe links support to directionality. A few illustrations:

- Session one offers the lesson that orientation is our native home. The shape of our body and the shape of our breath reflect an eccentric arc between earth and sky; when the body is inspired, the front line opens. Session one also differentiates the axial skeleton from the appendicular one and each step of the Recipe reiterates this fact of body architecture. The practitioner uses touch certainly, but also gestures toward and touches on the skeletal model at the places the two skeletons join and articulate. The conscious mind sees this. The non-conscious 'movement brain' sees it too! Eccentricity is expressed as the body feels the spine and the girdles are separate.
- Session two introduces vectors of directionality in the lower limbs and feet. Knees reach forward and heels reach behind. Toes reach forward and rami reach behind. Can one feel these directions in the imagination and then start to feel body reassurance? The client has already begun to feel the front of the spine as an imagined region of potential elongation, one that embraces a spacious world with each inhalation of the breath. The back line can now start occupying space, also, and so the body has the beginnings of a 'back field', a peripersonal space behind the body. We need space to back us up and we need space to back into.
- Session three reinforces the axis/appendicular articulation introduced in session one. The sidelying client has opportunities for elongation that start with toes against a wall surface, which helps to support the reach of eyes and hands into the space beyond the head in order to open the front line; next, finding elongation of the back line that starts with broad foot support against a wall, which then supports the spine to expand into back space and to allow the shoulder to drop away from the emerging head and neck. The space of the lateral line is defined and breathed into. The body starts to have awareness of a space that supports it on all sides, and a space into which directionality can be imagined in 360° of orientation. The body discovers dimensional 'internal' volume that corresponds with volume of the 'world'.

The Recipe works because the body is set up to revive from orientation. Orientation is the basis for sensorimotor security, and sensorimotor security is the basis for the sense of well-being. The client, in this example, learned things: he learned to use spatial awareness, directionality, and eccentricity. He gained a critical level of conviction that his body was not a collection of parts, but rather a movement system hungry for information about space and weight. He resumed his work and life. He knew how to restore less-efforted posture and movement in daily practice.

Clarifying Our Purpose

Each session evokes a synergy between support and spatial dynamic. We know this; we do this work with clients. It is fundamental to the field of SI – to Rolf's vision. And, despite the proliferation of myofascial paradigms, a simple message of the work – eccentric orientation – has not been broadly imitated outside our field (of SI). Yes, we do fascial mobilization in a particular manner with particular attention to details of touch and details of client experience. Yes, we have a sequence. Beyond fascia and Recipe, the larger point of our sequence can be distilled:

> Does the body express a birthright of security in verticality? Does security express two-directionality in posture and movement? Does the body express elongation and eccentricity as it meets challenge, as it meets demand?

Each session of Rolf's Recipe is a chance to illustrate/demonstrate this possibility, and a chance to teach some element of what this vision means – a grounded moment of appropriate preparation to move; a moment of reduced effort in execution; a contrast between efforted and less-efforted execution. We have the opportunity to rehearse a movement on the table, while the client is lying down; to rehearse it again seated, and again standing, and then see what occurs in walking. We have the chance to find some detail that the client believes she/he can try out in daily life, at least once in a while. We also can offer a small self-care exercise that is mostly about preparation to move rather than repetitions to build muscle. I tell clients that the exercises I offer them are for the 'software' (motor system refinement) rather than the 'hardware' (muscles).

We Are Part of Nature and Nature Is Part of Us

Our field of inquiry considers eccentricity a birthright – Rolf called it 'normal'. Other styles of function are necessary impositions and interruptions to the norm. We see eccentricity in nature: the bloom of the flower, the billowing clouds, and the lengthening neck of the cheetah as she spots her prey. It is a simple message. What gives us the authority to teach it? No external authority can do so. We have the chance, however, to verify this work in our own bodies every day. Might we find a moment of daily practice that reminds us that this birthright is true, clear, and still present; that the nature of the universe is – like the mass of the earth and the vastness of the sky and reliability of the rising sun – still here?

Body Intelligence and Philosophical Intelligence

Eccentricity of function has a philosophical parallel. Concentricity rehearses the notion that we must exert and practice ever-greater personal effort. No one can argue that such a strategy is often rewarded with tangible results. But is that the point of Rolf's inquiry? Is that what it means to stand and walk on this earth? Is it about perfection of personal effort? Or does our inquiry include the question, "Can we find some quality of stability and security that does not feel derived from effort and does not feel personal, such that we might be relieved of what feels like smallness and aloneness of being?" Rolf encourages us to find out.

ENDNOTES

1. One of the Principles of Rolfing SI, along with support, holism, adaptability, and closure, is 'palintonicity' – which means a quality of two opposite directions. It is a more recent, named quality to describe what Rolf was looking for in body function. Formerly, Rolf had used the term *spannung*, which means roughly 'span', again evoking a sense of eccentricity. All these terms have value for speaking about the Rolfing ideal. Eccentricity is chosen here because: a) it is an English word; b) it is in contrast to concentricity, which can be demonstrated clearly to students and clients; and c) it has a more omnidirectional connotation, not limited to the sense of getting longer, but also including the sense of greater volume and greater spaciousness. Bi-directionality, practiced over time, yields a native body sense of omnidirectional spaciousness.

Structural Aging Part 1 – Finding Grace in Gravity

Spirals in All Spaces: Lower Body

By Valerie Berg, Rolfing® Instructor, Rolf Movement® Practitioner

Introduction

The client walks in. He is bent over, his head leans out in front of his hips. He walks stiff-legged. His hips hurt. His back hurts. His feet hurt. Question: Is he seventy-eight or thirty-eight – or twenty-eight? Another client's spine has lost its curves, her toes don't bend anymore, and walking hurts her hips. Is she forty or eighty? We see this every day in our practices, regardless of our favorite lens for body readings – whether front/back balance or support or lift or core support. No matter the lens chosen, we are always looking at real or potential 'structural aging'.

I created the term 'structural aging' to describe (for our profession) what we see over and over again: the breakdown of structural elements in the human body's relationship to gravity that creates a look or a feel of 'aging'. Commonly seen and felt physical complaints show up due to a resistance and fight with structural integrity and the relationship to gravity. It is a loss of the grace of multi-planar movement and spirals that exist throughout the body (and in nature, see Figure 1) and within which our spine and body are inherently made to move. It is where we have lost relationship to the context of our environment. Our proprioceptive sense of where the body begins and ends is altered.

Figure 1: An example of a spiral in nature. Photo used with permission of www.StrangeWonderfulThings.com.

One joint, one limb, or just one tendon may become fixed in movement, unable to respond to the entire constellation of the body's attempt to being upright on two legs moving in multiple planes. A potential direction may then be lost in the possible planes of movement, and proprioception becomes limited. With this, the look and feel of aging begins to appear. The loss of easy access to the various planes and rotations of movement pushes a body part into its own isolated function, yet it influences the entire constellation of function and posture. As potential for mobility is reduced, the fear or anticipation of falling changes nervous-system tone and response to the world throughout the body. Structural aging is not necessarily age-related, and yet it feels like 'aging'. It can occur at twenty, fifty, or seventy.

Looking around, we see a booming industry in 'anti-aging' products, where it is touted that aging is something one can prevent by searching out a method of slowing it down, changing its appearance, or supposedly stopping it. Most methods are extremely expensive and sometimes risky. Our work of Rolfing Structural Integration is not about preventing or avoiding aging. Our work is a process that speaks to the deeper realms of how we live in the bodily context of being a human who will live, age, and die. However, we work with structural integrity and relationship that is changeable and transformative at any moment in time. The elements of structural aging are all things that we can intercept and change in the Ten Series or later, hopefully creating grace in gravity when there is little or none, grace in locomotion and gestures of expression when they have lost their variability and finesse.

Structural aging occurs in minute steps; it sneaks in and around the connective-tissue sheath without us knowing how it will change our posture, our appearance, our movements and general well-being until the entire orchestra of fascial connections hits a crescendo of pain or strained expression in movement. We may feel it as sudden grief

when we experience the loss of a younger, more agile movement. It may be the longing for the juiciness of expression instead of the stiffness one feels. One can retrace the same movements and steps one took at ten, twenty, or thirty years old and the memory is present, but the rhythm and movements are not the same. The connections have changed. This loss of connections can start at any age. Do you remember when you became afraid of leaping or jumping? What are the movements of your childhood, and do you still make them? Our way of perceiving may have changed. Our seeing, our beliefs, our injuries, our fears are not the same. The context has shifted. Perhaps our sense of environmental support is more fragile. The fear of falling may dominate our subconscious. The inner landscape may feel shaky and unconnected to anything else. Structural aging is a disconnection of our connective-tissue communication and nervous-system network from our own inner balance and balance with the outside world.

When one imitates an old person, the classic posturing is the bent-over form, head down, slowly shuffling down the street. This is the manifestation of ankles that don't flex and extend, hips that don't move into full extension, toe hinges that don't work, eyes that focus tight and down, spinal curves that have lost their elegant balance between lordosis and kyphosis, flexors that dominate, heads that reach out in front of the rest of the body, a loss of lateral movement in abduction/adduction balance, and thoracic stiffness that stops any movement from coming up through the spine to support the neck and head. Phew! That sounds exhausting. Any of these patterns can show up at any age and thus begin structural aging.

In teaching workshops on this subject for the past five years, I have studied (through my own body, those of my clients, and the responses of students) basic patterns that show up and how they might be addressed in the Ten Series or post-ten work. Each of the patterns could warrant an entire article and workshop; however, for the purpose of this article, I will primarily discuss the patterns that affect the lower body to the spine. In a future Part 2 to this article, I will discuss structural aging with more emphasis to the rest of the spine, and the head and arms' influence on the spine and grace.

Whole-Body Structural Patterns That Age Us

One of the first patterns I particularly noticed repeatedly was the knock-kneed (X-legs) stance with pronated feet and a somewhat collapsed lower belly; it seems to be more common in females. This is shown in Figure 2, and is first in my list (below) of the various patterns and phenomena of structural aging that are repeatedly seen:

- Knock-kneed stance with pronated feet and somewhat collapsed medial line / lower belly.
- Toes that begin to hammer.
- More frequent plantar fasciitis.
- Little toes curling under.
- Shoulder pain (starting in many people around age sixty to seventy).
- Increased thoracic kyphosis.
- Stiff ankles.
- Loss of rotational options in the femurs.
- Flat lumbars and a sometimes straight spine.
- Locked centrally focused gaze or downward gaze.
- Pelvis that moves side to side with upper body thrown side to side (loss of pelvic sway)

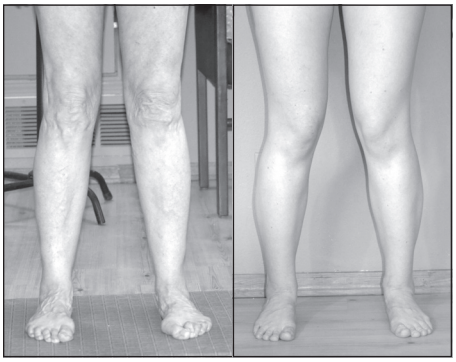
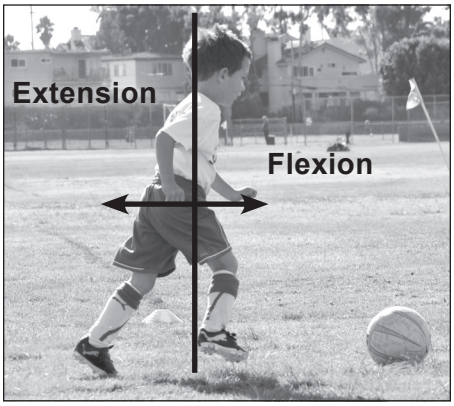


Figure 2: X-legs with pronating feet and collapse of medial line.

Considerations in Gait

All these patterns, when observed in gait analysis, reveal a loss of multi-planar movement with a reduction to two, or often one, plane. What usually dominates is the sagittal and 'locked-in-flexion' pattern. There is a loss of the inherent spirals in each segment of the body, thus a loss of multi-planar movement.

According to Stecco (2004, 39), "Every muscle of the body contains muscular fibres that activate latero or mediomotion, retro and antemotion, as well as fibres that activate intra and extrarotation." We flex, extend, internally rotate, externally rotate, abduct, and adduct. We move in the sagittal, frontal, and transverse planes if we have full range of movement and the capacity and awareness to engage those planes of movement. Our eyes move to the space in front of us and around us, while our vestibular system (ears) responds to the lateral kinesphere. When we do engage all planes, spirals occur in the entire body. Our spine requires lordotic and kyphotic curves that are not extreme in order to accomplish sidebending and rotation of the spine. Ankles need full flexion and extension led by a spiraling foot going from slight supination on the landing cuboid, lateral arch to pronation onto the medial arch / navicular yielding to big-toe push off (see Figure 3) through a juicy mobile foot that then allows extension at the hip joint and sends movement to the spine, which fuels the 'spinal engine' (Gracovetsky 1988).



Sagittal Phase

Figure 3: Toe hinge creating extension and fuel for the spine.

The shuffling, stiff-ankle walk of 'aging' is a one-plane, one-rhythm movement. There is a loss of the lateral and transverse planes in the pelvis, thus losing the spiral rotational and sidebending of the spine. This body can no longer find its way through the transverse plane to take the pelvis over the leg moving out into space to propel it forward. Hip extension is lost.

Our work is accepting the gravitational pull in the vertical on our bodies, sometimes felt as a collapse, sometimes as a 'settling'. And, all of this occurs in the midst of spiraling gyrations. We can intervene to prevent the

look and feel of collapse by learning to see which spirals are missing and which functional planes are not used, and then get to work in the fascial planes. This work of controlling vertical collapse is a part of gait that we can see and intervene in by learning to see which spirals are missing and which planes are not functionally used.

Using gait for the analysis, the key areas that create structural aging are:

- The feet: loss of ankle hinging and mobility in the forefoot that allows the toes to land.
- Lack of knee extension and the 'screw-home' rotation (the term used for locking the knee in the landing of the leg into a stabilized stance) needed in the femur and tibia.
- Ilial and sacral immobility that stops the translation of movement to the spine at the lumbars.
- Lack of abduction/adduction balance and strength throughout the body.
- Lack of thoracic flexion/extension resiliency to support cervical lordosis, thus the head is forward with the eyes leading.
- Overuse of the eyes in the sagittal flexion orienting mode. Lockdown in the suboccipitals and hyoid complex.
- Overall loss of the lateral kinesphere, including inner ear, peripheral vision, and the lateral arch of the foot.

Reestablishing Function and Relationship

So then, how can we approach intervention systematically and at any point in someone's life?

Feet

One of the first breakdowns structurally is the feet. Whether the cause arises from shoes, injury, genetic formations, or habit, there is interference in the spiraling ability of the foot with an attendant lack of spring and fuel to feed contralateral movement that sets up a response in the rest of the body. It may begin with the loss of full-range ankle movement. One day a person is suddenly picking up his foot as if it were a cement block, lifting from the hip and placing it in front of himself without much awareness or sensation.

The human foot begins in babies (see Figure 4) as an 'arch-less' flexed segment that begins to arch and sense once we rise up to the vertical orienting we are destined for, standing and walking. We need juicy paws: pronation and supination of the foot (at the navicular and cuboid), not the ankle; landing and taking off from different parts of the foot; a toe hinge that lands like the nose of a plane and propels us forward using the earth and sending stored energy back up to the ongoing spiraling spine (Gracovetsky 1988). *We need juicy paws*. We need small movements in the tarsals and metatarsals that play the earth like hands can play the violin. These are the functional young feet that send a hip joint back into extension and keep us from staying in a flexed-hip, no-gluteal-use posture, which is an aging posture created from a loss of fine and resilient movement in the foot and ankle.

Figure 4: Our beginning juicy paws.

In the second, fourth, and sixth sessions of the Ten Series we mobilize the tarsals. We ask the extensors and flexors of the feet to claim their function for the toes by differentiating the fascial sheaths of the tibialis anterior and posterior from the extensors and flexors of the toes. We can do fine small-toe joint work to unwind the twisted toes that lead our feet into scoliotic patterns. Whether the aging pattern starts in the foot or higher up, this pattern has to be changed in order to support and re-create the natural spirals in the rest of the body. A locked foot will not allow the spinal wave to occur, nor will it allow femoral rotations and extension to maintain their vital role in joyful uplifting movement.

We can get a sense of other appropriate interventions from the abundance of studies in aging available to us these days. One very relevant one is Studenski's (2011) research that gait speed and variability can predict mortality. Others show things like the better a person is able to get up off the floor without using his hands, the longer he lives. We also know now that homeostasis, regular patterns repeated over and over, are not a sign of health in our autonomic functions or in our movement patterns. Teaching our clients various ways of walking and moving are anti-aging tactics. Variability and our Rolfing principle of adaptability have to be reintroduced into the fascial networks.

Abductors and Adductors

Balance is a key issue. Our ability to maintain balance in all planes requires abductor activity to stabilize the hip in the frontal plane in a unilateral stance, including the stance phase of walking. The fragility of going up and down stairs requires abductor/adductor balance and a strong lateral arch. Many clients have lost abductor strength and stability, thus creating the X-legs, pronating-feet posture mentioned earlier (and shown in Figure 2) that started me on this study of structural collapse and aging. A collapsed navicular no longer supports lift in the adductor compartment. Many times adductor clutching exists in the pectineal fascia to hold onto the pelvis due to a lack of ground stability in the feet. In walking, we also need

Figure 5: Imbalance leg to leg in abductor/adductor compartments.

balance between the abductor and adductor movements leg to leg (see Figure 5).

Ankles function in anterior/posterior (A/P), dorsi- and plantar flexion when dealing with imbalance. They can also evert and invert. However, they will not handle the larger movement higher up from the ground required for balance in the presence of a larger disturbance. The width of the foot is too small but the hip adductor/abductor "is the dominant defense in the medio/lateral direction when standing with feet side by side. The extensors and flexors of the hip will have the exclusive control of A/P balance but the M/L [medial/lateral] direction dominant control is with the hip abductors with very minor adductor involvement" (Winter 1995). Thus, we need abduction and adduction strongly functioning and balanced for any perturbations in the lateral kinesphere and higher from the ground.

What we don't always pay attention to is the need for lateral movement toward the swing limb that is due to the hip abductors (see Figure 6). At this point, balance moves away from the ankles and feet in the sagittal plane and we now require the frontal and transverse planes to be active (see Figure 7).

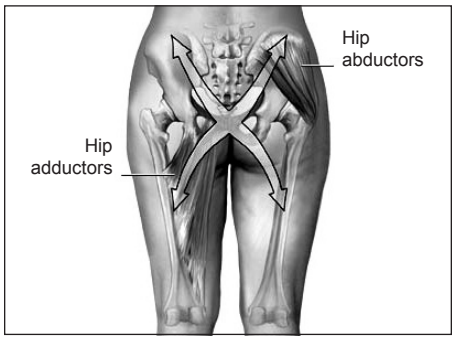


Figure 6: The balancing role of abductors and adductors.

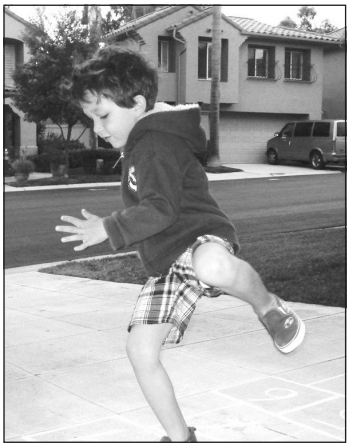


Figure 7: Lateral one-legged stability in all planes of movement.

A key visual to watch for in body analysis is the lack of lateral kinesphere awareness in the person's movement, visual perception, and foot use. The foot may show the lateral arch (mostly the little toe) curling under and shortening. The person will look eye-dominant and not be using much peripheral vision or only looking down. A study by Berencsi et al. (2005) has shown that the amount of postural sway decreases when there is visual stimulus in the periphery, resulting in a more stable stance than in the result obtained from the central vision conditions. The movement measured was primarily in the neuromuscular activity of the lower leg and ankle, which is greater in the A/P than the M/L direction, as mentioned before.

With a stiff-ankle shuffler, we are seeing, among other aspects, a loss of the abduction/adduction function, thus the work needed relates to the third and fourth sessions of the Ten Series, each session being one half of the other to balance these lateral and medial fascial planes of our essential frontal plane. Working to balance the gluteus minimus and medius, pectineus, and other adductors awakens the client's legs to a youthful stability. (Individuals with diminished hip abductor muscle strength show less M/L stability and a use of their ankles to maintain balance; see Figure 8.)

Figure 8: Weak abductors equals unstable pelvis and gait.

Femoral Rotation

The gluteus minimus and medius also medially rotate the hip joint while the gluteus maximus externally rotates it. Now we also need to look at keeping the femoral joint capable of internal and external rotation.

As the foot lands, the resiliency and mobility of the tarsal fascia and specifically the navicular and cuboid will send proprioceptive information and stability to the adductors and abductors that allows the hip joint to be protected medially and laterally as it finds its way forward, backward, and into the internal and external rotation needed for landing in a solid position with the knee extended. A chronically flexed knee drags the pelvis and lumbar spine into a flat non-rotating position destined to become the shuffling bent over person.

Screw-home – which again means locking of the knee in the landing of the leg into a stabilized stance – requires the femur to internally rotate (after being externally rotated in swing through) and the tibia to externally rotate. The knee needs to extend and come out of its flexion. Our third, fourth, and sixth sessions approach the femoral and knee fascial relationships to reintroduce these beautiful movements that again feed and energize spinal rotations. All of this requires the mobilization of the tarsals of the spiraling foot and toe hinge to trigger the various transmissions and firings of the gluteals, IT band, and sacrotuberous ligaments into the lumbodorsal fascia. Without this shift from a slightly vertical pull of hip extension to a horizontal pull that activates the lumbodorsal fascia and latissimus, we would lose a rotating pelvis.

Good Reasons to Keep Doing Back Work

Looking at the spine as initially a primary curve at birth (thoracic and sacral) that then morphs to include secondary curves (cervical and lumbar) from lifting the head and standing up to walk, we can find good reason to keep doing back work. When there is flattening of these gracious and fluid curves we become locked into one-dimensional locomotion with discs that have no space and rotations and spirals lost to rigidity.

The primary curve, the classic position we put our clients in at the end of a session for back work, is an essential integrative piece. It allows us to see where they have lost the smooth opening of the facets that will hopefully translate into closing facets in extension. With proper joint mechanics, they will be able to have the

spiraling movement that is necessary for all the input coming in from the feet and legs, fueling this potential movement. Loss of the smooth transitions between lordotic and kyphotic curves leads to a loss of the rotation and transverse planar movements. To find our way forward, we need to translate our pelvis forward with abduction and adduction to get over our legs. The relationship of the femur to the sacrum to the pelvis via the lumbar curve keeps us upright and moving in a spiraling vertical gait.

Clearly, as structural integrators we know that each event of structural aging occurs in concert with another and it is difficult to know which occurred first. The Ten Series approaches all of what I have discussed. If viewed from this analysis, any of the segments could be functionally and structurally worked with to influence the others.

In further articles I will discuss the spine, the ilia and sacrum, the head, perception, arms, and the infamous 'dowagers hump'. I will also be offering workshops in 2015-2016.

To age with grace, the body's spirals and multi-planar movements need to be re-engaged, allowing fluidity and juiciness of spirit to carry through the years. This is a timely subject walking into our offices, and we have the skills to remove the obstacles to structural youth.

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Nerves, Superficial Fascia, and Aging

An Interview with Stephen Evanko

By Stephen Evanko, PhD, Certified Advanced Rolfer™ and Anne Hoff, Certified Advanced Rolfer

Anne Hoff: You are a fascia researcher as well as a Rolfer. For those who don't know your background, how did this come about?

Stephen Evanko: In graduate school, I had studied how tendon tissue responds to compressive forces by transitioning into fibrocartilaginous tissue. I was learning intricate details of the cell biology and biochemistry, so I was very interested in connective tissue plasticity – by default I guess. Then during my post-doc work, I had my first series of Rolfing® Structural Integration (SI) from Michael Reams, at a time when I was wondering if science was going to be my true calling. The great work I received made me realize the true power and depth of this process and approach. I went home from my first Rolfing session with plenty of literature and became even more interested.

AH: What is your current research about?

SE: My current research is focused on the myofibroblast, the cell that is responsible for most of the fibrosis in the body, and the role of the extracellular matrix in promoting and maintaining myofibroblasts. I have also done some work on inflammation, looking at the role of hyaluronic acid (HA) during interactions between the connective-tissue fibroblasts and adherent immune cells, such as lymphocytes and monocytes. It's interesting how the ground substance can quickly transition from slippery to sticky under conditions of inflammation, and that property helps to dictate how fluid our tissues are. Combine that with the varying degrees of contractility of the fibroblasts and it makes for a very dynamic system.

AH: What developments in fascia research do you find particularly interesting and relevant to our work?

SE: I think one of the most exciting findings (from studies at the cellular level) that has direct relevance to bodyworkers is that tension-release attenuates the myofibroblasts – either causing programmed cell death (apoptosis), or down-regulating collagen production and the expression of alpha-smooth muscle actin, a characteristic protein that promotes the contractility of myofibroblasts. Stated more simply, the release of tension calms down the myofibroblasts, so they make fewer fibers and are less contractile. One of the likely consequences of our style of working the fascia is the release of tension between fibroblasts. Also, the primary factor that drives fibrosis in the body, TGF-beta, can be activated by cellular tension and repetitive strain. So our manipulations can potentially help in reducing the fibrotic quality of the fascia at the cellular level by this tension-release mechanism. We are literally altering the mechanics that the cells experience, at least temporarily.

AH: One of our themes in this issue of the Journal is aging. What happens to fascia as we age, and what can we do to maintain optimal fascial health – in terms of bodywork, nutrition, exercise, etc?

SE: As we age, our fascia and other connective tissues tend to become more fibrotic, stiff, and dehydrated. Hyaluronic acid seems to diminish with age. HA helps to maintain hydration in the extracellular matrix, spacing between cells and fibrous matrix components, and lubrication in the joints. Experiments we've done with lymphocytes suggest that supplements of HA potentially could have an anti-inflammatory effect. This is probably the main reason that HA supplements seem to help with arthritis-type pain. Coconut oil applied topically on the joints really seems to improve hydration and tissue quality also.

Another consequence of aging and stiffening tissues can be diminished range of motion, which means less muscular pumping of fluids and poor nutrient exchange and waste removal. As we know, introducing motion into places where it is lacking is important to restore those vital functions. Lack of good nutrient exchange and ischemia, or poor blood flow, particularly

around the nerve endings in stiff joint capsules and ligaments, will compromise proprioception and balance as we get older. I try to always encourage my clients to find ways of moving joints through full range of motion and to explore movements they don't normally do.

Robert Schleip, who has promoted a neurobiological explanation for tissue release and done some great research on fascial contractility, has also developed his Fascial Fitness program for maintaining proper tone and flexibility in the fascial network. I encourage anyone interested to explore that as well.

AH: You are also a key proponent of manual nerve therapy. What got you interested in that, and how did learning this affect your Rolfing work?

SE: I attended a brief introduction to nerve work given by Christoph Sommer at the 2006 IASI conference, and then quickly purchased Barral and Croibier's book *Manual Therapy for the Peripheral Nerves*. I was then fortunate to have two classes with Don Hazen before he passed away. Firsthand experience of the dramatic and instantaneous pain relief and increased range of motion when tethered nerves were liberated is really what got me interested. I've just been playing with it ever since, working any nerve within the territory for that particular Rolfing session. Nerves are on the forefront of my awareness pretty much most of the time now.

AH: What do you understand about the nerves and fascia that we should be aware of?

SE: Nerves control tissue (muscle and connective tissue) tone and range of motion. They transmit pain signals and can drive inflammation. Without motor neural stimulation, muscles are flaccid bags of protein. We need good sensory input for proper motor output. Addressing the neurofascia directly makes so much sense to me.

Recent studies have shown that the nerve sheath contains nociceptive fibers, which means pain and inflammation can be generated by mechanical irritation or overstretch of the nerve sheath. The nerve sheaths can get tethered in the fascia through which they travel. Mechanical irritation can also trigger what's called the 'dorsal root reflex', in which anti-dromic activity (impulses traveling in the opposite direction from normal) can be measured in sensory nerves and inflammatory mediator proteins are transported to the distal end of the nerve. They can cause swelling and vasodilation, among other things. This is the basis of neurogenic inflammation. I'm convinced this phenomenon is more widespread throughout the body than people realize.

Setting nerves on a straighter course and making sure they glide and stretch over their entire length, I think, is vital to the SI process. Show me a stiff joint and I will show you one or more tethered nerves that cross that joint. Hazen argued, and I agree, that successful Rolfing SI in part, either purposefully or inadvertently, frees up tethered nerves. This is where I would disagree with Dr. Rolf's premise that we are not addressing nerves. It is really 'myo-neuro-fascia', and not just 'fascia'. I consider the nerves part of my scope of practice, and see no reason that nerves should not be considered during the Ten Series.

Careful palpation reveals that there is strain along the neural pathways. (In actuality, it is often the entire neurovascular bundle that becomes strained.) The fibroblasts in the nerve sheath collectively can shorten the nerve, especially if they have a tendency toward being myofibroblasts. The fascia literally bunches up around the nerve branches and twigs, especially where nerves might overlap and entangle with each other. There is also research showing that neurons themselves can generate tractional forces, suggesting they may participate in driving their own strain. Inflammation and fibrosis can create more fascial bonding between the nerve sheath and surrounding connective tissue. This means that older clients who've had repeated bouts of inflammation and fibrosis – for example, someone with rheumatoid arthritis – will have lots of tethered nerves. Once sensitized, a nerve can be more easily induced to fire ectopically and/or become inflamed.

Nerves run along fascial planes between muscles, so any manipulation that differentiates along fascial planes will be freeing up the nerves that run in those seams. Nerves also run through fascial canals and bony tunnels, and bringing this to mind when we work only improves the outcome when we are deciding what direction to take the tissue. If our manipulation overstretches an already irritated nerve, we will be digging ourselves a deeper hole and perhaps setting up inflammation in our clients unknowingly.

AH: Can you say more about how nerve tethering relates to aging? One thought I've had is that some degree of nerve tethering is inevitable over time – from falls, strains, repetitive use, the kind of things most people will have some experience of over time – and if it's not dealt with it will cause mobility restrictions. If this is the case, could many of the issues that we assume relate to aging be reversed with appropriate work to restore roll and glide in the nerve sheaths?

SE: Absolutely. I think good Rolfing SI and other bodywork is the closest thing to the fountain of youth that we have. It's especially exciting when you consider that our manipulations potentially could be releasing stem cells from various niches in the body, including adipose, muscle, tendon, etc.

Another under-appreciated fallout from aging is the sagging and twisting in the fascia, particularly the superficial fascia. I think the superficial fascia and the cutaneous nerves are totally under-appreciated with respect to their roles in aberrant movement patterns, limited joint range of motion, and structural distortion. When you think about how thick the superficial fascia can be, with the adipose layer, and the significant downward pull that some cutaneous nerves are subject to, it starts to make sense that relieving the strain on a chronically overstretched or mechanically irritated nerve is going to have huge ramifications on chronic pain and structural issues. Any twisting in that sagging superficial fascia also creates torsional strain along the nerves in that layer, further sensitizing the area and locking up the underlying muscles. I've been playing with using spiral and lemniscate motions in releasing the nerves and it is super-effective.

I kind of see it as a resculpting process of the skin suit. One of my primary goals during my Rolfing sessions, as part of the territory for that particular hour, is to reposition the superficial fascia specifically to relieve the strain on the cutaneous nerves. I like to also make sure that nerves are not overlapping each other and creeping into each other's territory, causing the tissue to bunch up. Multiple passes with light fingernails and finger pads works very well to differentiate tangled nerve fields in the superficial layers.

AH: What are some common nerve entrapment sites you look at in your practice?

SE: Nerves get tethered everywhere, really, regardless of age. For low back pain, I tend to look at all the nerves crossing the iliac crest and the hips, from where they perforate the lumbar fascia down into the legs. These would be the cluneal nerves, iliohypogastric nerve, twelfth thoracic nerve, lateral femoral cutaneous nerve, obturator nerve. The proximal portions of these all get overstretched where they are tethered such as along the iliac crest (i.e., the inguinal and groin straps described by Louis Schultz and Rosemary Feitis in their book *The Endless Web*). The sagging fascia literally pulls on these nerves. With slouching posture, we then sit on the distal portions of the posterior nerves, dragging them farther 'southward'. I know from personal experience that acute overstretch of one or more of these cutaneous nerves can induce back spasms and inflammation, as if a disk had gone out. The iliohypogastric nerve is frequently tethered behind the greater trochanter and can be a key nerve to release for back pain. In my own experience, strain on this nerve also contributes to irritable gut issues.

There is always torsion in the fascia lata that twists most of these nerves, usually into external rotation. Even a small amount of sag and lateral rotation of the superficial fascia can pull the lateral femoral cutaneous nerve around to the back of the hip, and pinch the proximal portion of the nerve against the inguinal ligament. The entire wad of muscle, fascia, and nerves of the thigh needs to be untwisted and lifted headward to take the strain off of the cutaneous nerves. There is usually a branch of the lateral femoral cutaneous nerve that creeps around to the back of the leg. I always give attention to the fascia overlying the sacroiliac joint and glutes, and differentiating the posterior femoral cutaneous and inferior cluneal nerves at the gluteal fold.

The twelfth thoracic nerve, caught in sagging abdominal subcutaneous fat, often gets tethered over the TFL muscle. Strain along this nerve pulls T12 closer to the pelvis, exacerbating compression of the lumbars.

For tight hamstrings and the posterior line, the common peroneal and posterior femoral cutaneous nerves are crucial. They get caught in the fascia lata that sags like a stocking down around the knees. Sitting repeatedly pushes that fascia farther down the legs. This sagging and twisting of the fascia lata is part of the issue in creating spider veins and varicose veins. Swollen ankles and cellulitis seem to respond quite positively to untwisting the superficial fascia stocking of the lower leg and freeing up the saphenous, sural, and superficial peroneal nerves around the leg and ankle retinaculum.

In the mid-back, I find that the dorsal rami and the lateral branches of the ventral rami are nerves that, together with the long thoracic nerve, really participate in holding scoliotic patterns. These can be part of Sixth- or Third-Hour territory. These can be addressed at the same time one is working to differentiate the latissimus from the ribs and differentiating along the margins of the lower trapezius. The dorsal rami can be tethered where the neurovascular bundles perforate through the thoracolumbar fascia in this region.

In the shoulder girdle, the suprascapular nerve, the dorsal scapular nerve, the supraclavicular nerve, spinal accessory nerve, and axillary nerve are all tethered in older and younger people with limited shoulder mobility. For example, the suprascapular nerve makes a U-turn as it passes through the bony canal of the scapular spine, and heads back towards the spine within the infraspinatus muscle. Here it is subject to multidirectional pulls and mechanical irritation and is at least partially inflamed in most everyone. There is also torsion in the brachial plexus and neurovascular bundle as those cords pass across the axilla and down the arm, usually pulling those nerves and muscle groups into medial rotation. I like to pay careful attention to untwisting the torsion, beginning at the armpit, including the cords as they pass under the clavicle, down across the fascia at and above the elbow, and down the forearm, all the way to the retinaculum of the wrist and into the fingers.

AH: So releasing tethered nerves can do a lot to help range of motion, alignment, and fascial mobility at any age. How well do results from nerve work and Rolfing fascial manipulation hold in an older person versus a younger person? Do you see differences and what can you attribute them to?

SE: Young or old, there can be tethering of nerves wherever scar tissue forms, whether from bruises and contusions, other injuries, or surgical scars. However, younger tissues tend to have a higher capacity to heal and regenerate. Younger connective tissues and skin tend to have more HA and hydration and a more supple quality. There is more HA generated during inflammation, in both young and older people, but I suspect it leads to more fibrosis in older people because of their tendency to have more chronic inflammation and more mechanical history and traumas to leave their marks on the structure. Younger tissues probably have a bigger supply of available stem cells that might be recruited for repair processes, as well. However, I've seen some pretty fibrotic tissues in very young clients. It can be kind of shocking, really, how someone so young can have such tight and dried-out tissue.

In spite of having more fibrosis in general, older people do respond very well to neurofascial work. It may take more work to get the same degree of release, but not necessarily. You can see how the skin quality improves almost instantaneously when the nerves are released and the proper relationship between deeper layers and the superficial fascia is restored.

In my experience, the degree to which any nerve or fascial manipulation holds depends on the degree to which you have freed up the nerves and how well you have differentiated along the adherent fascial planes. Any residual adhesion or gluing along a fascial plane or nerve sheath, or even intramuscular fibrosis, can pull somebody back into his or her pattern. Inflammation comes and goes and can return again depending on further irritation. Remaining pain and stiffness suggests there is still some tethering or swelling fluid in the nerve sheath, putting stretch or pressure on a nerve. That indicates there is more work to be done.

Stephen Evanko was certified as a Rolfer in 1998 and completed his advanced certification in 2007; he maintains his Rolfing practice in Seattle, Washington. He is also a Staff Scientist at The Benaroya Research Institute, where he studies the role of the extracellular matrix in inflammation and myofibroblast formation. Anne Hoff is a Certified Advanced Rolfer also in Seattle.

Understanding Aging, Aching Hips

By Matt Hsu, Certified Rolfer™

Just this month, a client of mine in his fifties was able to handily trounce a fast, talented twenty-eight-year-old in a tennis match. He had the stamina. He had the strength. He had the agility. And he had the drive to make sure he had all the preceding. During this match, he felt like he was moving in a way that he hadn't in decades.

My client's performance was not a result of extra genetic gifts. It wasn't from having been an athletic freak who had been working out nonstop for decades. It was not even from a spectacular new myofascial technique I learned or developed. When he came in to see me two months before the match, he could not put weight into his right knee (due to an old injury and the ensuing surgery), squat low in a ready stance, use his right arm at full force or at certain angles, or play tennis for any prolonged period without severe elbow and shoulder discomfort. He felt like an old man and, rightfully, had no desire to continue feeling that way.

After about two months of physical training that focused on his weaknesses, some spot myofascial work, and some dedicated attention to relearning proper movement and exercise mechanics, his body improved drastically. His "bad knee" stopped hurting just by learning how to activate the hip muscles that had gone dormant for years. His right shoulder massively improved in range of motion and comfort with myofascial work, and his balance and explosiveness improved just from practice in a controlled environment.

What Is Aging?

Aging is the bogeyman, scapegoat, and patsy for what ails us. It allegedly causes us to get slow, decrepit, and creaky. It allegedly makes it hard to do what we used to do. It allegedly makes us want to just sit down and take another nap. While there are kernels of truth in all these notions, aging does not deserve all the blame we heap on it.

What are the real negative effects of aging? Reduced flexibility? Hampered mobility? Slowness? Lack of endurance? I grant you that those are common issues that occur as you age, but that high correlation does not make them effects. In fact, examples abound of people who are 'older' but who manage to defy the classical idea of getting older. An entire generation is seeking ways to 'cheat' aging and is finding it surprisingly doable.

The masters division of triathlons − the division reserved for those considered 'older' − is incredibly competitive. These are individuals who by all normal standards of aging should be entering a slow decline that leaves them tired and decrepit. And yet their endurance levels can rival those of their younger fellow masochists because of their training.

A decline in flexibility, stamina, and strength is not a linear effect of aging. It often appears that way simply because we tend to see so many people become less fit as they age, but this is a false inference. There are some physiological changes that make some small declines highly likely and progressively unavoidable, but the speed at which these small declines happen can be hugely influenced if looked at the right way.

A loss of fitness is actually a series of moment-by-moment choices. One is not always aware that a choice is being made, but it is constantly happening. Sit in a chair for eighteen hours a day and get only three hours of sleep every night for one year. How do you think your body will feel? How mobile will your shoulders and hips be? How happy do you think you'll be? Do that for thirty years, call it a "career," and where do you think your mobility levels will be?

Exercise intelligently one to four hours every day, testing and improving your body's flexibility, stamina, and strength in various ways and at varying intensities for thirty years. Will you end up with the same corporeal complaints as the chair sitter? Certainly not. This is the old "use it or lose it" principle. Once clients understand this, they are more apt to make changes that will truly enhance their lives in the long term.

What Can Be Done?

One of the most important positive changes clients can make, whether twenty-two or ninety-two, is to properly activate and stimulate the hip musculature. Dr. Rolf referred to the hips as "the seat of the soul," and I think all would do well to seriously examine this idea.

As bodyworkers, we tend to think that this "seat of the soul" concept means we need to physically manipulate the hips, but over the years I've found this is often not the case, particularly for folks with stubborn hip issues that seem to be "age-related" or who have come across hip problems after years of yoga and meditation. Think of how many clients you've seen with hip, knee, foot, and back issues that just didn't improve at all, despite your best efforts at mashing, squashing, coaxing, guiding, working indirectly and directly, and cueing. But except for cueing and some movement work, most of the tools in a Rolfer's toolbox are attempts to do something for a client that simply cannot be done. These are passive interventions, meaning the Rolfer is trying to fix or repair something, and the client is largely passive (while perhaps being asked to move a leg or twist a certain way).

Cueing someone with a novel method of movement may make some difference but is often simply not enough to create a lasting change. Cueing and constant thinking about proper movement patterns is an intensely cerebral activity and is often simply not sustainable for longer than a few minutes at a time. To make lasting change, something else has to happen: strength and coordination must be rebuilt.

It's Often About Weakness

Imagine client George comes to you and says, "I am unable to push anything heavier than forty pounds overhead, see?" He proceeds to take a forty-pound dumbbell (which he had in his bag) and pushes it up overhead. He then takes a forty-five-pound dumbbell and fails. "Can Rolfing® Structural Integration (SI) help with this?"

"George," you say, "Rolfing SI might be able to help." You proceed to do your best myofascial work through the thoracic spine, around the scapula, and along the pectorals to allow for better upward rotation and reduced drag near the coracoid process. "Pick up that forty-five pounder!"

And George fails yet again.

So you do a little more work. You do five sessions of work, and you say, "George! Pick up that forty-five pounder!"

And he fails again.

Will more myofascial work improve this situation? Will a Ten Series and then a Five Series increase his pressing strength? Probably not. Why? Because that's simply not how you build strength for that movement.

Aging clients (and young computer-bound clients) show this same issue with movements of the hip joint. The difference is that the movements they are weak in are less obvious, and they themselves rarely have the self-knowledge and/or the knowledge of kinesiology to be able to report these weaknesses to you.

If I complained about elbow problems, and I had zero biceps and triceps muscle development, would you be surprised that I was unable to articulate the elbow joint properly? If I had no mass in my quadriceps and no ability to contract those muscles, would you be surprised if I had knee trouble? If a client is missing the gluteus maximus and the gluteus medius, should you be surprised when he says the hip joint feels loose, sloppy, or even overly tight in the inner thigh? Should you be surprised that he doesn't feel stable when walking, running, jumping, bending over, or squatting? Should you be surprised that he doesn't feel able to change directions or balance on one leg?

The answer is no: you shouldn't be! These are all things that go hand-in-hand with weakness in the hip musculature. These are things that happen when you sit for long periods (and definitely after a thirty-year career in a seat). No amount of loosening up of tightness (perceived or actual) is going to make a positive difference for very long. In the best-case scenario, you may provide some amount of pain relief with myofascial hip work, but the longer term issue will remain – your client's hips are just too weak/too poorly connected to the brain to do their jobs properly.

Testing for Hip Weakness

There are many different positions and exercises you can use to test a client's strength in the hips. I'm going to share two with you.

Palpation Test

One of the easiest methods to get a preliminary idea of hip strength is simply to palpate. With your client standing facing you, put your palms on the greater trochanters, and then work your way posteriorly around the greater trochanters with your fingers. You should quickly run into the gluteus maximus and posterior fibers of gluteus medius with your fingers. These muscles should extend laterally so that they are almost flush with the outermost projection of the greater trochanter. This means that as you work back with your fingers, they do not move in medially (toward each other) much. The muscle tissue should provide resistance to being able to go medial.

You will find that clients with hip issues will never have muscle here. Your fingers will be able to make contact all around the greater trochanter(s) and will obviously be going medial. The tissue here will often be flat, flabby, and feel like nothing but skin. At best, a client will have a slightly developed gluteus maximus, but that too will often be quite flabby and flat.

A self-assessment version is available in a video here: http://youtube/EN0sYBsHpvo.

Movement Test

Now for the movement assessment. Have the client lie on his side with hips and knees flexed 90°, then have him straighten the top knee and pull the toes back (see Figure 1). Now ask him to lift that leg up toward the ceiling and lower it back down ten times. The client should feel this in the posterior fibers of the gluteus medius (right where you were feeling for musculature in the palpation test). Many clients with hip issues will not even be able to raise the foot more than a few inches. Some clients will have interesting neuromuscular compensations that activate the incorrect muscles. Very, very, very rarely does someone with hip and/or knee issues perform this movement well.

Now What?

Once you've confirmed that the hips are weak, your job then depends on your skill set. You should let your client know what you've found and what you can do about it. If you are good at exercise selection and progressive training and know how to help your client active the appropriate muscles, by all means do so! Help your client train to be stronger and more coordinated. A client who can move better will always be happier, even if you can't do anything about his 'age'.

If you don't know how to help your client retrain the strength and coordination he needs, refer him to someone who can. You may have to search high and low for someone who knows how to select and adapt exercises for the hips properly, but once you find this person, hold on to him.

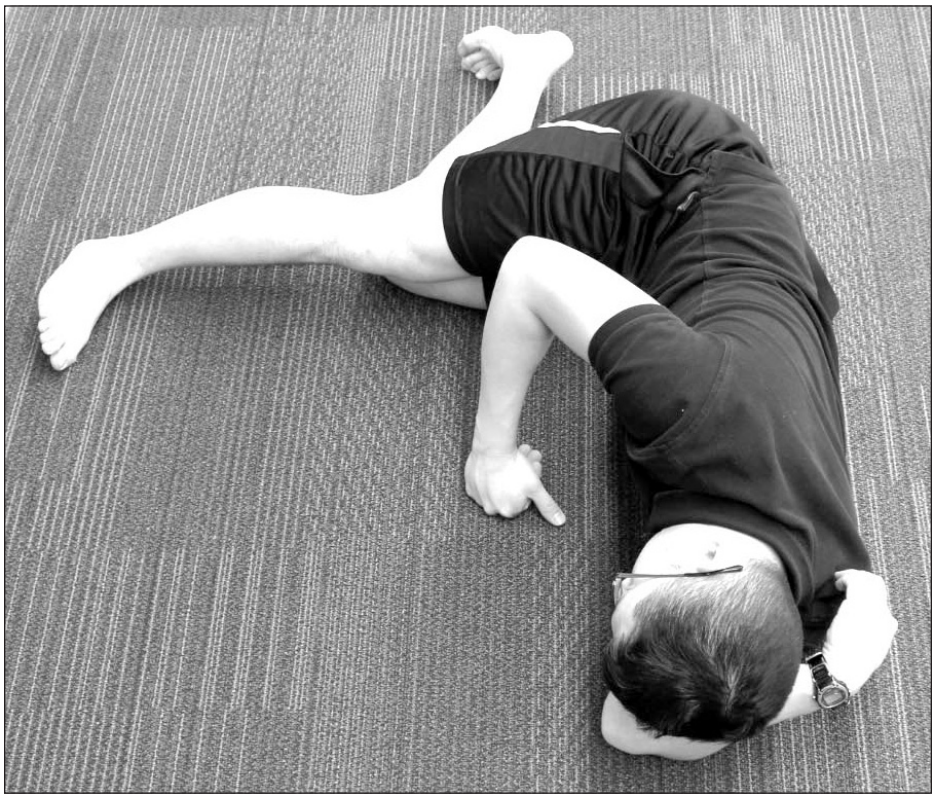


Figure 1: The client prepares to lift the leg toward the ceiling to activate the gluteus medius.

If you send a client with weak hips to a trainer, and the client comes back talking about circus-like acrobatics and extremely challenging balance exercises within the first week, you've found the wrong person. If your client comes back feeling like his hips are a little sore and a bit tighter (i.e., getting stronger), then you're on the right track.

Hips are slow to rebuild and can be difficult to reprogram once atrophy and the associated faulty patterns have set in. But with focus and discipline, your clients can make that hip and back discomfort go away, even if they are 'old'. Remember, 'aging' hips are often extremely weak. Make them stronger, and your clients will no longer feel so old.

Matt Hsu is a Certified Rolfer and personal trainer specializing in his PACT System™ (Posture, Alignment, and Coordination Training). He has helped countless clients with hip pain and weakness since fighting his way out of serious hip issues in his twenties. His eBook Healthy Hips I: Restoring Fundamental Mobility and Strength *is available online at www.uprighthealth.com.*

Case Studies with Yielding, Part 2

Application for Otogenarians

By Hiroyoshi Tahata, Rolf Movement® Instructor

Introduction

'Yielding' technique (Agneesens and Tahata 2012) is particularly beneficial for use with clients who are sensitive to pressure, as described in an earlier case studies article in this journal (Tahata 2012). In the same vein, this approach can be applied safety with clients who may have reduced bone density.

It is common for medical doctors to recommend exercise/physical activity to elderly people to prevent osteoporosis and thus reduce the risk of fracture from falls. However, if their patients have numbness or pain in their extremities and/or joints, it is natural that they do not feel inclined toward physical activity. This leads them into a negative feedback loop of lack of enthusiasm for exercise → decreased activity → loss of bone density → injuries like fracture from falls → back to an increased reluctance to exercise with the cycle continuing. Key to breaking this feedback loop is remembering the joy of movement that can come from getting back to a state of comfort in the body. This is where somatic practitioners can play a huge role in supporting the elderly.

In this article, I will present two case studies of octogenarians from my practice. Despite their advanced age, both clients' bodies had sufficient responsiveness to garner structural change both during and after the Ten Series process. Work with these two clients was strictly Rolf Movement (based in the Principles of Rolfing® Structural Integration and following the functional regional goals of the Ten Series) that incorporated yielding. As photos were taken before and after each session, it was easy to track how the body changed immediately from the work, as well as in the interval until the next session.

Case One

This male visited my office in 2011 at the age of eighty. He was active, often going hiking and skiing. His motivation to work with me was to continue to enjoy his favorite activities. He also hoped to fix his sciatica, left knee pain, and numbness in his right foot. In terms of posture, he was aware of the tendency to throw his chest forward and believed that might be patterned by his earlier involvement in social dancing.

Interventions and Results

The client came in with a typical G' preference in terms of movement, with his body oriented upward before starting the Rolfing series. One of the ways his body responded to the work was that it became increasingly balanced in the one- to two-week intervals between sessions, showing change beyond what was seen in the immediate post-session look, as seen in Figure 1. For example, in the Sixth Hour my intention was spinal continuity and perception of the space above the head. The photo shows more palintonic harmony front/back and top/bottom two weeks after that session than it did at the end of the session itself. Overall we see the pattern of a protruding belly correcting, and his upper arm falling into place during the week after the seventh session. More can be seen in Figure 2.

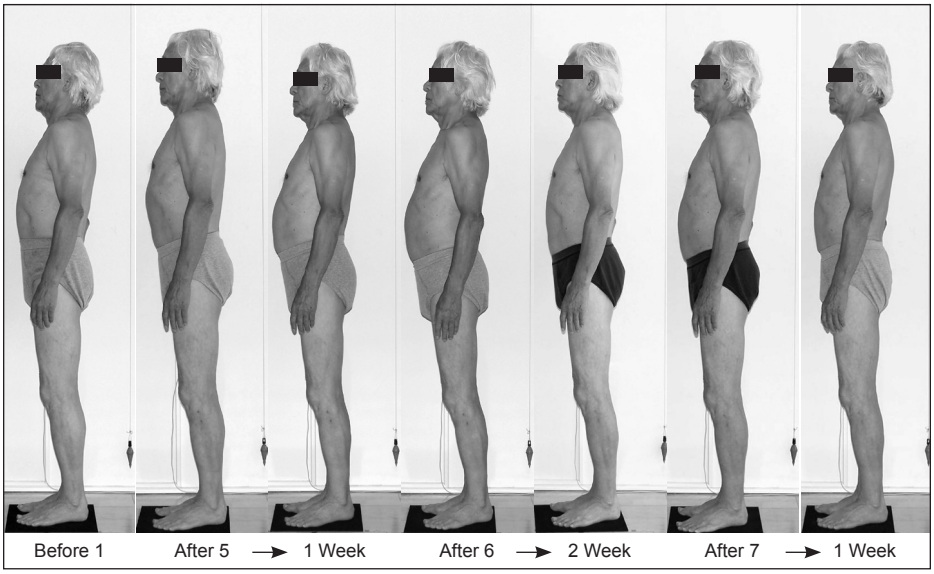


Figure 1: The sustainable effect of yielding work on structure in Case 1 (left profile view). Note how the body spontaneously integrates further in the intervals after interventions.

Figure 2: The sustainable effect of yielding work on structure in Case 1 (back view). Again, note how the body spontaneously integrates further in the intervals after interventions.

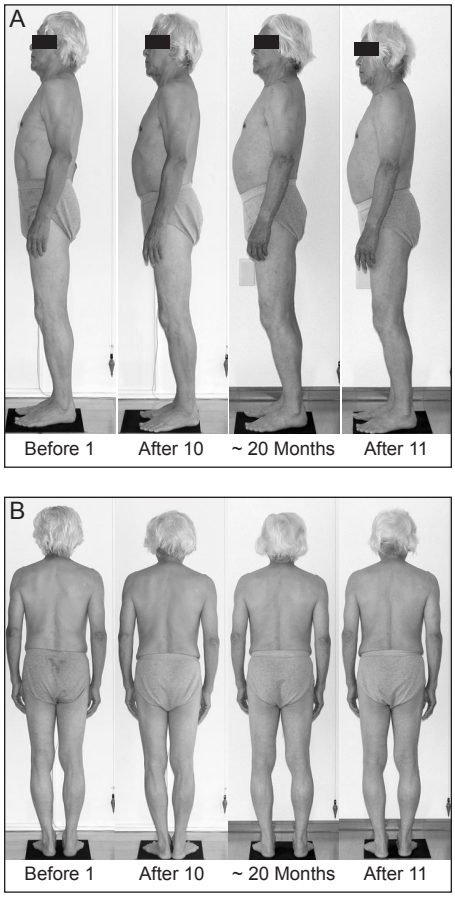
After finishing the Ten Series, the client felt 95% improvement in the numbness in his right foot and his chronic right sciatica was completely gone. Other chronic pains in his right shoulder and left thigh also disappeared.

The client came back for a post-ten session after twenty months. We see in Figure 3a that his lumbar and cervical curves seem more compressed than just after he finished the Ten Series. However, when compared with the photo before the first session, the orientation of the pelvis has held the effects of the series, with core space around the G center and still orienting to the ground. With just one post-ten session (session eleven in the photos), he regained horizontality in his head (Figure 3A).

On the other hand, Figure 3B, the back view, shows at twenty months more balance side to side, with two-cylinder support, than just after the ten sessions, and no return of the right sidebending of the sacrum that was worked out in the course of the Ten Series. The client later reported to me that after session eleven he began to go trail hiking three times a month, walking for five to six hours each time. He felt his walking was improved, and he also had the initiative to go hiking by himself, whereas before the eleventh session he would only go at a friend's invitation.

Case Two

This eighty-four-year-old year female visited my office in 2013 at the behest of her daughter, one of my clients, who gifted her with a Ten Series. Since fracturing her left lower ribs twenty years earlier, she had felt unbalanced and started gradually bending forward, which we could call a G preference. She needed to use a rolling walker to walk.



Figures 3A and 3B: Case 1 – process during and after the Ten Series. A – left side view; B – back view.

Interventions and Results

From our sessions, this client gained upward lift and core stability. We see how this process played out through our work in Figure 4, with a general tendency of change to a more upright expression. There was a place where she instead showed a strong pattern of bending forward (in the two weeks after the seventh session), before more integration to a sky orientation was seen after the ninth session. In the ninth session, I had focused on continuity from toes to the psoas. The client also reported that her digestion/elimination greatly improved, and that she no longer had chronic constipation or difficulty with elimination.

Looking at Figures 5A and 5B, we can see that in the six months following her Ten Series, before any post-ten work, her body again bent forward slightly, but that she maintained core space around her G center. From the front view, it seems her body is more stable with support from both cylinders.

The work through session eleven has eliminated the chronic pain the client had experienced in her right knee, and what had been a large area of numbness from both ankles through her toes has narrowed to just the toes. Before coming to my office, this elderly woman had little incentive

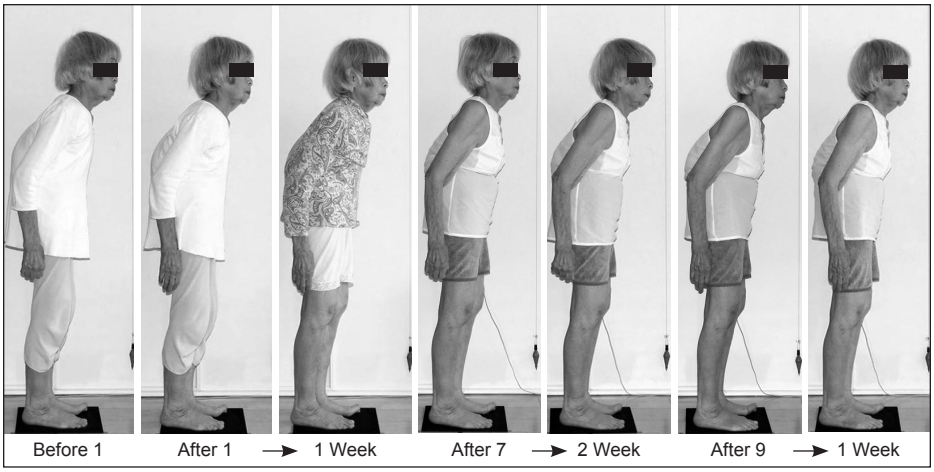
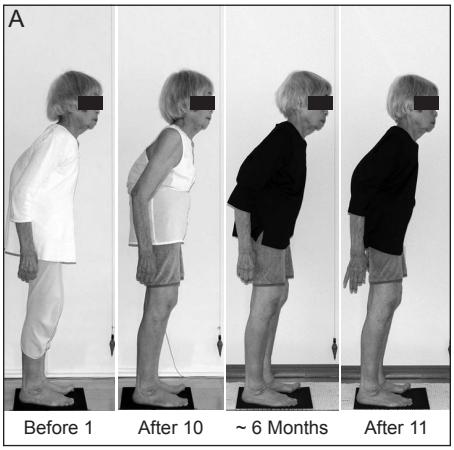
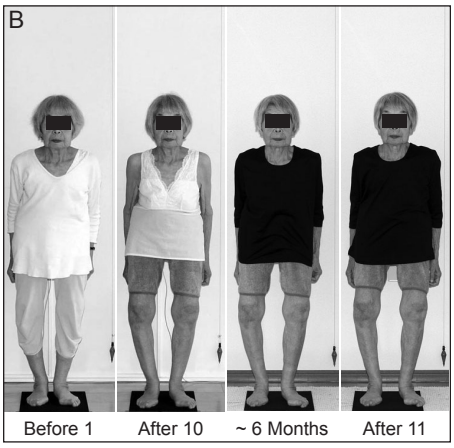


Figure 4: Sustainable effect of yielding work on structure in Case 2 (right side view).





Figures 5A and 5B: Case 2 – process during and after the Ten Series. A – right side view; B – front view.

to go outside because of the difficulty of engaging in daily activities. Now, through this work, she is motivated to go out and is able to walk for a distance without her rolling walker, although she uses it when she needs to carry something. Mysteriously, her hearing in her weaker left ear also improved, by 30%.

With her mobility significantly improved, the client and her daughter were able to visit two distant Shinto shrines in 2013. Such a trip had been inconceivable before, and held deep meaning for both mother and daughter who had been more distant before this and were living apart.

The year 2013 was a special year in Shinto, the animistic religion of Japan. Two major shrines, Ise Shrine (in Ise City, Mie Prefecture) and Izumo Taisha (in Izumo City, Shimane Prefecture) both held *sengu*, which is the transferring of the 'body' of a god to another shrine while an old shrine is being repaired or a new one is being built. Ise Shrine holds sengu every twenty years and Izumo Taisha every sixty years, and 2013 was the first time in sixty years there has been a dual sengu at these major sacred sites. For members of my elderly client's generation, there is often a heartfelt wish to be able visit Ise Shrine during one's lifetime. (For readers who are curious, the website for Ise Shrine is www.isejingu.or.jp/english/index.htm).

Thus, both mother and daughter were thankful for the Rolfing process, which allowed them to make these pilgrimages in such a special year. We can speculate on the impact of the work from the psychobiological aspect, both in how increased mobility allowed meaningful travel as well as how it may have benefitted the mother-daughter relationship to have unexpected time together while traveling.

Discussion

There are a few more points I would like to note. I did not coach either client in how to stand for the photos. Nevertheless, we see that both clients naturally adopted a slightly wider stance, suggesting that two-cylinder support is more operational for standing and walking. This is illustrated in Figure 6, and contrasted with a posture where the legs function together as a single, less supportive, cylinder. Alignment and function through two cylinders is clearly more functional for both standing and walking. In both Case 1 and Case 2, we observed that the way the body is supported in standing spontaneously shifted from a single cylinder to dual cylinders as the process advanced.

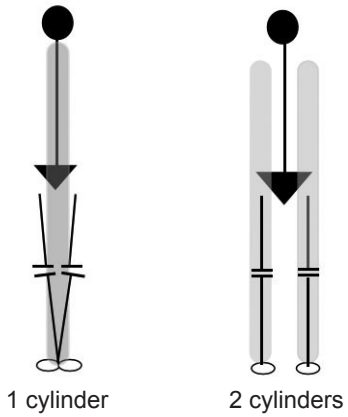


Figure 6: Standing that aligns through one and two cylinders. Dual-cylinders suggest more stable support as well as reduced load on joints.

Figure 7 presents the photo data from Figure 2 in an illustrative form. After getting more support in session two, the sacrum was horizontalized. After the seventh session, we see a decompression that begins to resolve the right sidebend in the client's spine and lower extremities. This tendency toward a right sidebend appeared around the seventh session and might have been related to the client's chronic sciatic pain. The expression of this deeper level of pattern may have been necessary in the process of integration.

Thoughts on Aging

Conventional thinking holds that with increasing age, there is less and less possibility for change. As people experience symptoms like numbness and arthralgia in their extremities, they may attribute it to aging and believe they cannot improve. While aging is a natural process, that process simply means the passage of time and does not necessarily mean deterioration. In the example of these two clients, we saw a reduction the area of numbness in their feet

(both cases) and reduced arthralgia in the sacroiliac joint (Case 1) and knee (Case 2).

Age is also often associated with attitude, as expressed in the adage "You are only as old as you feel." It is thus meaningful that both clients developed a more positive attitude toward movement after their Rolfing processes. Such improvement in attitude may help move people out of the negative loop described above (where reduced enthusiasm for movement leads to decreased activity, etc.) and into a positive orientation of: positive feelings about movement → increased daily activity → improved quality of life.

These two cases show us the broad holistic impact of Rolfing work on structure, function, and well-being and encourage an aspiration that perhaps we humans can change when we want to, with the right input, no matter how old we are.

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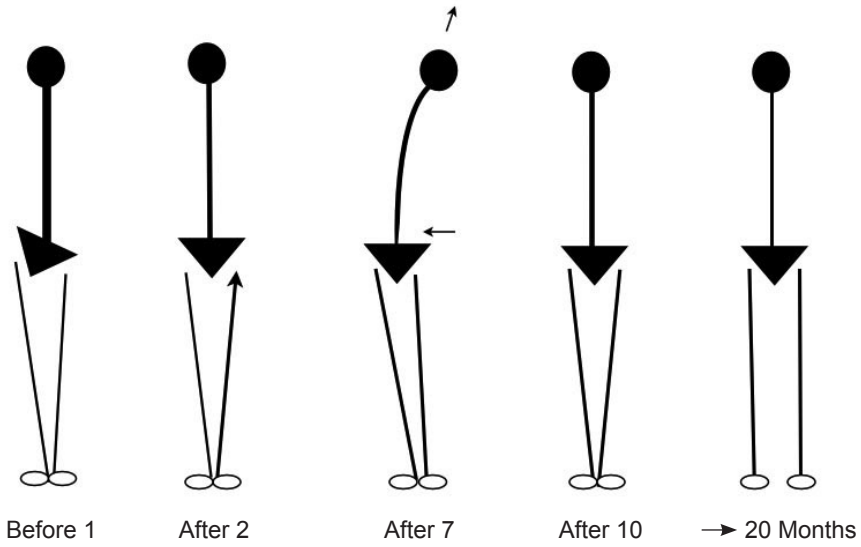

Figure 7: Depiction of the structural process in Case 1, representing the phenomenology of the body pattern.

Aging Rolfer™, Aging Clients

By Linda Grace, Certified Advanced Rolfer, Rolf Movement® Practitioner

Truth be told, I was never a young Rolfer, and am certainly not now, thirty years later at age seventy-six. Feeling old and creaky at age forty-five after my first class at the Rolf Institute® (RISI) in 1983, I went to Louis Schultz and told him that I needed to be able to sit on my feet. He kind of snickered, "Why would you want to do that!" I told him that all the young people in class were able to sit on one foot on those pipe-legged twelve-inch-high plyboard tables that were used for Rolfing® Structural Integration back then, and I needed to as well. Louis got me so that I could do that, mainly because he was 'old' when he started and compassionate. I can still sit on my feet, though my Comfort Craft table would be shocked.

When I was certified by RISI in 1984, I was a few months the other side of forty-six years, had a son in high school, and was making my way as a single mother. I believe I owe some longevity to the fact that hard work was and is necessary on several levels for me. A Rolfer who knew a couple of trust-fund-baby Rolfers once said to me, "We need to have more working-class Rolfers," and I pointed out most of us are working class by virtue of the fact of being full-time Rolfers.

About six years after certification I was in trouble: I found I would go to sleep sometimes without eating dinner, just too tired, and that I was sleeping through parts of every concert that I attended. A workout coach – the enthusiastic, dedicated, and knowledgeable Stephen Maxwell – had been sending me his devoted clients, and coming in himself and regaling me with stories of his first Rolfing work with Richard Demmerle. I decided to work out for six weeks twice a week, and if I didn't feel better I would quit working out and seek some other solution. Sure enough, after two weeks I was physically rejuvenated and continued working out for about ten years, with the Super Slow Method, Hammer Strength machines, and bodyweight exercises. I learned a lot during that time about strength with flow and was able to use movement work I was getting with Hubert Godard and Rebecca Carli for weight training. It was a fine collegial experience with Steve. Later, in 1993, when I fell seven feet backward and hammered my head slightly off my neck and fractured a few things (miraculously being paralyzed for only a few moments), Steve and I congratulated ourselves on my being strong enough to not break my neck.

I was pretty strong during that period of the 1990s. In fact I put my left arm into my jacket with such force that I ripped three rotator cuff tendons almost all the way

through. I was in too much of a hurry to go work out and get back to Rolfing work. (By the way, it is not true that I have tried to have every injury so that I will know how to fix it.)

At some point a Dexascan revealed that I had some osteopenia in my middle thoracics, which upset me since I had been working out. Steve reminded me of the early Nautilus research with older people. As told to us by Arthur Jones when he came in person to Steve's club, Jones' research with retirement-home residents was inconclusive on building bones with weight training; only impact such as walking and running builds bones. Weight training does have its important point though: the competent muscle and fascia bed for the bones is really important for bony strength. Jones was kind of a quiet riot of expertise then, and one of his statements was that long-chain exercises were all we need for maintenance. As I moved into doing my own bodyweight exercises, I used that maxim.

As we get older, the first few minutes of communication tend to be the 'hospital report', and this is no different! However, moving on, the fun of actually doing Rolfing work and the intellectual and relational challenges are the main things that keep me going now.

I deeply rely on this work to keep me energized and to maintain physicality. I have regular sessions with Rolfers, both movement and structural. Although I have studied several varying kinds of energy work, by this time I have incorporated them into my physicality so that I don't have to have an actual energetic practice. The energetic *chi* part is somewhat hypnotic and comes on demand. In the early days I relied on practice of the 'Golden Stove' and moved into a Ki Aikido practice exercise for myself around the time of my first Rolfing training. I still do this Ki Aikido exercise and teach it to clients who need to bring up their physicality for performance or health without having to spend years doing Chi Gong and Tai Chi. Of course, I have added to the exercise elements of the Rolf Movement work, including a tonic postural sense, and for those who want it, visualizing the chakra system. As a strength-with-flow training, I also teach an exercise I learned from the oboist Ray Still, of getting up and down out of a chair without the diaphragm locking up, using in addition tonic postural connections and energetic elements. Those are about the only things I do these days besides walking my dog and thinking about doing football-type up downs.

Most of my first clients were in their sixties and seventies, and though they were active, there was a clear difference from those youngsters who were classroom models. I had not yet reached that practitioner stage of which my colleague Ron McComb has spoken, where one has confidence that all the signs are all there, and that they can mostly be understood, sensed, and worked with. The aging clients were worrisome, scary even. What to do about a walk that showed signs of cerebellar malfunction, as was told to me about my mother? What was this strange feeling in the tissue – perhaps dehydration, perhaps something else? How fragile were these elders?

However, right after I started my practice in August 1984, I sadly had family experience to draw on for this last stage of life, which gave me knowledge of the territory of these elder clients. When my mother died, she was living with me and my son, and she died for a long time, lastly over two weeks at the end of October 1984. The family had known she was deteriorating during the prior four years, after our father died, and my sister and I took turns going to her small town in New Mexico each month from our homes on the coasts to set her up for the coming month, including paying her bills, taking her to her doctors, arranging with the neighbor to give her the pills, and putting in a stock of home-made frozen dinners. Finally we went to bring her back to my home in Philadelphia.

During this time, my sister and I constantly fretted about her and whether her care was appropriate. (We spoke often with our brother, who was posted various places around the world.) We were still upset that there had been no signs leading up to our father's death in 1980: the three weeks before were good physically, showing only some pesky arthritis. It was only revealed at the end in a flash of great pain and nothingness that his heart arteries had become blocked.

Our mother's going was entirely different. About six months before what would be the end, her doctor had declared that she could no longer live on her own, so we practically dragged her out of her house to live with me. Then, at the end, we sat in a hospital office with her doctor in Philadelphia and he explained how the hospital committee would have to agree with him and with us that she would not recover, and agree to have the support measures taken away.

Our mother confounded that action for some eighteen hours, breathing softly slower and slower and shallower and shallower. It was a great gift that she gave me, one that told me what it physically looked like to just run down, and slip away.

Though sad, I now knew the longer stages of living into dying. This pointed me to the more intermediate knowledge of that later elder stage of "pretty good shape for the shape we're in." This greatly reduced my anxiety around working with elderly clients in my Rolfing practice. I now knew what the end looked like, and mostly they weren't there yet!

That same doctor then presented me with an elderly woman who "had a lot of baggage." Several family members had recently died, she was a cancer survivor, and she was seventy years old. Quaking I said, "Does she have osteoporosis?" And he replied, "She is riddled with it." Of course, her pain was in one of the scariest places for direct pressure techniques: her osteoporotic thoracics. Toward the end of the basic Ten Series, with the pain lessened but still present, I decided to hang out gently but firmly on the offending ribs. After about twenty minutes, a huge dead-animal smell filled the air, and she gave a great sigh. The pain was gone, and she told me a story of a thirty-year-ago bronchitis.

Two years later, in a chance meeting, she said, "I almost called you a few weeks ago, when I fell on the ice, but after two days I was fine." I was thrilled. We are often told when training that after structural integration the body is more adaptable and can right itself up to a point, and that had happened. Even a seventy-year-old person was adaptable.

When the realization comes that structure can be changed at any age, then comes the fun seeking of the ways whereof that can happen. Sometimes the knowledge arrives as a bolt from Zeus: What – the bones are not like dead turkey-carcass bones! The bones move with the breath, the bones have osteoblasts that are pumping out tissue! Like the rest of the body! The cells all turn over every five to seven years! (Yes, I love Ericksonian reframing.)

The techniques of change for the elderly most often are less than direct. The 'joffling' of Annie Dugan and Janie French and

Rebecca Carli-Mills may be just the thing for joint mobilization. (Joffling is an indirect fascial technique that applies vector and rhythm in a joint to get it more balanced possibility.) The horizontalizing of tissue down through the periosteum, while (or afterwards) working with the bones and their subtle movings, can be profound. Also, the viscera can be horizontalized and the cranium mobilized, all within indirect methods, or direct if not pointedly straight in towards trouble. All ways of structurally working with the gristle of the aged without crushing are fair game.

Within the three gravity centers of the body (hips, thoracics, and head), the thoracics may pay the biggest dividends toward the aging adaptability of integration. Here the elderly can make great strides with gently joffling the movements in and out following the breath, paying attention to the front and back spiny connections of the ribs as well as the in-betweens.

Then after ten sessions comes the payoff. What strange resilient beasts are these integrated elder men and women? Wrinkled, bony, independent, mostly spry, and willing, so willing, to sing the last notes of the last song 'til whenever.

When Working with Athletes

Understand the Needs, As Well As the Character, of Athletes in Your Practice

By Bob Alonzi, Certified Advanced Rolfer™

The Psychology of Athletes

For many, there are no limitations only the completion of the goal. These are the athletes and dancers who may flow into our practices seeking help to repair an injury or to rehabilitate from one, and to improve athletic performance. They may be elite or recreational athletes, as well as novices, engaging in sports for competition, fun, and health. What many of them have in common is a high threshold for physical pain and a drive to complete their goals. For these athletes, both the internal and external message is to compete. Joe Friel (2003, 176), author of *The Cyclists Training Bible*, writes, "Confidence is as important for success in sport as physical ability. No matter how talented you are, if you don't believe you can win, you won't." The message is the drive to push beyond the sensations and mind chatter telling the athlete to stop. It is a compelling desire to excel and succeed and to win if at all possible.

Through the course of our practices we will meet competitive people from all walks of life. There is nothing unusual about a competitive nature. I believe a difference in the psychology of the athlete is the ability to persevere through physical and emotional pain. But then, it is not perseverance alone that defines athletic accomplishment. There is a need to go beyond *just* continuing to meet the challenge. It is a primary physical and emotional necessity for the athlete to succeed. One would think a person of reason would simply know to stop behavior that induces pain, fatigue, and limitation. Not so with competitive athletes. The competitive spirit and the desire to succeed supersedes all other concerns including the limitations due to injury – that is, until they have hit the end range of adaptation and compensation and so must surrender to lowered performance and pain.

The physiological and psychological mechanisms that allow for the athlete's success and performance on the playing field may disguise what ill effects could arise from the physical punishment of play and injury. The demands of physical performance in competition can be traumatizing. It is easy to see this in sports such as football, rugby, ice hockey, and martial arts. These are sports where body structures endure significant *impacts* during every competition.

But what about those who participate in individual sports? Do we think in terms of the marathoner's twist of an ankle or a cyclist's sore hamstring as being traumatic injuries? More than likely, we see these injuries as common to these sports, and with the right therapy and care, they likely will resolve. I suggest that when treating the athlete, we work to develop a more comprehensive understanding of the degree to which a physical injury has influence both structurally and on the competitive outlook of the athlete.

In my twenty-seven years of practice I have come to respect and admire athletes' focus on achievement. I find high levels of physical performance inspiring, and at times magical. What appear to be super-human efforts had me thinking just *how* the human body can muster the strength, endurance, precision, and motivation to carry on through the most challenging of activities. I have followed the research, science, and writings of Friel, Ed Burke (2002), Mark Verstegen (2004), and Chris Carmichael (2004) documenting the physiology, mechanics, and training regimens that allow for high levels of performance. There is also an abundance of information online and through popular magazines such as *Runner's World* and *Bicycling*. I have spoken with the coaches of my athlete clients, and taken time to observe the client in training and competition, both live and on video. With all the information gathered and knowledge of the needs of the client, the work begins of understanding the unique character of the athlete-client on the treatment table.

In time I was treating a wide variety of athletes from professionals to weekend warriors. For me, part of coming to an understanding of the complexities of treating the athlete was to create a structure or profile. By putting together an array of information, I could better comprehend how the client trained and competed. It goes without saying that I must get to know the unique character of every client who walks in the door. What is different with athlete-clients, however, is that they are motivated to get back in the 'game' as soon as possible by a driving spirit to compete. This, coupled with an extraordinary ability to endure physical hardship (including pain and dysfunction from an injury), has the potential to propel the athlete-client into prolonged rehabilitation and recovery.

Most often the athletes in my practice have been in for medical care and physical therapy by the time they come for Rolfing® Structural Integration (SI). The condition or injury has partially resolved with physical therapy, but performance lags with

residual pain. Some athlete-clients come by referral; others come from a belief that Rolfing SI can relieve the pattern formations that lock function into inefficiency and structural asymmetry.

Profiling Athletes

In developing an understanding of my athlete-clients, I began with assigning the client to a category, using these groups:

1. **Elite** – professionals, semi-professionals, or amateurs competing at the highest levels in their sports.
2. **Recreational** – competitive but not professional (triathletes, marathoners, cyclists, golfers, tennis players, softball and volleyball players, etc.). This group lives to play and compete.
3. **Novice** – beginners, or those returning to a sport for fun and health, but highly committed to the activity. Competitive.

With the 'Elite' group it is imperative to know their sports, seasons of play or scheduled competitions, along with either the off-season or downtime between competitions. Specific information about training schedules for both off-season and times of competition is essential in developing a treatment plan. It is also important to know how the athlete rests and recovers. I would add to this category that the Elite athlete brings a refined kinesthetic awareness to the Rolfing studio. Trusting the client's kinesthetic sense will facilitate and contribute to a more effective treatment plan.

For the 'Recreational' group, the same information is essential. These athletes most often participate in individual sports, but some play softball and volleyball as well, for example. This means competitions occur separated by training periods between events. This group takes competitions and training seriously. They may not be professional or high-level amateurs, but they are highly competitive and skilled at their sports.

The 'Novice' is either a beginner or someone returning to sport after a hiatus. These athletes may be older or coming off a sedentary lifestyle caused by illness, having raised a family, or work responsibilities. Often they require improvements in overall fitness but are highly committed to their sport. They tend to be hungry for achievement or to prove they can accomplish what seemed out of reach to them in the recent past. This competitive spirit arises in average people who complete marathons, triathlons, or cycle centuries as well as local golf and tennis tournaments.

From each category I create a series of questions to best understand the needs and goals of the client. By asking specific questions about the athlete's injuries, rehabilitation, limitations, training, competition, strengths, weaknesses, rest, and recovery, the information gathered will contribute to a treatment strategy as well as a visual and functional assessment.

Here are a few general sample questions that can be used for assessment:

1. What injuries have you sustained and are working to rehabilitate?
2. In which sports do you participate?
3. What are your strengths and weaknesses in your sport?
4. Describe your training regimen.
5. When is your next competition?
6. What are your training goals?
7. What are your competitive goals?
8. What do you expect from Rolfing SI?
9. What are your goals for Rolfing SI?
10. How has this injury impacted you emotionally and psychologically?
11. Is there anything you have changed in training and competition since the injury?

These types of questions help to round out a profile of the client. What follows is more discussion of what the client is experiencing and what makes things better or worse. I want to know in detail what the pain feels like and how limitations change performance. And I want to know the emotional impact injuries and lowered performance have on the athlete-client. That psychology and emotionality can be empowering to the healing process, or can hinder getting well. A lowered mood, depression, and a sense of hopelessness can follow a nagging, reoccurring injury. What may follow an injury are negative self-talk, self-doubt, and the erosion of confidence. The athlete may fear the injury is career-ending, or will impact performance and ability.

Why is it important to know about the athlete's emotional state? Why is it necessary to profile the athlete in such detail? In my opinion and for how I practice as a Rolfer, effecting change in structure *is* treatment of the whole person. Therefore, I want to know as much as is reasonable to best monitor my athlete-client's progress and outcome. By my client knowing I am seeing him as a whole person, I establish trust and confidence in the work. Most Rolfers are not psychotherapists, but we are empathetic and caring people who, by monitoring, listening, and acknowledging, can aid the athlete in a positive and supportive way.

Key Issues Athletes Face

As mentioned in the opening, the competitive spirit and desire to excel creates an expectation on the part of the athlete to get back to the sport so as not to lose a competitive edge. The athlete is accustomed to action and movement and to endure physical strain. To cut back on training and limit competition in order to heal may seem counterintuitive to the client. To be still, or to limit training time or eliminate a progressive training regimen, takes away structure and purpose for the athlete. However, rest and recovery may be what is needed to allow the body to surrender guarding and compensatory-pattern formations and to integrate change. What follows sufficient rest and healing is a body ready to perform at a high level. It is not uncommon for an athlete who has taken time off for recovery to come back to competition refreshed and able to enter back into play with confidence.

Working with athlete-clients over the years brought me to an understanding of how training, competition, and injury can combine to erode an athlete's trust and confidence in his or her structure. 'Overtraining' and reoccurring injuries can be culprits in effecting positive thinking and trust in the athlete's ability to perform. What can come up for the client are thoughts and feelings of inadequacy or the thought, *"I am not good enough to compete."* Fear and anxiety about loss of athletic function and about returning to play at a lower ability may haunt the client. For the Elite athlete, it could mean the loss of a career or team slot. For the Recreational athlete it could be a loss of identity and purpose, and for the Novice, a great disappointment and setback in starting a new direction in life.

Because the circumstances that bring the athletes to my office (and impact them both physically and emotionally) are complex,

being sensitive to their vulnerability and their need to regain confidence is imperative. I cannot stress enough the importance of framing sessions in a positive and supportive way. The language we choose to communicate with clients has the potential for elevating or lowering the expectations of the athlete – in fact any client – as to a positive and successful outcome from Rolfing SI.

Conclusion

Our role as Rolfers is to provide our clients the opportunity to function with the fullest potential possible. Our corrective measures to repair injuries and to maximize physical performance empower clients of all walks of life to exceed their own expectations. For the athlete-clients, our recognition of the particulars of their sports, training regimens, and competitive needs is essential for rebuilding trust and confidence that they will again compete at a desired performance level, or greater.

Bob Alonzi is a Certified Advanced Rolfer practicing in Santa Monica, California. He has been working with athletes, dancers, and the physically active for over twenty-seven years. He is an avid cyclist and a ride leader at the San Fernando Valley Bicycle Club in Los Angeles.

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Lessons in the Body's Potential

Working with One of the NFL's Greatest Running Backs

By Wayne and Sandy Henningsgaard, Certified Advanced Rolfers™

Wayne and Sandy Henningsgaard with Minnesota Vikings running back Adrian Peterson

Wayne's Perspective

Sandy and I have worked with many great Minnesota Vikings and other National Football League (NFL) players over twenty-three years, including Cris Carter, who was recently inducted into the Hall of Fame, and Vikings running back Adrian Peterson. Adrian has had a total of 10,115 rushing yards in the NFL and eighty-six touchdowns. In the season after his anterior cruciate ligament (ACL) and medial cruciate ligament (MCL) tears, he completed 2,097 yards – just eight yards shy of the all-time record – and was named Most Valuable Player (MVP) of the year by the NFL.

We started to work with Adrian in 2008, which was his second season in the NFL playing with the Vikings. To our recollection, he never missed his weekly session during the season. At the end of the 2011 season, he took a hit to his left knee that tore both his ACL and MCL. Before Adrian, no running back had ever come back from this kind of injury to a successful season. I had read as much in the newspaper, but I spoke to Adrian about this and, while he was sure that no one had ever had a good next season, he questioned the sportswriter's facts. Not only did Adrian last the entire season after his injury, but he also gained the second-highest yardage ever gained by a running back.

Here is Adrian perspective about his Rolfing® Structural Integration (SI) sessions:

> I started to see Wayne and Sandy for Rolfing [sessions] in 2008, which was my second year playing for the Minnesota Vikings. I did not know what to expect, but I wanted to get my body open and loose so I could function better. I had heard how Rolfing [SI] helped with minor injuries, so I tried it. I soon found that of the many different angles out there such as stretching and deep-tissue work, Rolfing [SI] is the best for getting my body rejuvenated. What I thought were ankle sprains and pulled muscles such as groin and hamstrings were instead just resolved immediately in my Rolfing sessions. These injuries were not as the trainers said . . . instead I felt like brand new as Rolfing [SI] had resolved [them]. On a game-by-game basis, by getting back my flexibility in my hips, I always feel much better. Rolfing [SI] has become a confidence builder as it keeps my body durable during the season. It has played a big role in my recovery time and making it through the season. I have learned how my muscles connect, as I could never have imagined. I have learned how to access my core muscles better as Wayne and Sandy have pointed out these things to me in the sessions.
>
> At the end of the 2011 season I took a hit that tore the anterior and medial cruciate ligaments in my left knee. Rolfing [SI] played a big role in my recovery. It helped my left knee strengthen and my right leg become less dominant. It played a

> tremendous role in getting back my flexibility and strength in my left leg. I credit Rolfing [SI] with helping me to recover for the 2012 season. Several games into the 2012 season, Wayne and Sandy were able to resolve a sprain in my ankle that was slowing me down. I went from 90% to 100%: an extra kick burst of speed. I was on my way to a 2097-yard comeback season. With four games left in the season, I suffered a sports hernia injury that would not let my left groin fully recover. Rolfing [SI] helped me to maintain my body at 90%, and I had a good finish to the season. I had sports hernia surgery after the season.
>
> I had great Rolfing sessions with Wayne and Sandy last season but again suffered the same injury at the end of the season. I continue to work with Wayne and Sandy to recover for next season. [*Editor's note: This was written before the start of the 2014 NFL season.*]

Dr. Rolf started her book *Rolfing: Reestablishing the Natural Alignment and Structural Integration of the Human Body for Vitality and Well-being* with the preface "Literal Thorns in Literal Flesh." The level that Sandy and I work with when we work with Adrian is energy and vitality. This is a step above the other athletes, who are themselves performing a step above the average person. On page sixteen of her book, Rolf writes:

> Form and function are a unity, two sides of one coin. In order to enhance function, appropriate form must exist or be created. A joyous radiance of health is attained only as the body conforms more nearly to its inherent pattern. This pattern, this form, this Platonic idea, is the blueprint for structure. In turn, the function of this more appropriate structure is vitality of a degree unknown to the average person.

When we work with Adrian we are working with an individual who is embodying more perfectly than most this inherent pattern. We need to promote literal change in the literal flesh to help him with his injuries, strength, speed, and agility. As with all our clients, we find 'thorns in the flesh' that contribute to chronic issues. Watch Adrian on the football field as he goes toe to toe with other great athletes trying to stop him from moving the ball forward to get a glimpse of this inherent pattern and its potential in all of us.

Just as Adrian works extremely hard as an athlete, we do not kid ourselves that moving toward this inherent pattern is easy. Sandy and I are good examples of what it takes the average person to assist in the removal of 'thorns in the flesh'. In order to keep our own fascia soft and flexible, we have eliminated all grains of any kind in our diet, especially gluten, and stopped eating sugar and dairy. We have never had one client who did not soften his or her connective tissue and reduce inflammation when doing this. We believe that most of the pain endured in Rolfing SI is caused by the above. We also consume alkaline fluids to increase the pH of our bodies, which also seems to reduce inflammation. Using functional, natural medicine, we have restored our adrenal function and healed our guts. We have also cleared bacteria, viruses, mold, and fungus, which, in our view, all can restrict the fascia. Last, we regularly exercise to maintain the flexibility of the fascia.

When we take this approach, we reach the goal that we set to carry the work into the facial layers connecting bones and covering organs in order to restore spatial relationship and internal motion to these two primary energy systems of the body. This is a natural extension of the holism of Rolfing SI. The goal is to restore position, mobility, and motility to these systems. We determine this by sensing an improvement in energy flow through skeletal or organ systems as we evaluate the superficial to deeper levels of energy flow in each. The key to this work is that whenever this cannot be restored and maintained, we must work in the myofascial system enwrapping the muscle that is then restricting the change we are looking for. Therefore, in basic Ten Series work, we work from the outside in, and as we develop and integrate more knowledge in and into Rolfing SI, we work from the inside out.

Let us again be clear that by quoting Rolf we are not referring to any kind of mental image or system of thought such as the Platonic. We are referring to an expansion of our awareness. Every time we do a Ten Series we are encouraging ourselves and our clients to expand the sense of who we are, to go beyond the sense of an ego encased in a mind and body, and to go into an expanded awareness of self – encompassing body, mind, earth, and cosmos. What we advocate is the turning of our attention inward toward the body as the ligamentous and skeletal energy systems are addressed in Rolfing SI and in individual work such as yoga. It is here that we have discovered the universal nature of mind, body, and the gravity field. Here fascia becomes structure and structure becomes energy in the spiral nature of the universe. Here the 'Line' is an axis in the body that aligns with the rotation of the earth on its axis, the axis created as the earth rotates around the sun, and the axis created as the sun rotates around the center of the galaxy. As we sense and feel ourselves down to the bones, we perceive ourselves to be structures of energy and motion in the gravity field. The straight lines of thought give way to the spiral lines of motion. We can learn to perceive our structure as the energy of motion in a joyful, happy, and relaxed attitude of living.

Sandy's Perspective

Wayne is so graceful in his thought process, how do I follow that? Let me just say that the first time I saw Adrian in person, I looked at his body and thought, "Wow. How do I improve on *that*?" The man has a really balanced body. The way the Mona Lisa is a balanced painting of a woman, Adrian's body is balanced. You can see that he is a strong individual with powerful thighs and arms the size of a small woman's waist. Just go to YouTube, search "Adrian Peterson," and look at the highlights. You will see the strength of an elephant, the speed of a gazelle, and a grace that is multidimensional.

That injury that Adrian had to his left knee was fascinating to work with. Scar tissue was everywhere. Strain lines went up and down the leg, both in the back and the front of the leg and through his adductors. I saw Wayne work on all sides of his patella – front, back, left, right, top, and bottom, as well as underneath it. And he did not give up until he had that thing free as a feather and floating.

When Adrian's hamstrings were tight and wouldn't let go, we both worked on the leg. I would hold it in every position you can think of and Wayne would work away: leg elevated and abducted; leg elevated, rotated, and abducted; and leg elevated and abducted with the knee straight or flexed. Sometimes I wondered how long Adrian could "breathe deeply and keep

[his] attention in [his] heart," as I was directing him.

I thank my lucky stars to have had the opportunity to work with Adrian. When you work with someone for years and years, you know their spirit. Adrian is a man of high integrity and sweetness. Never fails that he gives me a peck on the forehead when he comes for a session. Never fails that he gives both of us a hug on his way out of the door. And also never fails that he says "God bless" as he leaves.

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Athletic Legends and the Power of Rolfing® SI

By Robert Toporek, Certified Advanced Rolfer™

The octogenarian body under my hands was broken and distorted by five decades of professional abuse. It also belonged to a Canadian icon. Gordie Howe is the Babe Ruth of professional hockey. "Mr. Hockey" (the nickname by which he is still known and to which he holds a trademark) was the all-time leading scorer in the National Hockey League (NHL) for almost three decades before Wayne Gretzky finally broke his record in 1989. And now he was in my humble Audubon, Pennsylvania office, undergoing his first Rolfing Structural Integration (SI) session at the urging of his son, Mark Howe, a Hall of Fame ice hockey player in his own right. Mark had learned first hand what Rolfing SI could do for him, and was hopeful it would help his father.

The elder Howe was still a big man, and still built like a rock. He had played most of his career without a helmet. During the 1950 playoffs, he suffered a skull fracture severe enough to require emergency surgery. He won the league's scoring title the following year. He broke his arm several times. His artificial knees clicked when he wiggled his legs. Yet Mr. Hockey was reluctant to begin Rolfing sessions. He'd never liked massage.

The first athlete of note that I worked on was Baltimore Colts great Alan Ameche, known to National Football League (NFL) fans of the era as "The Iron Horse." I have no idea how he found me, but as a huge sports fan, I was pretty intimidated by the prospect of using my hands to help repair his body. That changed once we were in the Rolfing room. He was no longer a sports legend; he was a client who was in pain and needed my help. Ameche's body was a bunch of knots, as though he'd just returned from a visit to the 19th century, where he'd been badly beaten in a bareknuckle boxing match. We got to work. Ameche attended all ten Rolfing sessions, and afterwards he was standing straighter, had recovered much of his lost flexibility, and was extremely appreciative. The following summer he had the four advanced sessions I learned from Dr. Rolf.

I found most of my later athletic clients through old-fashioned networking. One of my clients was the bookkeeper for a famous South Philadelphia restaurant, The Saloon, which was a haunt for many local sports figures. She spoke of being friends with Dick Vermeil, then head coach of the Philadelphia Eagles. I asked to be introduced, and she obliged. Before I knew it, I was sitting at a bar with Vermeil, telling him about Rolfing SI and how I believed an ongoing Rolfing regimen would better allow his squad to weather the physical demands of the full NFL season. Vermeil was intrigued enough to introduce me to the Eagles organization.

My subsequent meeting with the Eagles' head trainer didn't go as well. He was skeptical of Rolfing SI and clearly felt as though I was invading his territory – which at the time, due to my excitement, I failed to notice. When I finally got to do a couple of Rolfing sessions on a player who had suffered a pulled hamstring, the trainer prematurely sent him back out on the field for a full workout. He reinjured his hamstring, and I received the blame. Thus ended my brief career thus far as an assistant NFL trainer.

It was not, however, my final Rolfing session with members of the Philadelphia Eagles. Irving Fryar, Keith Byars, and Jon Runyan – the latter now a former U.S. congressman – all completed successful courses of Rolfing SI with me. Some, like Fryar, had me visit their homes and even work on members of their families. In many cases, I offered them free sessions in exchange for lifetime endorsement rights. The one thing that stands out in my work with athletes is

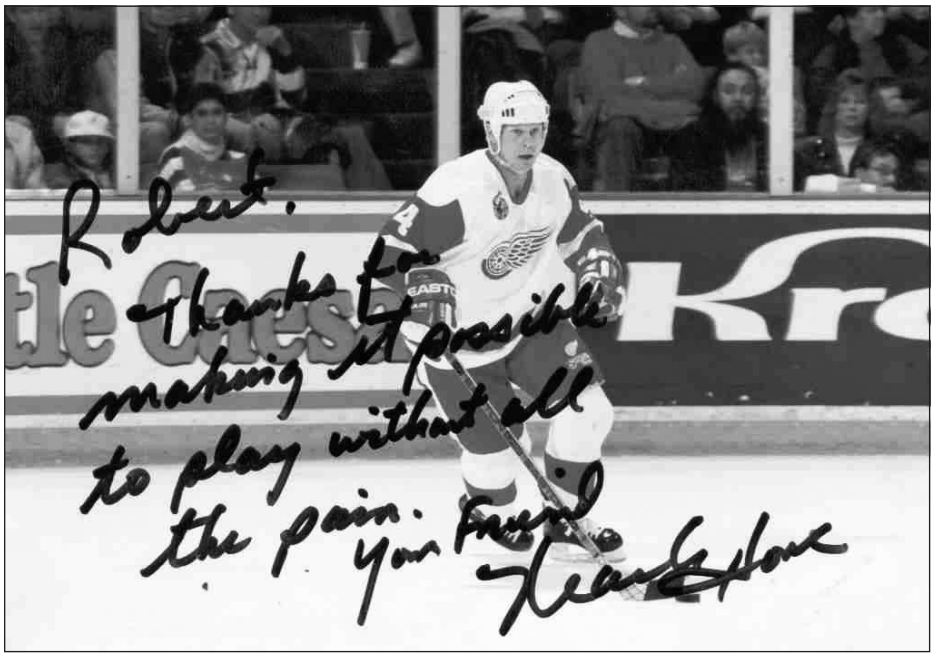

Figure 1. Mark Howe playing for the Philadelphia Flyers.

their deep appreciation for the ontological/emotional benefits of their sessions as well as the physical/structural changes.

One of the clients who found his way to my studio was Jay Snider, whose father owns the Philadelphia Flyers NHL team. I'd read in the paper that Mark Howe (Figure 1), who was then playing for the Flyers, had injured his back and was contemplating retirement. I told Jay that I thought I could help Howe get back on the ice.

"You've got to be crazy," Jay said to me. "We've had him to the top doctors in the area, and nobody seems to be able to help him."

"Then he's got nothing to lose," I replied. That got me a meeting with Pat Croce, who by then was the Flyers' conditioning guru. After listening to my pitch, Croce convinced Mark to give me a call. (I'll use his first name here, to differentiate him from his father Gordie Howe, who I'll speak more of later.)

The man who eventually came to my studio was barely able to bend over or remove his clothing. I gave him a traditional first session and asked him to get up and walk around to see how he felt. Mark was amazed. His flexibility had increased by about 50% and his pain, while not gone, had significantly subsided. He made an appointment for a second session. After his third session, he returned to the ice for the Flyers. After his fifth session, I attended my first ever hockey game by going to watch my client play. I saw a man playing his sport with caution, as though he still had a bad back. I told him that at his sixth session. The next time he took to the ice for the Flyers, he no longer played as though he had a bad back. He went on to play in twice as many games as he had the previous season.

A note on how I work. Both Ida Rolf and Dick Demmerle – who I apprenticed with after my Rolfing training – always said follow the 'Recipe'. While initially that was hard, I surrendered. When I work with an athlete, I explain in the beginning the theory behind Rolfing SI, the basic Ten Series, the advanced series, and follow-up sessions throughout life. I have stayed away from trying to fix problems since anything that can be transformed will be covered in the Series. Usually I have not worked on any athletes on the day of play – except on occasion Mark Howe – though it is my aim to one day be on the sidelines available to anyone who needs some immediate attention. (That one is from my lips to God's ears.)

That summer, Mark invited me to his home in New Jersey, where I gave Rolfing sessions to all his children. His revival in Philadelphia led to him receiving a two-year contract from the Detroit Red Wings, the team for which his legendary father, Gordie Howe, had played. We didn't talk much during that season, but he called me the following summer and wanted another session.

I asked how the season went. "Not that good," Mark said. "My back hurt me a bunch of times and I had to sit out more than I wanted." I scolded him. I said. "You have the money, and I have the time. You should have called me and I would have come out." Mark, a notably humble guy for a star athlete, was surprised that I was willing to do that. The next season, I received a call from him while the Red Wings were in Los Angeles to play the Kings, he had hurt his back and wanted me to come to L.A. I couldn't come then but agreed to meet him in Detroit two days later, the first of four trips I took to Detroit that winter.

Mark brought me to the famous Joe Louis Arena, where I met many of the other Red Wings players. Some had me do Rolfing sessions, but none elected to do the full ten-session course. The Red Wings were having one of their best seasons in recent memory, and they were hell-bent on reaching the Stanley Cup Final.

Of all the athletes I've worked on, Mark has the best appreciation of the body-mind relationship and for how Rolfing SI could help him. As the playoffs approached, we began to push the envelope together. On my fourth trip to Detroit, I pulled out every tip and trick I ever learned from Rolf and Demmerle. That night, he had one of his best games in a Detroit uniform. "My teammates were asking me what happened to me," Mark said. "I was skating around the rink so fast."

By then, it was late spring. The Red Wings had stormed through the playoffs and were in the Stanley Cup Final against the New Jersey Devils. Mark brought me up for the fifth and final time that season. The security in the locker room was fit for the U.S. president. I administered one last Rolfing session to Mark. He didn't win the Stanley Cup, but he was able to play in every game of the series.

Throughout our entire relationship, Mark's father Gordie remained a regular topic of conversation. Mark knew that his father,

Figure 2: Gordie Howe, before Ten Series (left) and after (right).

who had lost nearly all his flexibility and developed a pronounced tilt and limp, needed help. Two summers ago, Mark called me and asked if I was ready to work on Gordie Howe, Mr. Hockey. Mark and Gordie had driven an hour and a half to my office, and now a living legend was waiting for me to help him walk upright again. Just then, I heard Rolf's confident reassurance in my mind. "Follow the Recipe," she whispered to me from heaven. "Work in his body, not on his body."

Gordie Howe rose from his first-ever Rolfing session and stood up straight. His son was amazed as his father bent to put his socks back on. Mark and Gordie came back every week after that. (Figure 2 shows the Before 1 and After 10 photos for Gordie Howe.) A couple of times, I called the news media. Stories were written, television news segments were filmed. *Massage* magazine did a feature story on them. Mark still calls me from time to time and asks for a session, and acknowledged me in his autobiography for making a major difference in his life. Both he and his father have given me lifetime endorsements, and I have a number of segments with them on my YouTube channel, www.youtube.com/user/teamchildren09/videos.

This has not led, however, to an avalanche of athletes getting Rolfing sessions. My phone doesn't ring off the hook with calls from the locker rooms of the professional sports world yet. My major focus is actually on babies, children, and families. That said, many of the babies I've worked on have grown up to become athletes themselves.

Josephine and Dabney Fischer are sisters who both had their first Rolfing sessions the day after they were born. By the time they were two, they were doing advanced sessions. I'd previously worked on their parents: they'd seen how my son turned out and wanted that sort of outcome for their daughters.

Today, Josephine is one of the best soccer players in Pennsylvania and has a full scholarship at the University of Pittsburgh. Dabney is an incredible dancer and actor who lives independently in Los Angeles at age seventeen and is pursuing an acting and singing career with her very own agent.

The Dabback twins also received Rolfing sessions from early on and were state-level gymnasts all through high school. The same goes for Shanna Silverstein. Josh Millan experienced Rolfing SI as a baby and became a great basketball player until he was seriously injured. Other people who I worked on as children have gone on to climb big mountains, run marathons, and complete in other impressive projects.

As Ida Rolf used to say:

- The work comes first and the inspiration comes later.
- Follow the Recipe.
- Take photos and videos of all your clients.
- Work in people, not on them.

Robert Toporek trained as a Rolfer in 1975, and apprenticed with Dick Demmerle and Dr. Rolf for more than four years. He also was an administrative assistant to Rolf over the last four years of her life. He jointly created and managed (with Rolf, at her request) The Children's Project to document and demonstrate the value of Rolfing work for babies and children, publishing an award-winning documentary and monograph entitled "The Promise of Rolfing Children." He has given the complete ten Rolfing sessions and oftentimes the advanced series to over 300 whole families as deep as four generations. Toporek began giving Rolfing SI to his son Bryan the day he was born and continues working on him once or twice a year. Many of the children he has worked on have had him work on their babies. He continues to expand his work in Audubon, Pennsylvania and the Philadelphia region. More can be found on his website www.newbabymassage.com.

Seeing

By Jeffrey Maitland PhD, Advanced Rolfing® Instructor

> *Nobody ever taught you to look at experience before. They taught you to look at the symbol of the experience; at the abstract of the experience.*
>
> Dr. Ida P. Rolf (class notes)

Perception is central to the practice and theory of Rolfing Structural Integration (SI). Yet, the eye a Rolfer™ needs is probably the most difficult skill to teach – especially when you consider that the standard for this work was set by Dr. Rolf, who, as everyone knows, was possessed of a truly uncanny ability. Jan Sultan reported how during his training Rolf told him that he was *looking* but she was *seeing*. Most of us probably have an intuitive sense of what she was driving at with this distinction. But when we try to make her meaning fully explicit, words escape us. To this day, we have no agreed-upon standard way of understanding what 'seeing' consists of or how to teach it. There are probably many reasons behind our difficulties surrounding seeing. Oddly enough, one of the more important ones has to do with the influence of René Descartes (1596-1650).

How we think about perception is deeply informed by Descartes' self-defeating, overly narrow comprehension of subjectivity and objectivity. The Cartesian worldview is so pervasive that many people who have never heard of Descartes accept his way of looking at things as common sense. Unfortunately, they do not realize how it undermines our every attempt to understand the nature of perception. For example, you do not have to look far to find Descartes' influence lurking in the background of many theories in cognitive science.

Fortunately for us, the kind of seeing that was only implicit in Rolf's way of assessing clients can be made more fully explicit by combining phenomenology with Johann Wolfgang Goethe's (1749-1832) qualitative science of nature. Some two hundred and fifty years ago, Goethe explored a proto-phenomenological approach to seeing that uncovered the critically important missing piece we have been looking for – a step-by-step procedure for cultivating a way of seeing that makes explicit and teachable the Rolfer's way of seeing.[1]

Part I: Philosophical Background[2]

The Cartesian Worldview

In order to clearly understand how phenomenology paves the way to a solution of our problem, we need to expose how the Cartesian worldview undermines every attempt to understand the phenomena in question. Pictured here in Figure 1 is a cartoon summary of the causal/representational theory of perception. Many problematic presuppositions find their source in the confusion surrounding this widely accepted theory, first championed by Descartes and Galileo (1564-1642). In this view, knowledge of the external world comes about through the way our senses and nervous system causally interact with material reality outside of us. From the interaction of our senses with physical reality, our brain produces ideas that serve as representation (mental pictures) of whatever is beyond our senses. According to the theory, we do not have direct access to the world external to us. We only have access to the appearances, that is, to the representational ideas in our mind.

The theory is supposed to explain how we have knowledge of the external world. Unfortunately, it makes the very thing it seeks to explain impossible. In order for us to know whether an idea is a hallucination cooked up by the brain or a true representation, we

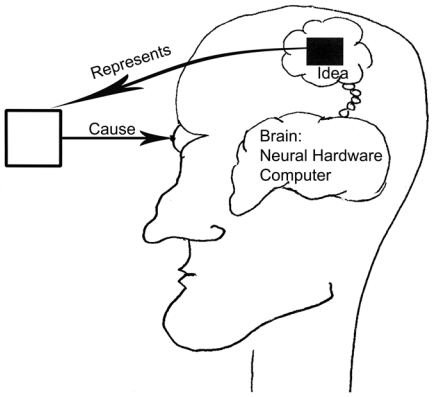

Figure 1: Causal/representational theory of perception. From *Mind Body Zen: Waking Up to Your Life* by Hokaku Jeffrey Maitland, published by North Atlantic Books, copyright © 2010 by Hokaku Jeffrey Maitland. Reprinted by permission of the publisher.

must be able to compare the idea with the object represented. Comparing idea and object is only possible if we have access to both idea and object. But the theory rules out this possibility. It clearly states that we only have access to the ideas, not to the objects themselves. As a result, knowledge of the external world and other minds is impossible in this view.

These problems result from conflating the report of an experience with a causal explanation of the experience. Since a causal explanation can only give us the conditions that make perception possible, it cannot describe our experience. For example, it cannot tell us what the content of our perception is. It cannot tell us what we are seeing. Not only that, the conditions it specifies are, for the most part, a series of causally linked neurological processes that, in principle, cannot be directly experienced. It both mis-describes and conflates the process by which something comes to be seen (comes into appearance) with the object it comes to be seen as (say, a tree). It does not describe our experience of how something comes to be perceived as something. The causal account is not and cannot be a description of our experience, because it deals with causally linked neurological processes that can never be our direct experience. To say it differently: you cannot reduce a first-person ontology to a third-person ontology. Clearly, neither the causal nor the representational aspects of the theory are capable of grasping our experiential reality. As we shall see again and again, the causal/representational theory is problematic because it is self-defeating, conflates a causal explanation with a description of experience, and confuses abstract, reflective thought for direct lived experience.

Conflating the report of an experience with an explanation of experience is so pervasive that hardly anyone recognizes the mistake. From the proverbial man in the street to the highly trained neuroscientist, you will see the ever-present influence of Descartes' worldview on our thinking. Here is a clear-cut example of the mistake: "If I wish to lift a glass to my mouth, I can conceive of this idea in my brain (perhaps stimulated by thirst, perhaps by my discomfort on a first date, it matters not), turn it into a code of dots and dashes, send this code down through the spine, out through the brachial plexus, and down to my arm. At the neuromuscular junction, the message is decoded into meaning – and the relevant muscles contract according to the coded sequence" (Myers 2001, 31). Surely, no one experiences moving his arm this way. Isn't it odd how perfectly acceptable this bizarre explanation seems at first? But once you wake up to the confusion, you see it everywhere.

To bring these confused ways of thinking into sharper focus, let's look at some more examples of how experience is distorted when we are under the spell of the Cartesian framework. If you begin, as Descartes does, with the assumption that the body and mind are utterly incommensurable ontological kinds, any interaction between mind and body would be impossible. After all, how can something that takes up no space (mind) effect something that does (body)? The above example of conceiving an idea (which does not take up space) in your brain (which does take up space), and turning the idea into code so that it can be decoded later as meaning and movement partakes of these mistakes at every level.

Since the only source of self-activity that this way of thinking recognizes is the human mind, nature is stripped of all its psychic and sentient qualities and is conceived as inert. The body is part of nature and just as inert. Hence, both nature and body are essentially dead. If the body were truly inert, it would be wholly external to the mind; and it would be experienced as a totally alien object to which we are mysteriously attached. But wait, it gets worse. If something that takes up no space could not affect something that does, we could not even experience our bodies in the first place (Bortoft 2012, 46).

Our final example also exhibits a way of thinking about experience that seems like common sense to many (Bortoft 2012, 172 *ff.*). Imagine someone you know is walking toward you and raises his arm in greeting. Without thinking, you wave back. Without thinking, you immediately understood his gesture. It was all there present in the moment, present as lived-experience, for you to see and understand. There was no doubt that you were seeing the meaning of his gesture. But, suppose in the next moment that a person who lives too much in his verbal-intellectual mind were to ask you, "What did actually you see? Did you really see the greeting or just the movement to which you then added the meaning? After all, the meaning of the gesture can't be measured because it doesn't take up space. The movement of his arm takes up space, but the meaning of the gesture does not take up measurable space. So, where does the meaning reside?" Obviously, our Cartesian colleague concludes that the meaning is an internal mental event; and you added the meaning to the movement of his physical body.

This story is a familiar way of explaining phenomena while under the influence of the Cartesian framework. Of course, it suffers from the same self-defeating problems. Since we have no access to our friend's inner state, to the meaning of his gesture, we could never know, in principle, whether the gesture was meant as a greeting or just a way to loosen his restricted shoulder. But notice, when you attend to lived-experience, it is perfectly clear that the meaning is given with and within the gesture.

To aid us in our exploration of the phenomenological approach, here is a list of the more problematic assumptions that arise from the Cartesian framework:

- You have your experience and I have mine. Because yours is yours and mine is mine, they cannot be the same. Therefore, our experience is never the same. I can never know your experience and you can never know mine.
- The senses are not to be trusted. They give us access only to appearances, not to true reality. This one goes back to Parmenides (*c.* 480 BC) and Plato (*c.* 428-347 BC).
- What is real and objective is what can be measured (e.g. weight, size, shape, etc.). What cannot be measured (taste, color, love, etc.) is merely subjective, existing only in the mind of the beholder. What is real and objective exists behind the appearances. (Why is this problematic? If what cannot be measured is not real, what about the act of measuring – can it be measured?)
- With the exception of mind, the universe and everything in it is a mechanical event. Accordingly, the body is considered nothing more than a soft machine that is mysteriously inhabited by a non-spatial, nonmaterial, ghostlike phenomenon called mind or consciousness. The mind is private (the 'in-here'), isolated, closed off, and separate from the material world (the 'out-there'), ontologically separate and distinct from the body. (Fully articulated, this view is known as metaphysical dualism).

Both sides of the subject/object distinction are very severely narrowed. The subject side is seen as mind, the in-here, enclosed thinking self; and the object side is seen

as the measurable, mechanical, non-conscious out-there. It is useful to ask yourself whether this is really the way you experience your self in relation to the world: as an enclosed, non-spatial in-here relating through a soft-machine-body to a non-conscious, mechanical out-there. As we are about to see, all of these difficulties arise from not grasping the difference between pre-reflective and reflective experience.

Phenomenology to the Rescue

Key figures in advancing phenomenology are Franz Brentano (discovered intentionality, 1838-1917); Edmund Husserl (considered the father of phenomenology, 1859-1938); Martin Heidegger (championed an existential, hermeneutical phenomenology, 1889-1976); Maurice Merleau-Ponty (extended existential hermeneutical phenomenology to include the lived body and a deeper understanding of perception, 1907-1961); and of course, Johann Wolfgang Goethe (practiced a kind of proto-phenomenology and developed a science of quality, 1749-1832).

Phenomenology turns the tables on the Cartesian worldview by embracing experience as it is lived, not as it is thought about later in reflection. Lived experience is experience as we pre-reflectively live through it. The minute we think about what we are doing, we are no longer in the pre-reflective orientation of consciousness. In reflection, the world is experienced as subject and object.

There is plenty of theory associated with phenomenology, but it is more a method for how to attend to experience than a theory of experience. In order to get our bearings, we can begin with a very simple description of how phenomenology approaches perception. Phenomenology begins with the lived-experience of perception and attempts to catch the pre-reflective activity of perceiving and the coming into being of its object as it is occurring. By recognizing the difference between reflection and pre-reflection (lived experience) and staying with the ongoing interplay of reflection and pre-reflection, the phenomenologist participates with what is in the process of appearing or coming to be seen. Implicitly, reflection is always at work making explicit what is only latent in pre-reflective experience. By cultivating this kind of disciplined attentiveness to how things come into being, the phenomenologist is not seduced into substituting abstract theory for lived experience. He is thus able to give descriptions of experience that have not lost touch with the phenomena being investigated. As a result, the phenomenological description is more likely to avoid the conundrums of traditional philosophy.

To catch perception in the act, Bortoft (1996, 281) says, "there has to be a refocusing of attention from what is conceived to the act of conceiving, *while engaged in the act of conceiving that which is conceived*." Within experience we must learn to shift our attention away from the achievement of what is experienced into the experience of the achieving what is experienced. This shift within consciousness leads to a transformation of our way of seeing that in turn transforms what is seen without adding to its content. We suddenly see in a new way and see what is seen in a new way. This shift is at the heart of Rolf's way of seeing and an important part of the first step in learning to see.

Seeing-As and the Shift in Orientation

Let's look at an example of suddenly seeing in a new way. It will be easier to catch the lived activity of perceiving and the required shift in orientation if we use a simple example. Get ready, you are about to catch perception in the act. Redirect your attention to the activity by which a figure emerges from an apparently random bunch of squiggles. When you look at this drawing (Figure 2) from Bortoft (1996, 50), what do you see? At first, probably nothing more than a circle with a bunch of meaningless ink splotches. But now look for a giraffe and watch it come into being. Did you suddenly see a giraffe emerge from the splotches? No lines were added to the drawing; nothing about it changed. What changed was that you acquired the appropriate concept of *giraffe*. Once given the concept, you were able to see the giraffe – you were able to call it forth and make what was indeterminate determinate. But notice, it was not there in advance of your seeing it. All of this adds up to the recognition that perception has a cognitive dimension, and whatever we perceive is always perceived 'as something'. We see this as a chair, that as a bird, that as a herd of cows, or that as finding your 'Line', and so forth.

As long as we continue to orient toward nature as an onlooker, in the way the Cartesian philosophy demands, we will remain blind to the intimate intertwining of nature and human nature that is required by this kind of participatory, cognitively

Figure 2: Giraffe. Image from *The Wholeness of Nature: Goethe's Way toward a Science of Conscious Participation in Nature* by Henri Bortoft. Lindisfarne Books, 1996. Used with permission.

infused perception. Not surprisingly, we are brought once more to the inability of the Cartesian subject/object distinction to grasp lived perception. These considerations also demonstrate that to perceive something as something is already the same as perceiving meaning. This conclusion is significant because it also brings us face to face with one of the most important concepts of phenomenology – intentionality.

Intentionality

"The question about intentionality is at bottom a question about meaning. To speak of an intentional act is to speak of an act which reaches toward or gropes for a meaningful content" (Schrag 1969, 82). With the discovery of intentionality and its vectoral character, Husserl was able to transform and reconfigure the simple subject/object distinction into an invariant fundamental condition of experience that limits and makes possible what appears to us. As a result, he was able to begin the process of breaking the stranglehold Cartesian metaphysics had on how we understand our world.

Consider any experience you might have, and you will notice that it always has two correlated poles: what is experienced and the manner in which it is experienced. Often intentionality is described as the view that experience is always the experience of something. This characterization is not quite adequate because it does not fully grasp how these two poles are always correlated and, hence, mutually implicate each other. Every experiencing is directed

toward what is experienced, and everything experienced reflects or refers back to a mode of experiencing. In other words, whenever there is an experience (e.g., an act of perceiving), there is also that which is experienced (e.g., what is perceived). Wherever there is that which is experienced, there is a mode of experiencing it. Because they are correlates, they mutually implicate each other. Unlike subject and object, which are late arrivals to the scene, they are not separate and independent. Their relationship is a correlative unity such that one cannot occur without the other, and one cannot be understood or investigated without including the other. This correlative unity is the prior condition of the separation into subject and object. Husserl calls these two correlates 'noesis' (the how of appearing) and 'noema' (what appears).

When we engage the world cognitively, we step out of the flow of lived experience and become an onlooker/observer standing over and above and separate from what is being seen. You, the seer, are the subject, and that which is seen is the object. The object of perception and the subject who perceives it arise together at the same time the subject sees the object as a tree. Subject and object are based upon and emerge from noesis and noema. At this level of analysis, there is no problem with the subject/object distinction.

The problem arises when we mistakenly take that which appears at the reflective level for the process of coming into appearance from the pre-reflective level. Confusing what is seen with the activity of becoming seen is at the heart of the Cartesian worldview and the causal theory of perception. Within the Cartesian framework, seer and seen are viewed as two separate independent aspects of reality in a contingent relationship. If this contingent relationship of subject and object is mistakenly projected onto lived experience, we lose sight of the necessary inseparability of noesis and noema.

If we pay attention and try to catch perception in the act, we will notice that while there is a distinction between noesis and noema, there is no separation between them. The appearance of the separation only occurs when we focus on what is seen instead of the activity of coming to be seen.

Intentionality is both directed toward the world and solicited by it. Thus we see that intentionality is also a vectorial structure probing for the emergence of meaningful content. Contrary to Descartes' picture, the discovery of intentionality reveals that consciousness is intrinsically open to the world. Thus, ". . . far from being self-enclosed, the very nature of consciousness is such that the world is already included within it" (Schrag 1969, 49).

We can define phenomenology as the art, philosophy, and science of describing what shows itself to us, as it shows itself, without imposing on it any inappropriate conceptual framework and before we turn it into an abstraction. As a way to deepen our understanding of phenomenology, recognize that the word *phenomenon* means "that which shows itself or that which appears." Accordingly, Heidegger (1996, 30) says to do phenomenology is *"to let what shows itself be seen from itself, just as it shows itself from itself."* Bortoft (1996, 17-27) also makes the point that phenomenon means *the showing of what shows itself* or the appearing *of what appears*. Thus, examining the word *phenomenon* brings to light two important aspects of appearing – what appears and the *appearing* of what appears. Another way to make this point is to say that *perception involves both the process by which something comes to be seen (appearing) and the object it comes to be seen as (what appears)*. Typically, when we reflect on what is happening, we tend to only pay attention to what appears as an object of perception and miss entirely the process by which it comes into appearance.

Because we have not trained ourselves to pre-reflectively participate with what we are seeing, when something is coming into appearance as something, we pass over its activity of appearing. We miss entirely the activity by which something comes into appearance as something. Comfortable in our reflective stance toward the things of our world, we tend to see only the result of the activity of appearing. If we are seeing something new for the first time, it is easier to participate in its coming into being. Typically, however, we usually focus only on the object of perception and let the lived experience of the appearing itself slip through our fingers. Over time, as we get used to its presence, it eventually recedes into the background as so much wallpaper.

The *logos* in phenomenology means *the site at which being (that which shows itself) reveals itself*. Following Bortoft, it would be more precise to say that the logos is the site at which the *showing* of what shows itself is revealed. Or the logos is the site at which the appearing of what appears is revealed.

At this point, an important question needs to be asked: "Is it possible to experience what shows itself as it truly shows itself without contaminating your experience of it with your own biases?" Heidegger holds that 'logos' does not mean 'the study of', 'logic', or 'the word', but rather 'the site at which Being reveals itself'. To simplify the history of phenomenology a bit, unlike the early Husserl, Heidegger insisted you can never take a God-like survey of any phenomenon. Because the experience of what shows itself always takes place within its own unique context, you can never give a pure non-contextual description of anything. You can only interpret it. To try to describe a phenomenon without its context is not to experience it as it shows itself. Part of the discipline of phenomenology consists in laying bare the presuppositions and biases that are embedded in the contextualized field in which we always find ourselves. To do phenomenology is to pre-reflectively let 'what is' show itself as it shows itself contextually and then to appropriately interpret it reflectively.

The practitioner of phenomenology must develop the ability to pre-reflectively experience and feel, without conflict, into what is. In so doing, he opens an un-conflicted space, a clearing, within which the things and people of our world are revealed. By letting his way of seeing be shaped by the phenomena under consideration, his reflective interpretations of phenomenology come to rest upon an understanding that participates with what is understood. Phenomenology invites us to remain true to the things themselves and to our experience. Let's accept that invitation and look at how phenomenology advances our understanding of perception and, in particular, how it can illuminate and deepen our understanding of the Rolfer's way of seeing.

Seeing Holistically and the Shift in Orientation

Jan Sultan's brilliant discovery of the internal/external typology is an excellent example of seeing with the Rolfer's eye. It clearly demonstrates the shift in orientation that brings about a new way of seeing things. One day as he was contemplating the craniosacral rhythm, he was taken with how the body went into external and internal rotation. And then it hit him: there are actually two types of bodies in terms of which we can understand how all these structural differences belong together

as expressions of a larger unified whole. Before Sultan saw this distinction, no one understood the hidden dynamics of what we were seeing. The whole thing was basically invisible to us. We knew about internally rotated femurs, flat lumbars, high arches, etc., but nobody saw how these patterns fit together to form a whole-body pattern. No one saw, for example, that flat lumbars went with externally rotated femurs. Instead, we saw all these odd structural features in a piecemeal fashion. Nobody saw how the human body could be expressed in two coherent patterns. No one saw how all of these different structural features belonged together as a unified relational whole. No one was *seeing* holistically.

Once the distinction was made, everyone could see it. But, like all such discoveries, it seemed too obvious. Of course, it was not long before a number of Rolfers with too much time on their hands began pooh-poohing the distinction, while superciliously claiming, "Oh yeah, I've always known that!" Such comments are based on a mistaken notion that these types were already there just waiting to be seen – not realizing that prior to Sultan's discovery, the typology was actually invisible to us. If those who claim to have always known the typology actually had known it, its obviousness would have spread through our community just as Sultan's distinction did. By making the distinction, Sultan made the difference visible for the first time. He did not apply labels to already known objects. His process of discovery brought the typology into being for the very first time. If you look at what he accomplished at the level of subject and object, you will think that the two types were just lying there waiting to be seen. But in point of fact, by making this distinction, Sultan brought them into being so that they could be seen by us in the first place. Thinking the types were 'out there' ready to be discovered presupposes that this distinction had already been made.

Sultan's typology came into being the same way the giraffe (Figure 2) came into being. At the moment he got the concept and saw the two types, they stood out for the first time – they came into being for the first time. You could also say that they come into meaning. Coming into being or meaning does not imply that there are pre-given things existing 'out there' just waiting to be labeled, or that what comes into appearance is something we subjectively create.

Coming into being is neither subjective nor objective. We neither create a subjective reality nor discover an objective reality. Rather, it is a matter of "the world 'calling forth' something in me that in turn 'calls forth' something in the world" (Bortoft 2012, 25). In part, that means we are led by the power of the thing to manifest itself. We make something stand out, make what was indeterminate determinate – in a word, we 'there' it. Because of this calling forth, we now see bodies as two kinds, as both related and different at the same time. Speaking holistically, we can say they are related because what is distinguished must be distinguished from something, and that something must be related to what is distinguished. Speaking analytically, they are different because they are distinguishable.

Part II: The Opposite of Aesthetic is Anesthetic

The Beauty of Rolfing SI

Seeing beauty and seeing order appear in your client depend on similar conditions. To appreciate this way of seeing, let's hear what Rolf herself had to say about perception. Notice that she sometimes recommends that you change your way of being when you work. Shifting your orientation is the first step in learning how to see. Also, I speculate she discovered that, in and of itself, the right orientation by the practitioner is capable of changing structure.

Rolf (1978, 186) said: "And when you see normal structure all of a sudden you say, Why yes, of course, I recognize this as normal structure. Oddly enough, we all have intuitive appreciation of the normal. When we do see something that is normal we say, Isn't that beautiful?, Doesn't he move beautifully? etc. etc. Nobody asks you to define that beauty, everybody recognizes it. It's an intuitive appreciation of normalcy." (For those of you who do not appreciate the word 'normal', remember Rolf also said that average is not normal.) With this insight, we have arrived at what the goal of Rolfing SI looks like before it becomes an abstraction. With surprising depth, the being of Rolfing SI is brought forth aesthetically as a certain kind of beauty. The claim that beauty is the intuitive appreciation of normality shows us how certain indicators of order, such as SI and functional economy, were experienced before they became abstractions. Even though the beauty of normality cannot be captured by the narrowly conceived categories of subjectivity and objectivity, it is as much a part of our reality as a kidney is. Moreover, if anything is a clear and certain indicator that a Rolfing session is over, the appearance of beauty is certainly one of the more profound.

Rolfing assessments are replete with these sorts of aesthetic qualities and judgments. In fact, we cannot do without them. Here are some more examples: being grounded; seeing core lift; sensing the balance of spatial masses; seeing lines of order such as horizontals and verticals in the tissues; sensing spirals, waves, vortexes, strains and pulls in the tissues; finding your Line; and so on. These phenomena are excellent examples of aspects of reality that are neither subjective nor objective but fully there to be perceived by anyone trained to see them. An important indicator of order is Rolf's concept of horizontality. It is less general than beauty, but no less important to our understanding of balance. Its appearance will affect the entire body. You could expand our understanding of horizontality by coming up with ways to measure horizontality and its effects on structure. You could add to our understanding of the psychobiological taxonomy by collating subjective reports about it. To good effect, you could approach most of our fundamental concepts the same way. But the aesthetic experience of horizontality is, as all such concepts are, the prior foundation of any attempt to turn it into an object of scientific investigation. The lived experience of horizontality cannot be reduced to any possible measurement of horizontality, because any particular measurement of horizontality is but a perspective on horizontality, not its lived reality.

From the way Rolf talks about the importance of horizontality, you can see she is interested in more than its measurability; she is also interested in it as a kind of revelation of beauty and wholeness. At the very least, it is both an aesthetic assessment of wholeness and an important aspect of beauty-seeing. She says (Rolf 1978, 180), "You've got to keep looking, and as you look, you'll suddenly see the horizontal. You've got to keep looking; you've got to evaluate every body that you see. When he gets up and walks does his pelvis look different? And all of a sudden you'll analyze the difference and you'll say, 'Oh my God, yeah, that's Rolf's horizontal."

This experience of 'all of a sudden' seeing the phenomena is characteristic of the shift of orientation that is required to see in a new way. This shift is an important part of the first step in learning how to see. Recall the giraffe example. On first inspection, it looked like a bunch of ink splotches and

squiggles. But when you were instructed to look for a giraffe – suddenly there it was. Having the concept 'giraffe' allowed you to see the squiggles as a giraffe. Although the examples we have been considering are far more complicated and take longer to see, the all-of-sudden appearance of the phenomena as something is common to all. When you 'get it,' the cognitive and the sensory are integrated; and you see the phenomena as something – as horizontality or a giraffe, for example.

When all of a sudden the giraffe appeared, it ceased being invisible for you and came into being. It stood out for the first time. You could also say that the squiggles came into meaning. What comes into being (or meaning) is not a pre-given thing just waiting 'out there' to be seen. What comes into being is the 'appearing-as' something. In virtue of appearing-as something (say a giraffe, horizontality, or an internal or external type), it appears as meaningful. As we have already seen, coming into being is neither subjective nor objective. Led by the power of the thing to manifest itself, we make what was indeterminate determinate – we *there* it.

Bringing forth the world is far more complicated than seeing the giraffe. But, in principle, we *there* our world in the same way. Similarly, we also *there* our fundamental assessment concepts, our indicators of order – such as horizontality or finding your Line. We learn to see by saturating ourselves for a period of time in all things Rolfing SI, by observing a great number of Rolfing sessions, by learning the taxonomies of assessment and indicators of order – then, all of a sudden, we integrate concept and sensory experience and finally come to *see*.

What we call 'seeing' in these cases is beyond the ken of the Cartesian onlooker who stands aside and separate from the object of perception. Rolf's way of seeing demands that the seer participates in the very act of seeing, thereby bringing forth wholeness and the beauty of normality. As I suggested above, the kind of lived perception that Rolf is talking about is most akin to aesthetic appreciation: it is about waking up to the beauty of normality.

To the question: how do we learn to perceive the beauty of normality, Rolf says, *look and feel*. But this answer is just a way of saying, *see it like a Rolfer*, which is just what the beginning Rolfer is trying to figure out. The advice she offers (Rolf 1978, 96) is only useful to those who can already see or are on the verge of it: "Rolfers don't need verbal feedback. As you observe more, all kinds of things speak to you . . . . For me, he [a client] is not something different. When I am Rolfing, he and I form one for at least the time that I'm working. Look and feel. A guy walks in displaying all kinds of things that talk to you. You don't need feedback – you need to look at what's there." Eventually, you will gain an intuitive appreciation of it. Then, you will just *see* it. Not only that, you will also embody it. Notice that learning to see beauty or horizontality or any of our similar concepts of order requires a practice of quiet contemplation and the ability to become one with your client. "Yes," says the beginning Rolfer, "but how do I make the turn into the kind of seeing that will allow me to take this advice?" Notice that Rolf says that the client and practitioner form one for at least the time of the session. Forming one with the client is an important aspect of what we call later in this paper, "shifting your orientation or intentionality."

If you want to change a dysfunctional structure, Rolf (1978, 201) says, "Insist that it get itself into a position which, in your mind's eye, you recognize as the normal. (This is the reason why Rolfers have to sit and listen so much – in order to find what is normal.) When you see it, you can begin bringing the body toward it." You must spend time contemplating the human body as it shows itself to you. To come to know normal you must saturate yourself with the phenomena of Rolfing SI by quietly observing session after session after session until finally you see order or its lack.

Even though a great many of our assessments are of the aesthetic kind, Rolfers also depend upon many different kinds of objective assessment as well. We try to make these assessments without falling into the tendency objective assessments have of viewing the body as a soft machine. Qualitative assessments tend to be about wholeness and relationship. Objective assessments tend to pass over wholeness in favor of finding symptoms and performing measurable assessments. Objective assessments are important to every form of therapy. But because they are often based on conceiving of the body as an assemblage of parts, they tend not to be attuned to interdependant relationships that characterize holistic processes. As a result, at times they miss how the whole responds to both dysfunction and manual therapy. An obvious and elegant exception to the problems surrounding holism and its measurement is John Cottingham's holistic research, which uses a vagal tone monitor to measure integration (Cottingham 1988; Cottingham et. al. 1988; Cottingham and Maitland 1997, 2000).

Since Rolfing SI is a holistic practice, Rolf (1978, 189) can say, "The body as a whole must be balanced. For example, you cannot get movements into a sacrum until you've gotten balance up through the thorax. Realizing this gives you a very different picture of how a totality integrates." The body clearly is not as a machine cobbled together from pre-existing parts. The body at one level is a relationship of relationships appropriating the relationship of gravity. Thus she says (Rolf 1978, 69), "I'm dealing with problems in the body where there is never just one cause. I'd like you to have more reality on the circular processes that do not act in the body but are the body. The body process is not linear, it is circular; always, it is circular. One thing goes awry, and its effects go on and on and on and on. A body is a web, connecting everything with everything else." The circular wholeness of the body cannot be easily grasped in the narrow confines of objectivity or subjectivity alone. But it can be experienced with an eye that is tuned to the aesthetic.

These comments are all well and good; but unfortunately, they only raise the same pressing questions again. How do we experience beauty? How do we wake up to it? How do we become tuned to the aesthetic? How does the advice "look and feel" help us to see? Clearly, beauty is not something that we can measure. Nor is its way of being very obvious. Calling it subjective also misses the mark. What kind of presence is this, that is neither subjective nor objective, yet can feel so intensely *there* when you contemplate it? It is important to understand and appreciate the richness and depth of knowledge and feeling that this kind of lived experience can call forth and know that your experience is not simply a subjective fantasy.

Whether you are talking about the beauty of a flower, a work of art, or a body that has undergone Rolfing SI, beauty in every form is a pre-objective, immeasurable presence that presences with the kind of autochthonous, determinate features that invite and enable you to see it. To see it, you must keep looking (quietly contemplating and feeling the situation) until it makes itself known to you, until you see it as

something. Rolf's aesthetic assessment of beauty is the result of the same kind of practiced seeing found in phenomenology and Goethe's approach – a dynamic way of perceiving the beauty of normality. Thus, with some justification, we can say that the Rolfer's eye, the phenomenologist's eye, and the artist's eye are the same eye.

Part III: The Exercise

There-ing It

Although she was not adverse to objective assessments and did not use the language developed here, there is little doubt that Rolf thought learning to see the indicators of order and make aesthetic assessments was of utmost importance. We have already seen how she thought you had to quietly look and look until you finally saw holistically. The importance of this protracted practice of quietly looking at session after session is reflected in how she originally structured the training of Rolfers. The first phase of the training was called Auditing, and the second was called the Practitioner phase. Auditing was designed to teach you how to see. As an auditor, all you were permitted to do was to watch, to look, and keep on looking at the practitioners working on each other and their models until you, hopefully, began to see what Rolfing SI was all about. Usually, no hands-on work was permitted until you entered the Practitioner phase.

Rolf's way of teaching seeing could be called the *Saturation Method*. It consisted of placing students in a Rolfing-SI-rich environment until they were so saturated with the way of Rolfing SI that they developed the Rolfer's eye. Today, the Rolfing-SI-rich environment is more extensive. It includes horizontality and all the traditional indicators of order but adds to the mix new refinements such as the taxonomies of assessment. Over the years following Rolf's death, Rolfing SI evolved in many important and profound ways. Reflecting these changes, the faculty revamped all three levels of the training (foundations, basic, and advanced training). The saturation method is still in place, but the Auditor phase in its original form disappeared. All in all, the changes and additions seem to have greatly improved the quality of the teaching. But, when it came to the nature of seeing, it was still something of a mystery for many.

At some point, it finally became clear to me that we needed a procedure for training perception. If only we had a step-by-step procedure, we could add it to the saturation method and we would finally have a way to teach and practice the Rolfer's way of seeing. As it turns out, a little over two centuries ago Goethe discovered just what we have been looking for – a step-by-step procedure for training perception.

Let's begin with a flower and initiate our appropriation of Goethe by first reducing his procedure to its barest bones and filling in the details as we go. Goethe recommends that we engage in what he calls *active seeing* and *exact sensorial imagination* (or, if you prefer, *exact intuitive perception*). In active seeing, we direct our attention to examining the details of the sensuous presence of the flower by means of a sensory/feeling/pre-conceptual openness. Active seeing suspends the verbal/analytical/intellectual mind by directing attention to sensory experience. Then, in exact sensorial imagination, we create a space for the flower in our imagination and lived body by visualizing what we just received/perceived. Next, we check our image with the flower and add and correct what we missed. We do this over and over again, oscillating between active seeing and exact sensorial imagination, until finally the wholeness of the flower appears and lives in us.

We become participants "in the phenomenon instead of onlookers who are separate from it. When we return to the sensory encounter with the phenomenon, we will find that our senses are enhanced and we begin to become aware of the more subtle qualities of the phenomenon. As we follow this practice of living into the phenomenon, we find that it begins to live in us. Whereas the intellectual mind can only bring us into contact with what is finished already, the senses – enhanced by exact sensorial imagination – bring us into contact with what is living, so that we begin to experience the phenomenon dynamically in its coming into being" (Bortoft 1996, 55).

It is important to recognize that there is a significant difference between this kind of enhanced seeing and everyday perception. Everyday perception and enhanced perception are both forms of 'seeing-as.' As such, both are saturated with the cognitive. The critical difference is that enhanced perceiving, where the phenomenon lives in us and we in it, must be cultivated by practice. Enhanced seeing is a participatory perception that arises from practicing active seeing and exact sensorial imagination. Everyday perception does not require this kind of conscious cultivation.

If you wish, you can work your way up to people by practicing with plants first.[3] But at this point, we will give an example for working with people. First, find a partner to practice with, preferably a Rolfer. To create an exercise we can practice, we need to simplify the Rolfing process. Think of what we are envisioning as tiny mini-sessions. The idea is to learn this way of seeing on a small scale until you 'get it' and it becomes second nature. When it becomes second nature, you can see this way without having to think about each step. As a result, your sessions will naturally go faster. Interestingly, more experienced practitioners are likely to think that they are already doing something very much like what Geothe prescribes. In fact, they probably are. The difference is that Goethe's way is far more explicit than most Rolfers' way. The fact that some Rolfers sense a similarity only lends further support to the claim that these ways of seeing are the same.

However, before we go any further, we need to underscore an important point that is absolutely crucial for getting good results. This point cannot be stated too strongly or enough: before you do anything else, your very first act must be to shift your orientation or intentionality from an onlooker experiencing the world through abstractions of the analytic/verbal mind to becoming a participant in the lived perception of the world. You must shift your orientation to allowing what is to show itself. You simply get out of the way by dropping your self and simultaneously expanding your perceptual field to allow the opening of a loving space. Just allow the spaciousness to appear with no thoughts of trying to change your client for the better. The clarity and safety of this clearing makes it possible for the being of your client to wordlessly reveal his troubles to you. This shift is actually a kind of intervention that, all by itself, can create change. Remember Rolf recognizes this shift when she says that she becomes one with her client.

As I said, the importance of this shift in orientation from onlooker to participant cannot be over-emphasized. It is part of what we mean by shifting consciousness and includes what Bortoft (1996, 281) means by: "There has to be a refocusing of attention from what is conceived to the act of conceiving, while engaged in the act of conceiving that which is conceived."

It is the logically prior precondition for seeing – hence, the key to seeing. In emphasizing it, I am making explicit what is often only

implicitly presupposed. It is so important for our purposes that I am adding it to the two-step process I first extracted from Goethe. In our approach, it will be considered the first step in a three-step process and the only step that must remain in effect throughout the entire process of seeing. The three steps are: 1) shift your intentionality or orientation from onlooker to participant; 2) engage in active seeing; 3) engage in exact sensorial imagination. Go back and forth between active seeing and exact sensorial imagination until whole phenomena begin to appear and make sure that you remain in the role of a participant throughout.

Here is a simple formula of how to train yourself to see:

(SO)→(AS↔ESI)

And here is its translation:

(1.Shift Orientation) →
(2.Active Seeing↔3.Exact Sensorial Imagination)

In the simplest of terms, the exercise looks like this:

Completely open yourself, body and all, to your colleague, and with the help of your senses (all of them, where appropriate) experience in detail the sensory qualities of your partner and feel the mood that comes with it. As a Goethean researcher says (Seamon and Zajonc 1998, 37)[4], "allow your way of seeing to be shaped by the phenomena."

Close your eyes; visualize what you saw. Re-create in your mind's eye and re-feel in your body the details of the sensory experience of your partner. You might draw what you saw rather than visualize it. You could also imitate how your partner comes to bodily-mind-presence with your own body-minding.

If you have been visualizing, open your eyes/senses/feeling-nature. If you have been doing something else, come back to the sensory and once more appreciate in detail your colleague's sensuous presence.

Then close your eyes again. Add any detail to your visualization or your drawing or your whole-body gesture that you missed the first time or correct something you may have distorted.

Open your eyes/senses/feeling-nature again to the sensuous presence of your partner.

Close your eyes and visualize again.

Continue engaging in the practice of active seeing and exact sensorial imagination until the wholeness of your partner and/or his dysfunctional whole patterns emerge. Now, take what you saw into a mini session on your partner. If you saw a thwart to wholeness, don't think you must treat it. Just leave it be. Or, if you decide you want to treat it, in one or two moves only, try to change it – see/feel/work big and holistically.

Practicing oscillating back and forth between active seeing and exact sensorial imagination is designed to activate your imagination while taking you progressively deeper and deeper into an experience of the being of your partner. You begin with shifting your orientation and gathering immediate and direct information by means of your senses – not by means of your intellectual/verbal mind. Pay attention and make conscious your first impressions and the mood that accompanies them. Don't lose your orientation shift by rushing ahead into theorizing, explaining, or categorizing. After engaging in active seeing and exact sensorial imagination for a while, you will begin to notice that your sensory experience and your imagination are intensified.

Whereas active seeing perceives things as separate, when you move into exact sensorial imagination, you are in the realm of relationship, creating a space for and participating with the being of your colleague. You are taking the dynamic relational character of the whole being into yourself in order to reveal the formative principle or self-organizing character of the being of your colleague. In time, you begin to sense his way of being in the world as a kind of core gestural signature. Depending on the person, the core gesture can be very complicated or very simple. When he is so far away that you cannot see his face, it is what allows you to recognize your friend in how he moves or just stands. This core gestural signature is an expression of his fundamental psychobiological intentionality. As you contemplate the emergence of this whole-being gesture, who he is becomes clearer and more defined. This gestural orientation is his way of being who he is. It is manifest not just in his comportment but also in all aspects of his being. It is not just an action, but action saturated with meaning. Attending to it allows you to more clearly grasp the principle of his self-organization – how he forms himself according to himself. When you grasp it, you do not grasp it through words, but through lived perception. Making drawings, imitating in your own body, putting it to music are all useful ways to sketch the formative gesture of your colleague. As you continue this process, you will begin to perceive your colleague's fundamental impulse to be.

Your ability to make these kinds of assessments is a complicated form of seeing-as, which, in turn, depends upon your ability to shift your orientation. Just as the concept of 'giraffe' allowed you to see the squiggles and splotches as a giraffe, the taxonomies of assessment allow you to transform looking into seeing. The more detailed our categories of assessment become, the more we will be able to see and be prepared to see in our clients. As always happens, the resulting enhanced perception will result in new ways of intervening.

As you continue to allow 'what is' to show itself, the wholeness of your colleague's pattern, along with his patterns of distortion in relationship to the whole, come into clearer focus; suddenly you see-visualize-feel it 'coming into' being as a unified whole. The unified whole that constitutes your perception is the result of integrating the cognitive with your sensory and feeling nature. At one and the same time, you are one with your colleague's condition because you feel it and separate from his situation because you see it. Simultaneously, you feel his distortions in yourself and see them in his body. Your perception is not a matter of having two different perceptions, one in yourself and one of him 'over there'. Rather, your perception is one integrated, unified whole in which you are both separate and one with your colleague. When you can feel aspects as well as see them, your ability to read your client's emotional and psychobiological orientation is much more accurate than when you deduce them from visual patterns displayed by your client's body. When you perceive your client's structural problems and his comportment as sad and angry, you are see-feeling by means of the integration of your cognitive, sensory, and feeling nature. Unlike deducing emotions from visual patterns, you are seeing directly what your client is going through.

Now switch places with your colleague and let him go through the same three-step process with you.

If this exercise is successful, as a Rolfer you will transform your seeing from that of an onlooker to that of a participant. If you continue this participatory practice of seeing, you will probably be amazed by what shows itself to you. Some of what you will see is what you have always seen. But in time you

will probably see aspects of the whole person that you did not think were possible.

Part IV Conclusion

Just as you cannot find the unity and harmony in a piece of music by breaking it down into individual notes, you cannot find the wholeness of the body when you consider it a thing made of parts. Rolf (1977, 65) wrote, "To a seeing eye, the surface contour of a body delineates the underlying structure. To the practitioner of Structural Integration, the problem becomes one of learning to see spatial masses and to sense their balance." Upon first reading this quote, you are likely to think, "Well, yeah, every Rolfer knows that." But notice, Rolf's entire theory and practice is present with this simple statement. What does she mean by this highly suggestive term, 'spatial masses'? Is she just speaking loosely or does she mean something deeper? To wonder about balance is already to wonder about gravity and integration. If there were no such thing as gravity, it would make no sense to ask about balancing spatial masses. Finding balance in gravity is Rolf's very core teaching. As we consider what is meant by sensing balance and learning to see spatial masses, we are once again drawn into wondering about a qualitative/aesthetic perception. Although she is not adverse to objective assessments (she is a scientist after all), the level of experiential, pre-reflective understanding that Rolf is pointing to cannot be grasped through objective measures alone. To appreciate the lived reality of the knowledge this kind of understanding brings, our indicators of order have to be sensed the way we sense all holistic phenomena – aesthetically.

Before we end this discussion, I want to make a few remarks that require further development. What I call the infusion of the cognitive in perception, Goethe and his followers call the work of the imagination. When you are seeing by means of the sensory, you see the separation between things. But when you suddenly see the giraffe or horizontality appear, that is the work of the imagination. The senses reveal the world of separation, while the imagination reveals the holistic world of relationship and connection. We can depict the separate objects given to us through the senses, but we cannot depict the relationships and connectivity of holism. Even though we cannot depict holistic phenomena, we can, through the power of imagination (or cognition), see it. Seeing in the enhanced manner of Rolf or Goethe must be cultivated to where there is an integration of the sensory and the imagination (cognition). When integration is achieved, we experience separation and the relationship and connectivity of holism simultaneously in one simple act of enhanced perception. Through practice of exact sensorial imagination, the senses are also enhanced. As a result, our enhanced senses make it possible for us to participate in the living presence of the phenomenon and experience it coming into being.

There is more to Goethe's approach than I have sketched here. The complete explication would require a delineation of his discovery of the ur-phenomenon. Unfortunately, this project is a large one that would require another long article to do it justice.[5]

Where Goethe sees two factors at work in perception – the sensory and imagination – I see a third. I call it our feeling-nature. I encourage you to continue on this path of perception well beyond the integration of the cognitive (imagination) and sensory to the point where you can also integrate your feeling-nature. If you pursue this path of perception long enough, you will discover something truly amazing. When you integrate your feeling-nature with the cognitive (imagination) and the sensory, your perceptual vitality and acuity will be enhanced and your overall skill level (including your perceptual skills, of course) will be suddenly greater and more effective. Not only that, if you keep on keeping on, your feeling-nature will continue to be released from its fixations and conflicts, and you will continue to wake up to your freedom.[6]

What I have attempted here is a work in progress. It is by no means the final word. I invite you to practice this little exercise to see where it takes you. Keep your boundaries clear, your heart open, your perception immaculate, and practice, practice, practice, practice. Then, please let me know how and if it works for you.

ENDNOTES

1. I wish to thank Ray McCall for alerting me to the publication of Henri Bortoft's second book, *Taking Appearance Seriously: The Dynamic Way of Seeing in Goethe and European Thought*. In this paper, I borrow heavily from this, his latest book, as well as his earlier book, *The Wholeness of Nature: Goethe's Way Toward a Science of Conscious Participation in Nature*. Mixed in throughout are my explanations and ruminations. Hopefully, this mixture adds up to the correct dosage for healing our thinking and thus illuminating the Rolfer's way of seeing. There are a plethora of books on phenomenology and Goethe. Besides the Schrag and Seamon books in the bibliography, you might find useful S.H. Buhner's *The Secret Teachings of Plants* (Rochester, Vermont: Bear & Company 2004) and D. Ihde's *Experimental Phenomenology: An Introduction* (New York: State University of New York Press 1977).

2. A note to the reader. If you are so inclined, you can skip the philosophical background and go directly to the exercise for developing seeing in Part Three. Also, the use of the words *seeing* and *perception* is not limited to the visual.

3. Here is an interesting report from a student who practiced Goethe's method with a plant (Bortoft 2012, 175-176): "After having spent time observing various Nettles, going to and from them, eventually I was returning to them and feeling like I was meeting an old friend. One day I sat down with a particular Nettle, sat in a patch of many others, I felt a really strong 'star'-like quality. It is very hard to describe but it felt like this enormous spreading, shining sensation – like an expanding force of intense energy. I intuited it as a gesture of the wholeness of the plant. A wholeness that I could then recognize in parts of the plant such as the force of the 'sting' that you feel when touching the small syringe-like 'stinging' hairs; the shape and expression of the thousands of tiny hairs seemingly bursting out of the plant with this immense energy; the pattern spikes on the leaf edges which feel like they are dynamically spreading outward with purpose. The whole plant felt like a star that was shining. A wonderful experience to participate in."

4. This quote comes from an article by Frederick Amrine entitled "The Metamorphosis of the Scientist," which is published in Seamon and Zajonc's anthology, *Goethe's Way of Science*.

5. I have begun this explication in two articles: "Orthotropism and the Unbinding of Morphological Potential," *Rolf Lines* 29(1):15-24 (January 2001), and "Patterns that Perpetuate Themselves," *Structural Integration: The Journal of the Rolf Institute®* 37(3):23-30 (September 2009).

6. For more on feeling-nature, see my book *Mind Body Zen* (Berkeley, California: North Atlantic Books, 2010).

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The Three-Dimensional Foot

The Role of the Toes and Metatarsals in a Typology of Transverse-Arch Rotations

By Michael Boblett, MA, MDiv, DMin, Certified Advanced Rolfer™

> *An old witch from Ranchos told me that* La Que Sabe *knew everything about women, that* La Que Sabe *had created women from a wrinkle on the sole of her divine foot: This is why women are knowing creatures; they are made, in essence, of the skin of the sole, which feels everything. This idea that the skin of the foot is sentient had the ring of a truth, for an aculturated Kiché tribeswoman once told me that she'd worn her first pair of shoes when she was twenty years old and was still not used to walking* con los ojos vendados, *with blindfolds on her feet.*
>
> Clarissa Pinkola Estés,
> *Women Who Run with the Wolves*

I work a lot on feet. Most of my work is sports-related. I see many hikers, triathletes, and distance runners; mostly amateur, some semi-professional, a few professional. With their feet, I apply Jan Sultan's Internal-External Model, with some modifications.

Much depends on the relationship between the cuboid and the navicular. Which is up? Which is down? I follow the sometimes-controversial inclusion of the navicular in the transverse arch, as well as the less easily worked upon medial cuneiform. I do this because freeing a superior fixation of the navicular is a good way to relax a high or shortened arch (something I can hardly claim to have discovered). If you disagree with this inclusion, I'll just have to rely on your tolerance for my idiosyncratic language.

Rotation of the transverse arch in stasis is not the same thing as pronation or supination in movement. Indeed, different demands may produce opposite rotations in the same foot, as in pronation of a high and brittle longitudinal arch that is supinated in stasis. Fairly obvious, but where will I take this? Let's start with a quote from this article's epigraph, about "blindfolds on the feet."

When I analyze a client's body, I look for blindfolds: lost perceptions, buried possibilities, and unexplored movements. I'm seeking what isn't there, or at least isn't manifest. Presenting symptoms, pain or weakness or restricted motion, merely reflect the gap between a body's potential and its present range of perceptions and movements. With few exceptions, our injuries come not from what we did, but from what we failed to do. A runner hurts a meniscus? A yogi subluxates a vertebra? A secretary gets a diagnosis of "carpal tunnel syndrome"? All these injuries reflect over-reliance on one pattern of movement to the exclusion of others. So our work is as much about activating slack muscles as relaxing tight muscles. But the larger goal in both activation and relaxation is to increase options in use patterns, often by addressing antagonist muscles using opposite forms of intervention.

Again, obvious. But "the Devil's in the details." In this article I will consider:

1. **What *is* a foot?** What's it for? The answer isn't obvious. I begin with perception. Biomechanics are secondary. But how does this play out specifically? Hint: coronal and sagittal perceptions often compete.
2. **What goes wrong?** What are the patterns? What are the clues? Are there assessment shortcuts? Here's where the Internal-External Model comes in handy.
3. **What to do?** What works in a) hands-on work, and b) movement work? This section has a narrow focus: range-of-motion restrictions in the transverse arch and how work on them using phalanges and metatarsals.
4. **Conclusions: What about the rest of the body?** This is an invitation to extrapolate.

What *Is* a Foot?

So what is a foot? What's it for? How does it fulfill its function? Yes, the foot mediates the force of gravity in stride, jumping, or other movements. But how? The key is the foot's ability to react. It responds to various surfaces, of various textures and degrees of hardness, in various directions, at various velocities, in various angles of

rotation, supporting various movements of the upper body. Stylistically, I regret this long list. But I must emphasize the multidimensionality of demands placed on the foot. The foot provides a highly nuanced pushback against gravity mediating a mathematically limitless combination of forces. The foot also helps guide 'anatomy trains' higher up, often when high speeds or rapid changes of direction are involved.

Perception: The Foot As Sense Organ

But how? Perception. First and foremost, the foot is a sense-organ. Its primary contribution is awareness, then action. More than any biomechanical activity, the foot's first defining task is to gather impressions and pass them on. Most of the time, feet are our only tactile connection with the usual source of gravity, the ground.

Now I could go all touchy-feely about this, but let's get specific. I begin with toes. What's their function? Are they mainly levers? Well, some running coaches still teach a style that overemphasizes the role of the toes in push-off. After all, why else do toes exist? Aren't they there to mediate gravity at the ball of the foot, the hinge where metatarsals meet the first phalanges? But misuse of this hinge can result in a characteristic 'bouncy' stride that wastes energy. Worse, it treats the ball of the foot as a monolithic structure operating in the sagittal plane, disregarding its role in lateral articulation of stress. This is only one example of a mechanistic approach to toes, as if they needed to perform a mechanical function to justify their existence. Instead, let's look at toes as sensors, as gatherers of information. When I run or hike, I try not to emphasize my toes as levers or pushers or even grippers. (That last is a characteristic temptation for a monkey-footed 'Internal – more on the Internal/External Model below – like me!) Instead, I let my toes hang fairly loose. I let them act more as antennae. This is entirely different from the 'lax' toes of a floppy foot. The toes move, but it is more to seek out sensation than to act as levers.

From Solidity to Open Articulation

But – toes as antennae? What are the practicalities of this? How do *perceiving toes* change stride? Suddenly, the solid 'ball of the foot' becomes the open and articulate 'toe box'. Force is now articulated more laterally, based on different information going back to each of the five metatarsals. But to achieve this, each toe must transmit its information separately. Toes communicate best in chorus, not in unison. My running coach calls this "playing piano with the trail."

This looks like a paean to the long, flexible arch and open toes of the Internal. But wait! Too great a reliance on coronal information can dull the equally important perception of sagittal force. The sole of the foot has its own highly nuanced sensors. A long arch with articulate toes will often be clumsy at responding to longitudinal forces. Granted, what's lacking may be sheer strength in the longitudinal arches and muscles further up. But strength is a product of stimulation: nerves tell muscle fibers to increase their diameters. The sole of the foot has its own tale to tell. Otherwise, why is it so very sensitive?

Even the structures immediately superior to the sole cannot be treated as monolithic, any more than the toe box is monolithic. Specifically, human metatarsals are designed to rotate somewhat independently, even if only slightly. Granted, this movement is inhibited by the need for a relatively firm arch as opposed to that of apes and monkeys. But we have not gone to the opposite extreme of solidity. A dog's paw is an example of the latter. As a quadruped, a dog apparently does not need the articulation still available to a human foot. Our foot can still grip or push or broaden sagittally or coronally in response to terrain. Specific to coronal movement, a human metatarsal can still rotate somewhat. This is why our metatarsals, cut crosswise, are round, where a dog's are square, consistent with a less moveable pad. So metatarsal rotations, even slight ones, play important roles in our articulation. Awakening this metatarsal rotation will prove important in addressing restrictions in transverse-arch rotation.

So that's it. I awaken people's feet in two dimensions – coronal and sagittal. Only then can I help train the foot to function as a diaphragm, one that spreads or rises asymmetrically depending on situation. This supplies the third dimension. But how does this work? More pertinently, how does it *not* work?

What Goes Wrong?

Don't expect a comprehensive list of patterns. Think about it – each bone of the foot is capable of counter-rotating vis-à-vis its proximal or distal partners *or* its next-door neighbors along the various anatomy trains through the foot. And that's just bones. It adds up, yes?

For a bone-by-bone, tendon-by-tendon analysis of rotations and counter-rotations (and there are literally hundreds of possible combinations), it's best to take Liz Gaggini's biomechanics workshop series. I offer nothing like her detail! At least read her book (Gaggini 2005), *The Biomechanics of Alignment*, particularly the chapter on arms and legs. I regard it as a must-have. And if you don't have her latest edition – invest! This article is instead about shortcuts. These work for a high percentage of my clients. But not all shortcuts pan out. When that happens, I pull out my ten years of heavily-annotated Gaggini books.

The Internal-External Model and Movement Temptations

I start off with Jan Sultan's Internal-External Model. For those unfamiliar, Internals tend to be varus or 'bowlegged' in the knees, with bulging occiputs, relatively high-amplitude spinal curves, and generally long and flexible arches. Externals have valgus or 'knock-knees', flatter occiputs, and lower amplitude spinal curves – though sometimes sporting an impressive kyphosis. Their arches are likely to be short and rigid, though I have seen well-functioning short arches on Externals. (By the way, I prefer to pair the terms 'long' and 'short' rather than 'long' and 'high', but don't read too much into that semantic difference.) This is quite simplified, but I hope it's enough. Now I take Internal-External ideas down some odd paths (so don't blame Sultan). On the other hand, I cannot claim with certainty that my insights are entirely new; I surely repeat what others have presented.

Some Internals have short arches, while some Externals have long arches. So I ask: "Is a short arch on an Internal identical to the short arch more commonly found on an External? And is a long arch on an External identical to the long arch on the average Internal?" Not at all. So why – and how – do these arches differ? One possible explanation may be found in Sultan's model of Congruent Internals and Externals vs. those not congruent. Feet and/or lower legs rotate either congruently or not with the humeri. But I confess that I have not studied this model and its bearing on foot problems. Instead, I present a model that has little to do with such rotations, relying instead on movement patterns existing within feet themselves. This is not to say that Sultan's typology and mine are incompatible. Nor do I claim that they are totally . . . congruent.

Here's my take: Internal-External patterns exist within feet in what I call 'movement-temptations'. These are the movements that 'feel right' and are relatively 'easy' for a client. Regardless of the length of the arch, these movement patterns remain fairly consistent with Internal-External type. This correlation has profound implications for customized treatment. Briefly, the movement-temptation of the Internal foot is coronal, with the cuboid usually stuck relatively superior in relation to its nearest neighbors, though situational supination is not impossible in such a foot. The movement-temptation of the External foot is sagittal, with the navicular usually stuck up, though pronation is possible under stress.

Arch-Length Typology

But how does this translate into different lengths of arches? I start with the usual Internal-External types, expressed in long and short arches respectively, then move on to the countervailing types whose arches go against this pattern. Let me repeat that this typology does not include all clients. Here goes.

Long-arch Internal

Our first type is the **Long-arch Internal**. See Figure 1 for two views of a long arch. Viewed laterally (A), note the lack of angle at the end of the metatarsals, indicating relaxed toe extensors. Toe spread is generally wide (B). With the client lying prone with feet off the edge of the table, there is often a paradoxical supination of the transverse arch (see Figure 2). Manual rotation of the mid-foot often produces some pronation. But supination reveals a stuck-up cuboid. This means that the fifth metatarsal cannot freely rotate downward relative to the fourth one, so that the role of the adductor digiti minimi (ADM) is restricted in its underreported longitudinal motion, which is what makes this muscle such a vital part of the lateral arch. However, the strength of the Long-arch Internal is that toes are able to move laterally with relative ease. Specifically, the ADM can contract in its usual namesake movement with little practice, even in a client who has previously never experienced this movement. How do we test for this? First, determine which foot is dominant: "Which foot would you kick a ball with?" Then have the client spread the toes laterally. With short longitudinal arches, toe extensors often take over the movement, lifting the toes as a block, which means that you may have misidentified the

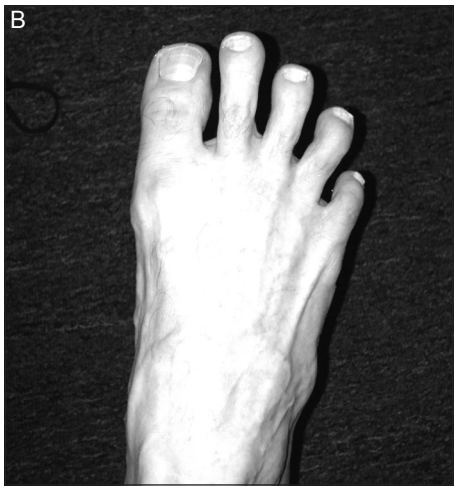

Figure 1: Long-arch Internal, lateral (A) and superior (B) views.

client. However, with clients who simply possess poor proprioception, another way to assess for a Long-arch Internal is to lie the client face down with feet off the edge of the table. Paradoxically – and I don't quite know why – feet that pronate in stasis will often supinate in this position; something to do with the actions of muscles inferior to the lateral malleolus. All I know is that this

Figure 2: Long-arch Internal, posterior view, client prone.

sometimes works. What we're looking for is preponderance of evidence, not a single definitive sign. Bottom line: a foot that can access ADM contraction, even if it takes some practice, will almost certainly have a genuinely flexible long arch, which is not the same as a fallen or slack arch, which we'll see later.

Short-arch External

Our next type is the **Short-arch External**. In Figure 3 we see the short arch viewed laterally (A) and a relatively closed toe box (B) with incipient bunion. With the client lying prone with feet off the table, often there is a paradoxical 'flatness of the arches, as seen in Figure 4. (Warning: this is not always the case!) But manual rotation of the mid-foot generally produces supination and little or no pronation. In client-generated movement, the ADM contracts only with much practice and hands-on work. The 'tyranny of the big toe' predominates, overruling the direction and overall perception of the other toes. If anything, short extensors will lift the toes up en masse, as noted above. This involves the characteristic stuck-up navicular and stuck-down cuboid. In turn, this supination of the mid-foot favors a characteristic 'peak' at the meeting place of the proximal first and second metatarsals. So as with metatarsals four and five in the Long-arch Internal, we have two metatarsals unable to rotate freely versus each other. But here, the first metatarsal is larger, more robust, and more apt to dominate movement. But this client will often report pronation in running. Supination of this foot is unsustainable due to lack of lateral movement in the toe box. And once again the paradox presents itself – with the client lying face down with feet off the edge of the table, feet will often appear more balanced in transverse arch rotation. Sometimes this is a result of the legs being spread far apart; feet closer together often appear more supinated in this position, as in the Long-arch Internal. So this is not entirely reliable. Again, we are looking for a preponderance of evidence.

Short-arch Internal

There are no photos for the remaining types. This is because visually these conditions often present like their opposites in the Internal-External Model.

Next is the **Short-arch Internal**. Visually, this client often presents like a Short-arch External, and indeed, in manual rotation at the mid-foot, the problem may initially present as similar with a stuck-up navicular.

Figure 3: Short-arch External, lateral (A) and superior (B) views.

Figure 4: Short-arch External, posterior view, client prone.

But check the cuboid! Can manual rotation produce supination? And in a sidelying position with pressing, can the cuboid or metatarsals four and five go anatomically inferior vs. the lateral malleolus? In the Short-arch Internal, generally not, so one mechanism of an external-type short arch is missing. Why? In my practice, most Short-arch Internals are women who have worn high heels. The toe-box generally forms an incipient or fully developed bunion, often unilaterally. The toe-hinge is usually stuck in something close to a 90° angle by the extensors. But the good news is that this compressed toe box often hides an ADM that, with a little practice, develops robust movement. But watch out for fake Internals! Feet that don't fit the Internal-External pattern may indicate that disorganization is even deeper and more pervasive than my little shortcut indicates. Unilateral or bilateral internal femoral rotation combined with valgus knees indicates somebody even less functional than a Short-arch Internal. In my experience, this combination of traits often manifests deep shame and fear – in either gender.

Long-arch External – Slack

Now we look at the **Long-arch External – Slack**. Manual rotation often produces loose pronation and supination in a slack foot, but more supination even with this slackness. This client tends to have feet with little muscle tone or nerve flow. Floppy, with little active spreading, extension, or flexion of the toes. The leg stance is often especially far apart, and gait has a characteristic waddle. But watch out for fake Externals! Here the problem often involves a fixed posterior sacrum – resulting from poor martial arts training, incompetent structural integration, or both. I wish I had a nickel for every time I've seen a pointy-occiput Internal with bowed legs, flaccid glutes, a gorilla-like kyphosis, and a story of having been "fixed" by a "Rolfer."

Long-arch External – Fallen

The last type is the **Long-arch External – Fallen**. Here manual rotation tends to produce results like a Short-Arch External: more supination than pronation. Good news is that the cuboid remembers how to rotate down. This is just a fallen short arch. Extensors are exhausted, but possess muscle memory. Curiously, this kind of foot has often developed good ADM ability in response to its collapse. I often find such feet to involve intelligent efforts by the body in middle age to respond to an earlier fixed, short arch.

What to Do . . .

Like the previous section, this is not comprehensive. But now I am even more restrictive: I list only one (or two interrelated) interventions for the above types, with subcategories for Hands-On and Homework. This is plenty. And all, this is limited to the relation between the toes and the transverse arch. So please don't approach feet with only these few tools. Fit them into your toolbox.

To begin: I described the movement-temptation of the Internal is coronal, that of the External as sagittal. The trick is to awaken the counterintuitive movement pattern without surrendering the default pattern. This creates a foot that moves in all three dimensions. But this involves integrating the default movement pattern so that it no longer excludes the missing dimension. The primary pattern generally requires further refinement to play its role in supporting the one newly accessed. I don't just add the missing dimension, lest the foot become even more disorganized than it was.

For example, the ADM of even a fairly well-organized Internal often doesn't know how to work independently of the middle three toes. It pulls all these toes away from the hallux in a fanning motion. Great for analysis, but now I must help the ADM to work independently. I'm looking for abduction of the little toe with relatively little movement of the middle three toes. Not easy! But as I mentioned, a truly independent ADM is better equipped to play its secondary (*if* it is secondary) role in the lateral arch.

. . . For the Long-arch Internal

Hands On: As noted above, the Long-arch Internal usually has a stuck-up cuboid. But the navicular is not especially mobile. If one is stuck, both are almost always stuck. So I go back and forth, testing and working. I rotate the navicular on its long axis manually, testing and freeing it proximally and distally. But unlike a stuck-*down* cuboid, a stuck-*up* cuboid requires work on the superior more than inferior side. I must free the fifth metatarsal to rotate *down* vis-à-vis the fourth. I hold the fifth metatarsal laterally and explore space between four and five, wriggling the held metatarsal to create space and articulation. I also sculpt distally along that four-five intersection till I get to the mid-foot. Then a stuck-up cuboid may respond to broader-hand moves with the client in the Third-Hour position. On the foot whose outer edge faces upward, I press distally along the lateral edge so that metatarsals two to four all move toward supination. I can then push laterally across the junction of mid-foot and metatarsals to reinforce that rotation.

Homework: Longitudinal arch-building is key. But getting up on the toes is only one method. And that kind of exercise will cause

problems without other feedback, creating secondary patterns instead of fixing the first one – including overuse of the toe-hinge in gait. But all human feet are innately prehensile, yes? So an Internal, who has articulate toes, can recruit that ability to the task of plantar-flexing with toes pointing. I ask the client to pick up smaller and smaller things. Warning: picking up ten quarters can cause hideous cramps – try it! Maybe start with something bigger and softer, like socks. But as I mentioned above, also expand the independence of the ADM in lateral movement.

. . . For the Short-arch External

Hands On: For the Short-arch External, the stuck-up navicular is a given. But in addition to freeing its ends, I 'undermine' the metatarsal restriction closest to the navicular. As noted, independent lateral toe movement is often difficult for this type. As mentioned above, a central aspect of this type is the tyranny of the big toe. Fortunately, there is a similarity to treatment of the Long-arch Internal: creating independent motion between adjacent metatarsals. The difference is that here, the metatarsals to be separated are one and two, rather than four and five. I hold the metatarsals apart and wriggle them. From the superior side, I work proximally along this gap till I reach their meeting point (warning: very sensitive spot!). But a fixed short arch is quite susceptible here to change if loosened by metatarsals starting to move independently. This is more challenging in clients who wear flip-flops, as this gap does not represent independent movement, but rather a dead zone of slack tissue and unresponsive nerves.

Homework: As noted, a Short-arch External often takes a while to access the ADM, so the abduction movements are key. But the toe box often can't open because it's stuck at an awkward angle by tight extensors. So I want the toes to flex, yes? But a short arch generally involves tight flexors. So instead of picking things up with toes, I encourage clients to Plantar Flex their toes passively. I have them sit *seiza* – sitting on their knees on a flat surface with the feet tucked under and toes passively flexed (see Figure 5.) Better that extensors release than be overruled by already-overworked flexors. But as seen in Figure 6, it is important to keep the feet straight (A) instead of touching the big toes together (B) as Japanese people often do. We're not doing tea ceremony! A seiza bench might be necessary for starters. As the client

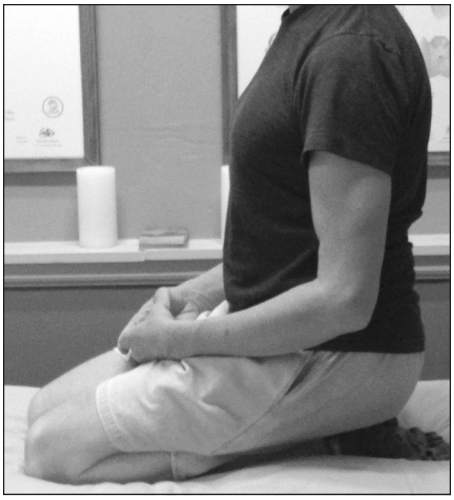

Figure 5: Seiza posture, side view.

is able to go lower down, one can use a rolled up towel under the anterior ankles. But the goal – in terms of what supports the ankles – is to have nothing there.

. . . For the Short-arch Internal

Hands On: Work on the medial and lateral metatarsals is more balanced than in the first two types. With this type, both sides of the toe box contribute more equally to the problem – and to the solution. Articulate abduction is usually an innate strength of the Internal foot, however stifled by bad shoes. The fourth and fifth metatarsals must separate to allow this, but with a little loosening, the ADM is often raring to go. With the foot finally experiencing its innate lateral movement, it's time to strike at the main buttress of the short, high arch by separating metatarsals one and two.

Homework: As with hands-on work, I seek a balance of work suitable to the first two types, but the reason is somewhat different. In this type, feet are often especially traumatized by bad shoes. Despite innate strengths, these clients may experience difficulty doing any movements at all. So I must explore a greater repertoire before we find something involving relatively little pain and frustration.

. . . For the Long-arch External – Slack

Hands On: If hands-on work is just an introduction – and invitation – to the homework, this is especially so for slack muscles. Here, manual work is more about awakening sensation than moving tissues. Granted, perception ought to be a key part of every intervention, but here it's dominant. A passive rotation of the

Figure 6: Seiza posture, correct toe placement (A) and wrong toe placement (B) for our purposes.

transverse arch can be a game-changer for the client: "Whoa, this *moves*?"

Homework: For the Long-arch External – Slack, I contradict my earlier critique of walking on toes: there's little danger of the toe-hinge being overused, or of an excessively bouncy walk. (Have you ever seen a slack-footed client shuffling along with heels barely half an inch off the floor?) And this seems to yield better results than just standing in place lifting the heels up and down. But in a pinch I'll start with that.

. . . For the Long-arch External – Fallen

Hands On: As with a Short-arch Internal, I balance work on the medial and lateral metatarsals. Again, I seek independence of two pairs of metatarsals: one vs. two and three vs. four. But with this type I suggest less manual work, more movement.

Homework: Again there's a similarity to the Short-arch Internal: I try out a relatively large repertoire of range-of-movement exercises, but here the reason is the exact opposite: unlike Internals with severe damage from high heels, these clients often have sophisticated feet with multiple strategies for dealing with the changes they are undergoing. For example, such clients usually address increasing pronation by opening up the toe box, but without sacrificing appropriate mobility

of the cuboid. But this sophistication is usually unconscious.

Conclusions – What About the Rest of the Body?

I have deliberately left loose ends throughout this article. Clearly, neither my typology nor my interventions can stand alone – pun intended. For one thing, feet and lower legs cannot really be addressed separately. Just one example: I find that a fixed short arch often responds to work at the tibialis posterior right at its most superior insertion, whatever restrictions I may palpate along septa further down. But I cannot possibly add a section outlining all such implications!

Still less am I able to address the coronal vs. sagittal 'movement temptations' in the feet of Internals and Externals as they interplay with the rest of the body. Is there, for example, any relationship between the 'coronally tempted' toe box of the average Internal and this person's ability (if healthy) to use the spine like a contracting and expanding Slinky®? I'm inclined to think that there is a common theme of agility here. On the other hand, is there any connection between the 'sagittally tempted' arch of the External and his ability to bear weight with a relatively straight spine? Again interesting, but both these speculations are far beyond the scope of this article.

So that's it. You're on your own. Have fun, try stuff out yourself, wriggle your toes, climb things, grow a tail, live three-dimensionally, wake up your inner Happy Monkey and Wise Ape, deepen whatever Internal-External pattern is natural to you, explore whichever pattern feels counterintuitive, find where the two patterns intersect. And if you feel like it, drop me a line.

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Fascia as an Auto-Regulatory System

An Interview with Tom Myers (Part 2)

By Tom Myers, Certified Advanced Rolfer™ and Bruce Schonfeld, Certified Advanced Rolfer, Rolf Movement® Practitioner

Editor's Note: Part 1 of this interview appeared in the June issue of this Journal.

Bruce Schonfeld: We've talked a lot about fascia research. How is Western medicine receiving all of the research and taking it into consideration?

Tom Myers: It is happening very fast. It is being received into the mainstream with speeds I would not have credited to happen in my lifetime. I have surgeons coming to me and saying, "How can we do surgery with the fascial response in mind?" Of course these are the more innovative surgeons; who else would listen to a schlub like me? But it's happening. I remember talking to [Dr. John] Upledger He said that the first couple of years he presented his pressure-stat model of how the cranial bones move at medical conventions, people would come by his booth and say, "The bones of the head move? No, I don't think so." Then for a couple of years they would say, "The bones of the head move? I've heard about that." Then by the time a few more years had rolled by, people would be at his booth saying, "Bones of the head move? Everybody knows that." I feel very much that way about Anatomy Trains. When I first put the *Anatomy Trains* book out, it was this radical, heretical idea. Now people are attacking it as old hat and not sufficiently radical. I have watched myself go from being an innovator to being establishment in about twelve years. People are standing on my shoulders and saying this theory isn't adequate.

These ideas are moving into physiotherapy, personal training, physical education, surgery, and the medical mainstream with great speed. If I may be so political, I would urge the members of the Rolf Institute® to come out and help that process by joining with people in the various medical communities to bring the word out. It is happening so fast that the structural integration (SI) world is under threat of being left behind. The fact is that *fascia as a system* and *the importance of fascia as an idea* are quickly and widely being accepted into society. We shouldn't be hiding our light and resting on the laurels of Ida Rolf from 1979. We need to get with the times and be part of this. Tom Findley is a Rolfer involved in research, and many Rolfers have been involved in the fascial research conferences, but so are chiropractors, osteopaths, physiotherapists, and surgeons. It is time to join with the rest of the crowd and see how this thing really works.

BS: I agree. I went to the Interdisciplinary World Congress on Low Back and Pelvic Pain in 2010 and it is a really good idea to see what people are doing in the evidence-based medical world.

It seems like the Pilates, yoga, and personal-training communities have really taken a shine to the fascial work. I am curious if you think there is something about those communities that has made them so responsive?

TM: I think they are very similar to our community. The idea of muscles working from origin to insertion doesn't make sense to their experience either, so they are looking for something more inclusive. I would have to say that in those worlds fascia has become somewhat of a buzzword and everyone is talking about "fascial stretch this" and "fascial that." What they are often talking about is how the whole neuro-myo-fascial web works. Sorting out what is neurological and what is fascial in some ways is really hard to do because organically and embryologically they were never really separate. The world of the fascia and the world of the nervous system grew together in your body. We only separate things for analysis with our minds but they never were separate. Where does the nervous system stop and the fascial system begin?

I do think 'fascia' is, as I say, kind of a buzzword, and some people don't really know what they are talking about. When I see trainers or sometimes Pilates people and

they say, "Fascia, oh yeah, that's the plastic cling wrap around the muscles," well, fascia as a system as we have been talking about it here, is so much more complicated than that. It is an auto-regulatory biomechanical system. I think it is really incumbent upon us who understand the fascia system to go out and educate people as to what it is really doing. For ever so long I was trying to educate people that this is really important and doing a lot. Now, I find myself trying to tone people down a little bit. The fascia is not responsible for your thinking and your every movement or injury. Actually, most injuries are fascial injuries: there are very few muscle injuries. There are nerve injuries, but most of the injuries are in the fascial system. That is something that all of these communities really want to know, "How do I treat injuries? How can I get injuries to heal faster? How can I prevent injuries from happening?" Injury treatment is where, perhaps, knowledge of fascia as a system is the most applicable.

When we work on the median nerve, we are aware that it is part of the larger nervous system. When we inject a drug into a vein, we know it will be all around the whole circulatory system in minutes. But physiotherapists and surgeons often work on the Achilled tendon as if it were a stand-alone structure without the realization that they are working with a body-wide responsive system. This idea has to change.

BS: What have you found to be a very nice user-friendly or good transitional way to discuss the fascial system and the growing body of research with more classically trained medical doctors? How would you try to get a nice conversation started with a neurologist about fascia and its relationship to the nervous system?

TM: It kind of depends on whether [he is] a surgeon or not. A surgeon looks at fresh fascia all the time. To try to explain what we are doing to an orthopedic surgeon is an easier job than trying to explain to a general practitioner or a neurologist. (If you are talking about a neurologist who prescribes drugs and hasn't done any gross anatomy or looked inside the body since he did his anatomy labs twenty years ago with embalmed cadavers that were already prosected. Looking at prosected cadavers is a way to see how it is in the books but not a way to see how it is in the body.)

Fresh fascia, living fascia, responds so much differently than dead fascia. Dead fascia responds differently than fascia that has had formaldehyde put into it because the fascia is what gets fixed. If I say to a normal general practitioner, "This fascia changes and it moves. It responds and it develops," he may say, "Oh, no it doesn't. You can't even move the stuff." That is true if you are talking about a cadaver, but it is not true if you are talking about a human being. If you talk to orthopedists, they will be right there with you. They know that when they open up the back of the hip to do a hip replacement, all they have to do is touch the scalpel to the fascia and it parts like a spiderweb in front of them. And of course, they know a little bit about how it heals. Surgeons sew the layers one by one now, which doesn't really help that much because in the process of cutting them and sewing them back together, they lose their serous lubrication and get stuck together anyway. But if they sew it back layer by layer, it is certainly easier for those of us who do this kind of work to get those layers to work separately again.

I think the dialogue is coming along. You talk about biological fabric. You talk about responsiveness. This is a system that has viscosity, elasticity, and plasticity. Some people are opening to hearing it and some are not. Geoffrey Bove and Susan Chapelle have demonstrated in the lab that visceral adhesions can be freed and 'disappeared' through manual therapy; that's a definite plus in getting agreement from the traditional medical world.

BS: What are Rolfers or SI practitioners, in the most general sense, still missing that you have gleaned from your intense immersion in the research that is coming out and that you have been doing? Anything that you could entice us with or good pieces that we might not realize?

TM: Good question. This system really is an accommodating, strain-distributing system. Our understanding of how the fascia compensates, gets thicker, adheres and sticks layers together is really what is going on. A lot of people out there don't know that – even among bodyworkers, yoga instructors, the folks closest to us in terms of people working directly with the body in an educative, non-medical way – and this message really needs to get out there in a big way.

One of the ideas Ida [Rolf] had very much explicitly in her talks was fascial planes and the interrelationship between fascial planes. Almost everyone in the Pilates, yoga, and training worlds will think of short or adhered fascia: "What is too short, too long, too strong, and too weak?" But they do not think in terms of the interrelationships of fascial planes. It is not a question of which muscle is too short or which muscle is over active or which muscle is not active enough. It is that the fascial planes have gone out of relationship with each other. It is like draping a dress over a model or draping a toga over somebody. If you're going out to dinner, you want the toga to fall nicely and sweetly over the skeleton in a balanced way. That is kind of my main message when I am out there talking to these groups. "Look at this photograph and you will see that the front plane is pulled down and the back plane is pulled up." I would talk about that in terms of Superficial Front Line and Superficial Back Line, but I don't care what terms you use.

As Ida Rolf pointed out to us, most often the front falls and the back lifts up. All kinds of things happen after that. You compensate in any of a number of ways. Or in my own case, the head gets pulled forward. I was very short-sighted and had 'Coke-bottle glasses' when I was a kid. So, my head came forward to try to get to the light, to see clearly what was fuzzy. The rest of my body had to follow. The posture underneath my head had to accommodate my head-forward posture. The fascial planes go out of relationship to each other and then they adhere to each other in this new position. You can undo that with yoga. You can undo that with SI. You can undo that with exercise if you go at it long enough. But if you are not seeing the fascial planes being out of relationship to each other, you don't really know how to work them. It is that kind of seeing that structural integrators really have a handle on and I think a lot of other people don't.

You asked me what structural integrators are missing and I ended up telling you where I think our greatest strength and message lies. What structural integrators are primarily missing is not information but an outreach program. All kinds of professionals want the kind of information, visual assessment, and holistic treatment strategies that are Rolfers' daily bread. They just don't know we are even here, because (except for a few of us who often get accused of 'dumbing it down' or 'selling out') there has been very little outreach from the Rolfing® [Structural Integration (SI)] community into the wider professional communities. We are very small, and unfortunately getting smaller

because we are not good at sharing. It's too bad, but we are fast being left behind by the rest of the world. Rolfers arise! Write more books. Do more courses for physios, trainers, nurses, occupational therapists, in-services for hospitals. We just need to get out there, not stay small and inward looking.

BS: Over your almost forty years of doing the work, is there anything that has stood out to you that was once just dogma, just understood to be the way things work, that has been revealed to be otherwise?

TM: As with any teacher, Ida Rolf was a woman of her time. Her time was of the Edwardian era. She was born in the Victorian era and she really developed her work between the two World Wars. Ida Rolf, Joseph Pilates, and Moshe Feldenkrais, any of the innovators, were looking at their time. Ida Rolf's process, in my option, works very well for people who have a lordotic spine, anterior tilt of the pelvis, posterior tilt of the ribcage, and then an anterior head. You have to modify it for someone who has a posterior tilt of the pelvis. We have been sitting in chairs working with computers and doing too much tail-tucking in our era, so I find more people these days have a posterior tilted pelvis. It is always difficult with your teachers to know what is 'the baby' and what is 'the bath water' in their teaching. What are you going to throw out and what are you going to keep? Everyone has an idea, "If only Ida had known about SourcePoint Therapy®," or "If Ida had only known about gluten intolerance" – or whatever your current fad is at the moment. This is a necessary process; I remember saying the same thing. One day a group of us in advanced Rolfing training got this idea that we should do this in water. Then you would be out of gravity and the client would be floating and the fascia could free itself! We came running to Ida. (We called her "Dr. Rolf," we did not call her "Ida" to her face.) She said, "Oh yes, we tried that back in 1956." She laid it out for us why this didn't work, what happened when you tried to do this work in water.

Sometimes your teachers have already considered what it is you are thinking about and have explored it and dismissed it, or explored it and incorporated it. Other times you really do have an innovation that you really do have to pay attention to. She told us, and I repeat it to my team, "You have to stand on my shoulders." She didn't know, couldn't know – they weren't even on the radar – that there were cells inside the fascia that could contract and change the number of foot/pounds on the fascial planes. She had her intuitive sense of it. She was an amazing practitioner. She was a good scientist, but she was working essentially with the knowledge available in the 30s or 40s or 50s. Tensegrity was really something that came after her, and a lot of this fascial research came after her. It hasn't changed the wisdom of her basic insight, but everyone is trying to find what the application of these scientific things is, and I think it is going to take the next forty to fifty years for it to shake out.

We have to realize that some of what she said is really going to be altered. Muscles don't stick together, for instance. If you have seen "The Fuzz Speech" by Gil Hedley you will realize that this idea was in Ida's old film about Rolfing [SI] that was made in the early 70s. The muscles get stuck together and then we do some Rolfing work and then the muscles slide on each other. That is clearly not happening. Maybe we are making the fibers that go between the muscles stretch a little so that the muscles can slide on each other a little. I have done a lot of dissection and I have never seen muscles that slide on each other. I see tendons that slide relative to each other. You can see films of that at work by French surgeon Jean-Claude Guimberteau. But muscles are connected to each other and they are supposed to be connected to each other. They don't slide on each other. They are not separate. That was an idea that was prevalent in her time that we just have to let go of.

And of course the social context changes as well. Dr. Rolf was heard to say that a good series of sessions could turn a homosexual straight. I doubt very much that that concept would have survived in her own mind and heart in this day and age. I shudder to think what statements I have made that will look ignorant or intolerant to my children's children.

BS: In conclusion, where are we heading?

TM: Toward the understanding and application of fascia as the regulatory system of our biomechanics. It is one of the three holistic body systems and the least understood of the three.

If you look at the nervous system, it is an alarm clock. It records every sense impression and sets off alarms if things are different outside from our inner expectations based on previous experience. It is a system for forming a picture of the world and comparing the two worlds for novelty or threat. You simulate a world inside yourself. You take the information from your senses and you simulate a world outside yourself. You constantly compare the two. As long as they match up, you are calm. When they stop matching up, you get excited in one way or the other and export that excitement to the muscles as tension or movement or glandular secretion.

The circulatory system is a way of self-regulating our chemistry and adjusting hydration, a necessary condition for every living cell. Constantly, the circulatory system is regulating our blood sugar, the hormone levels from the glands, and a hundred different levels of chemistry circulating in our blood. It is constantly bringing things from the outside to the middle and bringing things from the middle back to the outside again, whether that is the lungs or the skin or the kidneys. In my opinion, emotions are stored, recorded, and released in this chemistry, but I can't get many people to agree with me on that.

The medical community just hasn't thought about this third system, which is the entire biomechanical regulatory system, the self-adjusting biological fabric of fascia. Where we are going, is that we now realize that every cell in the body has somewhere between hundreds or thousands of adhesive molecules that stick through the membrane that, like Velcro®, hook to the surrounding fascia matrix. When you stretch, whether by doing yoga or in an SI session, you are changing the biomechanics of a particular cell. It is now clear that mechanical tension or pressure on cells can change their epigenetics, change how the cell expresses itself in function.

The ancients had an idea that is expressed in the *Vitruvian Man* by Leonardo da Vinci. The head should be 1/7 of the body and the stretch of the arms should be the same as the height. They were looking for the ideal proportion of the body. The Greek sculptors and the Renaissance artists were looking for the ideal model of the human body. (Ida had the idea that the Sumerians had it about right; read Rolfer Hans Georg Brecklinghaus's book [2002] on art and body structure for more ideas in this vein.)

We now can define the ideal proportion of the human body in cellular terms. We can say your body is in ideal proportions when all your cells are in their happy place biomechanically. That is a very general

statement. How we get there is a more complicated thing. We know that muscle cells like a certain stretch. We know that nervous cells don't like compression; they don't mind stretch much but they don't like compression. Epithelial cells can't take too much tension. So each cell wants to be in its happy place. If a cell is too stretched, it can't do its assigned job any more – it instead uses its energy to reproduce and make more cells to fill in the gap because it is pulled too thin. If cells are compressed from every angle they say, "There are too many of us here and I am going to commit suicide!" They pull up their apoptic gene and 'commit suicide' because if cells are too crowded they will form tumors. Better they die and get taken back to the liver to get recycled.

SI practitioners have been focused on the macro-biomechanics of posture. But a lot of the new information is coming from cellular biomechanics, and this is very important. Cells have to be in the happy, middle place in order to do their job properly. All structural integrators have had the experience of a client saying, "Ya know, before I came to you I was really constipated and now I'm not any more. Did your work have any thing to do with this?" You want to say, "Oh yes, of course." But do we have any idea (other than the vague, "Well, as you get the body more organized. . . .") what the mechanism is by which that might happen? We didn't really have any idea before, but now we do have some idea. When cells are crowded, they can't do their job. When cells are over-stretched, they can't do their job.

As we make the structural body happier by being more balanced and more in its comfort zone, then the rest of our cells say, "Ah, yes. Now I can do my job." We have all had the experience of clients' menstrual cycles normalizing or various physiological things that otherwise we would have no way of explaining other than just luck. But now we do have a way of explaining it: the cells are getting to their happy mechanics. That is what we really haven't considered over the past fifty years. That is what Donald Ingber and his team are considering in "The Architecture of Life" and all the subsequent research in parsing out the diseases of what we can now call the adhesome or mechanosome. People are doing a lot of work on cellular biomechanics and the adhesome, and it really behooves us to keep up with this work.

BS: Anything that seems outstanding or needs to be spoken to in terms of this interview in making it more complete?

TM: The only thing I haven't said is that water is magic. We have not figured out what water does. Water is so amazing. Scientists just think it is H_2O, but water is so much more complicated than that. The Achilles tendon is 63% water. These non-Newtonian, rheopectic gels – the glycoaminoglycans or GAGs – that hold us together have really amazing properties. To bring this back to connective tissue, I will reference the work of Gerald Pollack who wrote *Cells, Gels and the Engines of Life*. It is very likely that the membranes, not just the cell membranes but all the membranes, made by the fascia and the collagen and films made by these hydrophilic proteins are going around and organizing the water in the body into a liquid crystal.

We kind of used to talk about liquid crystal. We all got off on Jim Oschman's metaphors that were way out there. It turns out that he was right about that. The connective tissue is a liquid crystal and it is organizing the body's water (maybe all of it, certainly most of it) into a liquid crystal. This is what is called 'bound water'. It is bound into the connective tissue in a highly ordered way. We can imagine that in disordered connective tissue, it is bound in a much more disordered way. As we put what Ida Rolf used to call 'pattern' in the body, then we may be ordering the water in the body and thereby ordering the consciousness in the body. But that is way out there and I am just speculating.

BS: I have heard Robert Schleip talk about that also in the context of the research; that maybe a lot of what we are doing is hydrating the matrix and allowing water to get in there and do its job more fully.

TM: Yes, but to do its job in a very orderly way. Water in an ordered pattern is capable of storing information; we don't know exactly what kind of information, but it is capable of storing information in a way that disordered water is not.

BS: It is like looking at microscopic images of fibers that are orderly, compared to those that have been discombobulated for one reason or another where they just look like they are out of order.

TM: We now know and can demonstrate that movement orders fascia. If a client comes and you are putting pattern into the body and [he is] going back and sitting on the couch, the fascia will start to disorder itself quite rapidly. Healthy load, by which I mean movement or exercise, induces ordered fascial architecture. Sedentary living makes for fascia that is more like felt. "Sitting is the new smoking," as they say. As structural integrators, are going in there and finding those 'felty' places and ordering them, but unless the person keeps moving properly, [he is] going to lose what we do. We can create pattern, but movement is necessary to maintain it. In this way I can recommend cross-referrals with the movement teachers in your community; Tai Chi, martial arts, Pilates, yoga, well-trained personal trainers, Aston Patterners – any and all of these and a hundred other categories I left out can all be useful partners in maintaining posture, bounce, and balance.

BS: Totally. That is the part where clients need to embody the work, inhabit their bodies.

TM: So it all comes back to awareness – but awareness exists on many levels, not just the conscious awareness, but the subconscious intelligence of the body, the instinctive awareness that is so much faster than our conscious thoughts.

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Edges

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What is an edge? Why is it important? Edges are where people meet. Centers (Drummond 2014) and edges are the conditions under which individuality emerges. If you don't know where your center is, no one can meet you. If you don't know where your edges are, you can never meet anyone. Meeting happens body to body, space to space, and heart to heart – not thought to thought or word to word. Just like perception, it is an active process. The success of Rolfing® Structural Integration (SI) depends on your ability to truly meet your clients, understanding that some people don't even occupy the space up to their skin. A persistent withdrawal response, a complete flexion pattern, pulls all four extremities in to the middle, the middle being the area of the body where the flexors (rectus abdominus, psoas) meet. This response is the first response of the central nervous system, emerging five weeks after conception and ideally suppressed before birth. It is activated after birth when circumstances appear life-threatening, such as prematurity, the first few weeks of life in an incubator, being intubated, separation from mom because of a difficult birth, etc. The development of our tactile cortex is supposed to help suppress it. Simply being held skin to skin decreases the withdrawal response and provides safety. If you are safe, you can come out. Some folks have been waiting for safety all their lives. These clients have distorted body perception – if you ask them to close their eyes and feel various body parts, their perception will be aberrant. Legs are too long, ears are too close to eyes, feet don't exist. People *know* their feet are there, they just don't feel them. If you can't feel it, you won't use it, and until they are aware of the absences, you can do Rolfing SI on them until you are blue in the face but they won't integrate. How can you integrate parts that you can't really feel?

While some people don't come out to their skin, most of us don't stop there either. As humans, we occupy the space around us, a remnant of our animal past when we had to defend our territory. The Wikipedia entry on personal space divides neuropsychological space into three areas in terms of nearness to the body – pericutaneous space, peripersonal space, and extrapersonal space. Extrapersonal space is that which occurs "outside the reach of an individual." It is further divided into focal-extrapersonal space, action-extrapersonal space, and ambient-extrapersonal space. It further states that "ambient-extrapersonal space initially courses through the peripheral parietal-occipital visual pathways before joining up with vestibular and other body senses to control posture and orientation in earth-fixed/gravitational space." In other words, edges exist outside the person, and they help create the center.

That space is, unconsciously, part of our identity. We must occupy that space to exist as an organism. Our defense of that space lets others know that we have a mind. Our knowledge of how we defend that space lets us know our own minds. We think boundaries really exist in space, but when you fly in an airplane, you will not see a line between Indiana and Michigan. You cannot tell where Indiana begins and Michigan ends. Without a boundary, you cannot tell where one person begins and the other one ends. Most of us do not understand that boundaries do not control others. Boundaries are the physical expression of the right to exist. If you try to use edges to control others, much of the time you will fail. But if you contact the edge, you will succeed.

What is our role as Rolfers in regards to centers and edges? If you want to be successful and efficient, you must meet your client. We must bring the concept of centers and edges to our work. Each person with whom you come in contact will engage your boundary in some way. Most of the time, it is not conscious. When we do the 'walking towards' exercise, we can really consciously meet someone. In this, I walk towards my client, asking him to tell me where to stop. Assuming that he is able to do so (many cannot), that is the space he occupies. If I cross someone's 'line in the sand', something happens inside. The person becomes uncomfortable; leans backwards at the ankles, or steps backwards; his heart races. The person does not occupy the space around him, yet diminishes in some way. These boundary habits are persistent and result in changes in structure, as well as a diminished quality of life. What are your boundary habits? Do they change when you work with your clients? Can some clients get closer to you than others? Why?

Our Little Boy Logo visually states that a center will develop as a result of our work, but it is edges that create a center, and a center unifies the edges. As infants, we have no edges. We need to be nose to nose, skin to skin. We have no defenses, other than simply shutting down our awareness. Our parents are our first edges, reflecting us back to ourselves without distortion (hopefully). This, to a certain extent, is our role as Rolfers. We reflect clients' movements, pre-movements, emotions, and pre-emotions back to them, acknowledge their internal experiences, correct aberrant sensory experiences; that is how edges are created to begin with. The central nervous systems of some of our clients have not yet mastered the challenges of the infant in terms of sensory integration and reflexes and for all intents and purposes are still quite young in terms of their needs. Our knowledgeable touch listens with love, and people grow.

Our defense of our space is somatic and changes over time. As adolescents, our defenses are exaggerated – closed doors, silent dinners, violent outbursts. The edges of some clients are very thick and well-defended. Others let you get closer than is comfortable for them because they think they will hurt your feelings if they don't let you come closer. Adults have to know where they end and others begin, otherwise relationships are unsatisfying.

Rolfers have to know where they end and the client begins as well. If one thinks of a pain pathway as learned behavior, we are actually rewiring the brains of our clients. Physical and emotional pain follow the same basic pathways (Kipling 2011).

Sometimes I describe Rolfing SI as mindfulness about structure, and Rolf Movement as mindfulness about function. They are completely interrelated. We are somatic educators, and it is up to us to teach our clients what their boundary habits are, what they mean, and how they can change. The category of movement that is associated with the maintenance of edges is 'push'. Push is how we separate ourselves from what we don't want. In order to have an edge, the client has to push. I use 'sit-to-stand' (Bond 1993, 106-108) as one way to evaluate if people have push or not. People

who don't have push from the legs will not lean forward enough; they will tighten their quadriceps in preparation for standing and pull from their knees rather than push from the floor. People who have a withdrawal reflex on board will not be able to sequence push well. We can teach our clients to push with their heads, their arms, and their legs, and in doing so not only do we change the knee pain or the back pain, we change the meaning of these movements for clients, making it okay to push, to meet, to exist, to occupy the space around them, to let themselves be seen, to let them know their own minds. That is why we need edges.

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Osteopathic Thoughts on Structure

By Brian Shea, DO

My career as an osteopathic physician is a natural extension of my Rolfing® Structural Integration (SI) practice in the 1980s. After all these decades, persistence has been a key to the learning process: the body does not yield its structural secrets in a linear timeline nor at my discretion. The various disciplines give you a starting point, then it takes treating thousands of clients to see what works.

Several other themes are noticeable in my career. One technique or system of thought does not apply consistently to all clients. I frequently refer out patients for Rolfing SI, massage, and physical therapy in combination with my treatments. My practice has given me a good body of knowledge to work from but not all the answers. The learning curve includes humility, an open mind, and knowing when another modality will work better for the client

My current style is to start and end each session with the biodynamic model of craniosacral therapy. This has given me the best reads and results on structure and function over the past decade of treatment. Sandwiched in between the beginning and end of each session are spinal adjustments, deep-tissue work, acupuncture, etc., that are used to facilitate a more balanced and stable structure. This overall scheme allows me to gauge 'improvement'. Like Rolfing SI, change continues in between sessions and is usually informative to the client's process.

Another observation is that most of our clients are in a heightened sympathetic pattern, increasing myofascial tensions. The sympathetic dominance has to be addressed early in each session to make any headway in helping the person. Otherwise, you're wasting a lot of effort.

Regarding craniosacral work, the head and the sacrum are great listening posts but only useful part of the time. System access has other spots of entry into the dynamics that rule the myofascial domain. The extremities are one example of this. I have noticed over the decades that a client's body will have a preference on whether the top half wants to be treated on any particular day or whether it's the lower half. Secondarily, there are left / right splits in the body that are deeper set than just dominant-side issues. This continuity of upper/lower preference is a familiar theme that was first pointed out in my Rolfing trainings in the 1980s, as the Eighth and Ninth Hours of the Ten Series. Integrating the extremities into the axial core can do wonders for head and sacral issues.

The other session of Rolfing SI that overlaps a lot of my experience in osteopathic manipulative treatment is the Third-Hour, lateral-line session. It is easily overlooked because we're so busy treating the front or back sides. Compression builds up along the lateral line from life stress and trauma. Gains in length from working the front and back are easily offset by lost anterior/posterior depth from the sides. Revisiting variations of the Third Hour is worth considering.

Osteopathy and Rolfing SI are premier tools to help function and structure. Bone and fascia, however, are just some of the fulcrums to be addressed. They are the easiest to get a hold of, but there are other pieces to this puzzle, the very least of which is the client's sympathetic tone and by extension his mental process. Clues abound to guide our decision making process when treating, but it is a long process to master. May your persistence continue to be a creative journey.

Brian Shea DO practices in Boulder, Colorado.

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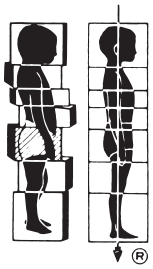

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