Structure, Function, Integration.

Journal of the
Dr. Ida Rolf Institute®

March 2020

All About Hands and Arms

Hands and arms are among our primary tools, whether we are bodyworkers, desk workers, factory workers, or gamers. In this issue we share how Rolfing® Structural Integration has evolved understanding and methodology to help hands and arms find ease with the demands placed upon them.

Also in this issue

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Latino, sketch with color pencil / paper. Artwork by Cinthia Nuez.

Cinthia Gonzalez Nuez

March Cover Art

The Expressive Force of the Hands and Arms

My name is Cinthia Nuez, I am a thiry-five-year-old Mexican artist specializing in painting, drawing, and illustration. My work has participated in several group and individual exhibitions in Guadalajara, Jalisco (Mexico), Los Angeles, and San Antonio, Texas.

For me, the portraits of other parts of the human figure such as the hands or the torso, with all their changes in the skin, the planes and textures, are interesting and complex because they have great expressive force. This piece is also inspired by the aesthetics of old manuals and anatomical studies. The piece is called “Latino” because I portrayed the strength and at the same time the beauty of a common Latino man.

In this series of drawings I am interested that the time in the creative process is evident and that it can be felt in each piece, for this reason I make each drawing in a methodical way tracing layers of lines.

The creative process in its entirety, with all the changes and transformations, is very important, because for me art is a reflective process and not merely representative.

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Contents

From the Co-Editors-in-Chief

Anne Hoff and
Lina Amy Hack

Anne Hoff

Lina Amy Hack

Our hands and arms are the instruments of our work. As Rolfers and Rolf Movement practitioners, we pay attention to the quality of tone in our arms and our clients' arms, and look at the organization of hands and arms within the shoulder girdle and the body as a whole. Yet extensive arm and hand work is a more modern element of Rolfing® Structural Integration and its Ten Series.

Welcome to the March 2020 issue (volume 48, no. 1) of *Structure, Function, Integration: The Journal of the Dr. Ida Rolf Institute®*. Back in March 2018, the prior iteration of this journal published an issue focussing on feet (see *Structural Integration: The Journal of the Rolf Institute®, volume 46, no. 1*). It's been a long time coming, but here – finally – is our companion issue on hands and arms.

Our hands and arms are the instruments of our work. As Rolfers™ and Rolf Movement® practioners, we pay attention to the quality of tone in our arms and our clients' arms, and look at the organization of hands and arms within the shoulder girdle and the body as a whole. Yet extensive arm and hand work is a more modern element of Rolfing® Structural Integration and its Ten Series. Many of the authors in this issue discuss the dearth of information on the hands and arms in Dr. Rolf's and other early trainings and how that, as well as changing arm use in our culture and clients' objective needs, propelled them to each develop ideas and methods on their own. Benefitting from these pioneers – and from what we each have developed in our own practices – we now have rich inclusion hands and arms in Rolfing work.

Starting with our columns, the "Ask the Faculty" column shares some rich and varied nuggets on this terrain, while the dedicated "Rolf Movement Faculty Perspectives" piece by Kevin Frank and Caryn McHose focuses on peripheral stability, which is how the body can resource hands, feet, top of head, coccyx, and other vectors to find stability that lengthens rather than compacts the body. We also introduce a new column, "Letter from the Embryo" by our colleague Konrad Obermeier. This column will run from time to time, with each edition addressing an aspect of embryology. In this inaugural column, Obermeier addresses the legs and feet, but notes that the development of the arms is similar terrain. We round out our columns with a "Fascia Insights" contribution from Robert Schleip and Werner Klingler.

Looking to the articles and interviews that make up our hand and arm theme, we range from anthropology to industry to injury and self-care. We lead with strong contributions from our faculty. Ellen Freed's interview of Tessy Brungardt emphasizes the deeply integrated place and impact of hands and arms on whole-body patterns and integration. The next piece from Valerie Berg is a bit of a shocker. Readers – most of you practitioners – imagine breaking bones in your hand, breaking your humerus through and through. Berg shares her experience of just this, and her remarkable recovery (considering the magnitude of the injuries), and how that healing journey now deeply informs her understanding of the anatomy and embryology of the arms and the clinical applications she gleaned from this monumental experience. Lina Amy Hack's interview with Jan Sultan delves into Ida Rolf's limited consideration of the arms, how technology and lifestyle shifts have affected our arm and hand usage, his internal/external model, and more.

Hack also interviewed Siana Goodwin, who saw the impact of factory and computer work on hands and arms in her years working as an on-site Rolfer at a hearing-aid manufacturing company in the 1990s and again later in the 2000s. We have two solo contributions from Michael Boblett, the anthropology-obsessed Rolfer who spearheaded the March 2018 issue on feet. To his surprise, Boblett discovered equal interest in the hands, and shares articles rich with the human evolution of hand use and remarkable exercises he has developed that can be applied to both client- and self-care. More self-care tips are shared by Bibiana Badenes, a Rolfer and physical therapist.

Boblett also interviews Kevin Frank, where they talk about the many fun ways we can come to more embody our arms and their functionality and encourage the same in our clients. We follow the arms further up the chain to the shoulder girdle in another anatomy- and assessment-rich article by frequent contributor Jeffrey Burch. Closing out the theme, Lael Katherine Keen shares how she incorporates arms work into the Rolfing Ten Series.

Our Perspectives section shares Monica Caspari's interview with Tomas Makiyama – perhaps the only blind Rolfer in the world – who discusses his training, assessment methods, and how he works. Sadly, this will be Caspari's last contribution to this journal, as she passed in 2019. Heidi Massa and Pedro Prado's tribute to their colleague and friend reminds us of Caspari's brilliance and humanity. We also lost Alan Demmerle in 2019, Ida Rolf's second son who was an important leader of the Rolf Institute through some critical junctures. Rolfer Joy Belluzi shares a tribute with contributions from others who worked with Demmerle. We close out Perspectives with an article by Heather Corwin on trust and its crucial role in the therapeutic relationship.

Lastly, you may have noticed the title of this letter now has the plural form, "Co-Editors-in-Chief." With this issue Lina Amy Hack joins the journal management, bringing a strong academic background in science, more than a decade in the saddle as a Rolfer in Saskatoon, years on our editorial team, and a bright flame for developing this Journal to its fullest potential, If you want to catch her enthusiasm and share your own ideas for our mission, contact Lina at linabehle@hotmail.com.

Anne Hoff and Lina Amy Hack,
Co-Editors-in-Chief

Ask the Faculty

Hands and Arms in Rolfing® SI

ABSTRACT *For this issue, some of the Dr. Ida Rolf Institute® (DIRI) faculty members share: their approach to working with hands and arms, when they encountered DIRI training regarding hands and arms, and the evolution of how they currently approach teaching hand and arm territory in the classroom.*

Q: (a) Why do you think arms and hands didn't seem to have a big place in Dr. Rolf's original conceptualization of the Rolfing Structural Integration (SI) Ten Series or the work we hear about her doing? (b) When you are teaching the Ten Series, how do you consider arms and hands in your strategic planning? (c) In the Ten Series or otherwise, how do you work with hands and arms as a part of fascial interventions that are intended for global change? (d) How do you invite clients' attention into their hands and arms? (e) For clients who come to you for hand and arm symptoms, how do you meet their goals? (f) Finally, for the self-care of your own hands and arms, what habits do you have to maintain comfort with your fingers, hands, and arms?

Jörg Ahrend-Lönns
Basic Rolfing Instructor

I want to start with the initial question of why the upper extremity didn't seem 'to have a big place' in Rolfing SI in the earlier days. My assumptions are: 1) the connection between gravity and normal force (substratum, ground), spine and lower limbs seem to be more obviously a priority; 2) the structure and function of the shoulder girdle might have been perceived as more important in the hierarchy of a properly organized lower pole and spine than vice versa; and 3) fewer clinical symptoms in arms and hands would suggest less necessity to work specifically on the upper limbs. Subsequently we have seen changed activities, particularly in the professional world – the digitalization of work and less variety of movement in the upper limbs.

From my practical point of view, I perceive a change in my work through the years. The functional and structural impact of the upper extremities on the position of head, neck, and thoracic spine is obvious. Sitting positions and the positioning of arms and hands during daily activities to the front are presumably the cause for more flexion in the thoracic spine and hyperextension in the neck.

I observe an increasing number of clients with internal rotation in the shoulder joint, stronger kyphosis in the thoracic spine with less rotational movement and decreased breathing capacity (particularly decreased chest-breathing in all directions). We may perceive increased belly breathing and less contralaterality in walking.

Another observation is stronger tensional patterns in the superficial structures around the shoulder girdle and arms with less core stability (particularly trapezius and pectoralis major and minor), and of course rotator cuff problems and om-arthrosis (shoulder arthrosis).

The practical consequences of this include a stronger necessity these days to work with the upper extremities. It seems that the position and functional organization of the shoulder girdle, elbow, and hands now has more effect on the organization of the spine and lower pole, possibly due to changes in work environments. Of particular concern is that the ability to open hands into extension and pronation is very much related to the ability of the shoulder joint to rotate externally. This opens the

upper chest, improves breathing, and helps to release tensional patterns particularly around the shoulder girdle and neck. If support is provided from below, integration can happen from both poles.

As Rolfers we know about the relevance of our hands' sensory abilities. We learn different qualities of touch in order to differentiate layers of tissue and specific tension patterns. These abilities are essential for our work. The connection of hands, spine, and ground through the girdles – or other horizontal structures – helps us find orientation and direction along the line of gravity. In other words, body use is key. But this is not meant to be a *one-way-road*: haptic experiences with our hands can have a vital effect on orientation and direction of the entire body.

As an example of a functional connection, *reaching* and *pushing* are possible doors into the organization of the shoulder girdle, spine, and lower pole. If we work in so-called closed chains, we connect hands and feet, giving important sensory information to the body supporting our structural work. Another functional example is how considering the hands can be a very supportive element for sitting bench work, which then helps the client who stabilizes through his hands at a desk. Thus, our structural work addressing core stabilization from the upper pole will be a very supportive element.

We can see here the importance of connecting hands and feet – in a wider sense, ground and space – for the integration of structure and function. Add to this sensory elements, and a rich field of experience can be provided. This helps to open the client to what is really important: meaning, and therefore, freedom of choice deduced from experience.

John Schewe
Fascial Anatomy Instructor

While doing my auditing and practitioning classes back in 1987 (auditing with Ron Thompson and practitioning with Louis Shultz), I was struck by the fact that the topic of arms was tacked on to the very last lecture on the last day of class, right after the head and neck. Even then I wondered about this, hands and arms were after everything else, placing the study of the arms and hands almost as a footnote in the anatomy lead-in week. The best explanation I heard was that Dr. Rolf didn't give a lot of consideration to the arms because they are not weight-bearing. While understanding the rationale behind this, even in my nascent Rolfing SI career, I still considered the arms to be part and parcel of the entire shoulder-girdle complex.

One thought I had concerning Rolf's reasoning was that she began her investigations into the structure and function of the human body when the only computers in use were in the hands of the researchers developing them. Even into the 1970s and 1980s, it seemed that computers were the bailiwick of office personnel, computer developers, and college researchers. (I still fondly recall that while doing my master's thesis in geology at Louisiana State University in 1978, there was a computer room in the attic of the geology building with a full-time, paid assistant there to help us use the piano-sized punch-card machine and feed our data into an even larger computer.) There were virtually no computers with everyday people.

That began to change in the 1980s, and certainly in the 1990s, when people started buying personal computers. That is when people started spending long periods of time hunched over their keyboards. Then with the advent of cell phones, people began to spend even more time using their hands and arms to work with these innovative devices. When I began my Rolfing practice in 1988, there were no repetitive motion injuries (RMIs) such as 'mouse finger' and 'texting thumb'; however, it was readily apparent that the more people used their arms and hands, the more 'wooden-like' their forearms became. Early on, it became a regular part of my practice to check on my clients' arms at some point in the First Hour. The vast majority of my clients found that the work I did on their arms, particularly their forearms, was extremely helpful, and many were amazed that there was so much tension and hypertonicity in this part of their body.

In the late 1990s, I became an anatomy instructor for the Institute, and right from the beginning I included the arms in my lecture on the shoulder girdle (sorry, Ron and Louis). I have always explained to students that the arms and shoulder girdle are a unit, and that any tension in the arms and hands has a direct fascial pathway up into the shoulder girdle and, consequently, the neck. While this seems obvious now, it wasn't so when I went through my original training. Some thirty odd years later I continue to give a fair amount of attention to the arms and hands throughout the Ten Series and in post-ten work, and I have never once felt that I was wasting my or my clients' time.

Kevin Frank
Rolf Movement® Instructor

Highlighting the hands and arms, as well as feet and lower legs, presents a compelling opportunity for transforming/modernizing the Ten Series. Rolf's work implied, but didn't explicitly address, stability. In today's world, stability is a lens through which structural integration has the potential to preserve and renew its relevance. To optimize renewed relevance, we benefit through a shift from the traditional 'tissue-as-the-issue' model to a 'tissue-as-conduit-for-information' model. Our work provides information to the client's 'movement brain' which hungers for the means to replace motor patterns built on effort and strain. Information is a primary role fascia plays – it's an efficient data link between the world and the movement brain (the part of us that conceives the automatic subroutines that inform movement, including posture). Our work systematically mobilizes fascia, so touch offers differentiation to the body's sensory and motor maps. Once differentiated, the brain's maps work better because they are more precise and offer broader sets of options for execution of movement.

The periphery – hands, arms, feet, lower legs, head, and tail – are the most potent portals for information upload. Why? The periphery is where the most abundant sense receptors and mechanoreceptors have their detection apparatus. The interosseus membranes of the arms and lower legs are the longest joints of the body; joint fascia is the most densely mechanoreceptor-populated part of the fascial system. Therefore, attention to the periphery via touch, perceptual activity, and nuanced pre-movement – these forms of attention yield outsized returns, outsized levels of information to revitalize motor patterns. Perceptual information that is particularly essential to this coordinative *reboot*, is developed through learning to evoke sensory receptivity – enlivening haptic activity via the hands and feet.

What sort of reboot are we talking about? Why is it important to the Ten Series? Coordinative reboot is the heart of the Ten Series; the reboot deletes effort-based strategies that shorten and compress, replaces them with strategies

the elicit elongation as a person responds to challenge.

When does it make sense to introduce peripheral stability in the Ten Series? It's optimum to introduce it from the beginning: as an idea and as a practical reality in the sessions and in self-care, iteratively, relentlessly. Why? Because peripheral stability is logical and true to Rolf's principles for human potential. It takes many repetitions to acquire new skills. It takes repeated an ongoing explanations and demonstrations to counter the bulwark of unfortunate assumptions and beliefs baked into modern life.

Peripheral stability serves us in many ways: we learn, as practitioners, to work with less effort and our body mechanics improve. We learn ways to revive our own periphery, by practicing natural stability exercises for self-care, based on iterative awakening of the periphery – hands, feet, head, and tail. We develop a stability curriculum to teach clients and students that applies Rolf's legacy to an issue about which the public is primed to want to learn. We demonstrate the capacity for Rolfing SI to modernize the client's movement. We improve the plausibility of the work while throwing away none of the treasures.

Think periphery: the hands and arms, the feet and lower legs, and the head and tail. There is, effectively, limitless benefit to explore the potential derived from attending to the periphery in every session of the Ten Series. Practitioners exposed to this technology, who take up the inquiry, report meaningful and satisfying outcomes.

Hiroyoshi Tahata
Rolf Movement Instructor

Working with the hand, forearm, and upper arm has great potential for the integration of structure and function. The barriers to integration can be minute or gross insults. On the minute scale, I sometimes find that scar tissue has formed in the deltoid from immunization injections. On the gross scale, an obvious example is impact from sports, whether inherent to the activity or injury. For example, a volleyball player will experience repeated impact to the distal forearm and fingertips just playing the sport. In kendo, a Japanese martial art using bamboo swords, it is common to receive blows to the forearms and hands from the opponents bamboo sword, and this will have an effect, even if the hands were protected by the traditional splints.

We should not ignore these restrictions, minute or gross, as they affect spatial perception as well as joint mobility. The upper limbs play an important role in sensing space. In my workshops, it is common for participants to note that when they, as the practitioner, consciously sense through an upper limb, their partner in the client role notes that his/her perception becomes more open and s/he senses more space. The mapping of the hand in the sensory and motor cortex is huge, which means that as we work with hands we may also be stimulating a broad area of the cortex with afferent input. When our work is able to facilitate more 'rest' in the hand, it can greatly calm the client, inducing parasympathetic rest.

As described elsewhere (Tahata 2019), vaccinations can cause muscle contractures at the injection site. For these cases, it is efficient to work with the 'damaged' area, checking for tissue tone, reduced motility, or a lack of congruence. It should be useful to restore the affinity to space (i.e., restore the kinesphere) around any traumatized area.

Each component of the hand and arm is related and resonant, especially to analogous structures. For example, I have observed in some clients that as the tissue around an injection site in the arm was able to 'yield' to space, the client's hip joint would also become more spacious. Here are some correspondences:

1. Upper limb ⇄ lower limb through the interosseous membranes.

2. Shoulder girdle ⇄ pelvic girdle through limbs.

3. G′ with shoulder girdle to upper limb ⇄ G with pelvic girdle to lower limb

Another client comes to mind, a woman who experienced repeated needle punctures to her arms for chemotherapy, dialysis, and blood samples during and after a long-term chemotherapy program to treat breast cancer. This trauma to the vascular tissue affected her whole system, both the needle trauma and the stress from the infusion of chemotherapy agents. So, when I think about arms, I also think about the cardiovascular system and how it is a network from capillary to heart with seamless continuity, like fascia. This client had vasculitis from the peripheral intravenous infusions. She was told that if she could not bear the successive infusions into the arm due to inflammation, then the drugs would have to be administered through central venous cannulation. For quality of life reasons, she did not want this more invasive method, so she sought work with me to calm the peripheral tissues. My approach was gentle movement intervention with 'yielding' touch to the infusion site on her right arm. My intention was to give safe space so the tissue could let its guard down, followed by focusing on connection of the whole cardiovascular network through the arm.

Her reflections are as follows:

"*When touched on my right arm, the arm and leg on my right side were not quiet at first. As these were getting settled in, I felt my internal organs winding down. Then the right arm was open like a fish opened and dried. I had a feeling of being exposed, a little vulnerable, but I felt gradually calmed down and my back was moving. When I was asked by Hiro to have a sense of the blood vessels, I felt a warm sensation from the base of the collarbone to the middle finger, and felt comfortably the blood vessels through blood circulation rather than through pain.*

When first touched around the lower edge of the ribs, I could not feel the ribs expand well. Later, after the touch disengaged, I felt like breathing deeply, and like an amoeba, the feeling that the body was swelling and shrinking.

When my breathing calmed down and my body and thoughts became quiet, my sense of Hiro as a distinct presence shifted [that is, the practitioner's presence became neutral in the ma *of the room], and I felt as if everything in the surrounding space was united. Feeling that my body is warm and united. Something strange, like being wrapped in a cocoon.*

Even after returning home, my right arm was soft and warm, and my vascular pain became lighter. I feel like my palpitations have calmed down and my mind and body have returned to calm.

I feel like I am going to be comfortable for a while."

Since this time, the client has three times had chemotherapy administered through peripheral veins without provoking blood vessel inflammation. Thus gentle interventions like yielding touch may help clients undergo ongoing medical treatment in a way that maintains their quality of life.

Most of us have had needles in our arms for medical treatment at one time or another. How the body perceived that past phenomenon and responded to it may

indicate that there's a missing link to attend to for finding congruency by working with the hand and arm.

Tahata, H. 2019 July. "The Superficial Layer as Sensory Envelope." *Structure, Function, Integration: The Journal of the Dr. Ida Rolf Institute®* 47(2):37–42.

Valerie Berg
Basic Rolfing Instructor

I watch a person's hands from the moment I meet them. I have to admit I did not have the fascination I have now before I broke all the fingers in one hand and had my other arm run over by my own car. This is all in my article on hands and arms in this journal (see page 19). The fingers all have fascial sequences that relate and integrate and affect the arm up into the torso (Stecco 2004). The beauty of the fascial wrappings of the fingers reveal the exquisite spirals necessary for our complex arm, elbow, and shoulder mobility.

Ten Series: arms and hands could be worked in all the upper-body sessions. Opening the arm and hands for five minutes before going into the rib cage or the neck changes the work that will come later. As in all our work, there are preparatory pieces that integrate into the next part of the session. Our fingers and hands are the way we manifest ourselves into the world, the material world and the social world. In my workshop, Freedom of the Wings, I have the students *only* manipulate the hands and nothing above the wrists to experience the changes possible by only working on fingers and hands. All the planes of motion – sagittal, transverse, and frontal – can be held in restriction by restrictions in the hands, fingers, and arms.

I think that many Rolfers feel that spending too much time on such a small area might not warrant the price and time of a Rolfing session for the client. As always, I feel that being a Rolfer takes guts and is a radical act to understand the depth of what we do as an overall effect on the entire structure.

I have spent many years opening up feet as the grounding force. Now I add the hands and fingers as a grounding force. Watch an elder who feels fear or an injured person use their hands to *find their way*: their stability, their grounding as they walk on uneven surfaces. The ability of our hands and arms to wave, flap, and express is how we stay vertical and manage the horizontal. People with arthritis losing their ability to manipulate objects and to *do* things creates an immense frailty and vulnerability.

Simple awareness exercises – like noticing the tension in the hands and its relationship all the way to the jaw when driving, holding the phone, and at the computer – are easy to give. Reminding a client of being a baby and letting the hand reach for what it wants rather than tension in the arm, shoulder, and neck. Basic movement education of activating all the arches of the hands, and how it relates to the stabilizing of the shoulder, can be given.

I do many things every day to keep my shoulder girdle and hands mobile and flexible. Just standing with my back to the wall and raising my arms up and back to touch the wall is a shoulder balancing I do often. When I walk through a doorway, I reach up to the threshold to keep the reach and mobility in the humeral joint. I have a *hand station* in my house with various toys that either strengthen or stretch my fingers. This was all due to breaking my fingers. Prior to that I probably only stretched them against a wall to keep them open. I have a swing set and monkey bars in my backyard, and I *brachiate* every day. I hang all my body weight on my arms. It has kept the shoulder joint of the arm that was broken very healthy.

Stecco, L. 2004. *Fascial Manipulations for Musculoskeletal Pain*. Italy: Piccin Nuova Libraria.

Peter Schwind
Advanced Rolfing Instructor

The day that this question about Rolfing SI work with hands and arms came up, I had worked with a woman who had sessions with Dr. Rolf decades ago. This woman had thought about studying with Rolf, she had been around in the so-called old days of Rolfing SI, but she changed her mind and went in other directions. Today she is a world-famous psychotherapist. While I work with her arms and hands, she reports how she observed Rolf supervising a Rolfer doing work on the arms and the hands of a client. I listen with curiosity to this authentic report. She reports to me about the way Rolf supervised, the way she lived her decisiveness in regards of the purity and authenticity of her work.

After we have completed our work, I remember how in my training there was very little attention paid to the upper extremity, during the old days of our discipline. One of the teachers of the first generation had told me – that was almost forty years ago – that Rolf refused to make the work on hands and arm part of the 'Recipe' because this part of the human organism is, according to her, too complex for basic work. Well, hand surgery is a special field of surgery and – maybe – it is also a special field of Rolfing SI.

Receiving work on my own hands and arms I remember an Advanced Rolfing class taught by Peter Melchior and Emmett Hutchins during the early eighties. Emmett started working at the fascia infraspinata and followed all the way down through the different layers of the arm to the fascia palmaris. He ended doing tracking work with the single joints of the fingers. I also remember how Jan Sultan touched deeply into the inner junctions of my left elbow – it happened while we had a few drinks at a bar in Boulder during an Advanced Training in 1991. A single move released much more than my restricted inflamed elbow. And I will never forget how Rolf's son, Richard Demmerle DC, taught me to open elegantly the deep membranes of my forearms, using the so-called quadruped position and asking for movement of the elbow joint.

Those three subjective experiences encouraged me many years ago to participate more in dissection classes at the medical department of the University of Munich. That helped, and I will always feel grateful to Professor Breul, teaching at the Anatomische Anstalt of the University in Munich, who has such an open mind for fascia. But all that did not help enough. I realized, we have to go deeper into *living anatomy* to understand the hand better. To go to the hand surgeon's room and watch this work opened a new perspective for the integration of the human arms and hands. Nevertheless, I think we are still at the beginning with this knowledge.

I recently damaged my left hand working on a very heavy person. Help was found through the work of a young colleague. This helped me remember what Jim Asher told me way back, that there are so few people who know how to work with hands efficiently.

There is hope for a sort of new recipe for the hand, if we are ready for dialogue. If we are open to honestly look at our failures. But it may be most helpful to share our practical experiences and conceptual ideas regarding the fascial accomplishments that can be made by working with hands and arms.

Rolf Movement® Faculty Perspectives

Peripheral Stability through the Lens of Rolf Movement

By Kevin Frank, Rolf Movement Instructor, Certified Advanced Rolfer™, and Caryn McHose, Rolf Movement Practitioner, Certified Advanced Rolfer

Kevin Frank

Caryn McHose

ABSTRACT *Dr. Ida P. Rolf's development of Rolfing® Structural Integration (SI) implied but did not explicitly address the issue of stability and the relationship of psychological and physical stability in the manner that modern science makes possible. The tonic function model permits a re-examination of Rolf's Ten Series to make stability and security an explicit part of the offer. Peripheral stability summarizes key features of this re-examination and re-formulation.*

The field of structural integration promotes movement in which the body learns it can lengthen as it meets demand. The SI Ten Series uses fascial mobilization and body education to liberate the body from motor patterns based on effort and shortening. Rolf Movement is a specialization within SI that emphasizes forms of perceptive and coordinative education that help free us from effort and shortening, primarily by changing the way the body prepares to move – what's called 'pre-movement'. It turns out that how we prepare to move is a big part of how we can change movement patterns that resist earnest attempts to change them. Rolf Movement provides specific guidance for changing premovement. Changed pre-movement builds skills for peripheral stability. Peripheral stability is stability that offers an alternative to many currently popular approaches. Peripheral stability departs from what could be called 'centralized stability' or 'concentric stability'. Peripheral stability proposes a philosophy of stability in which elongation and eccentricity are built into the program.

Differing Approaches to Stability

Stability is important. To stand or move with flow and ease, unconstrained by guarding or bracing, the body must feel secure. Dependable body security, in turn, is based on automatic motor patterns that 'run in the background'. Body stability, in traditional terms, translates as strength-training exercises to enhance muscle strength in the muscles that are believed to need toning or enlargement. Many of our clients report disappointing results from efforts to strengthen muscles. The

Peripheral stability proposes a philosophy of stability in which elongation and eccentricity are built into the program.

trouble is that many forms of resistance training, designed to bolster stability and security, can also contribute to movement qualities that involve unnecessary shortening rather than lengthening, thus working at cross purposes to the goals of the program. Many forms of training increase 'early recruitment' of phasic muscles for stability. This often makes things like back pain worse.

To her credit, Dr. Rolf was skeptical about most forms of strengthening exercise. Typical stability programs intentionally or inadvertently promote centralized forms of stabilization. What's a better choice?

Ingredients to Peripheral Stability

Peripheral stability says that attention to the hands and feet, the top of the head, and the tip of the coccyx is a good starting point. Together with imagined vectors emanating from bony landmarks – ones that suggest a direction into space – we begin to shift from a shortening approach to an elongating one. We call it 'peripheral' because in each instant that we look for stability, we connect the hands and feet and top and bottom ends of the spine in ways that elicit elongation responses in the front, back, and lateral lines of the spine. Elongation responses in the spine reduce compression in a general manner in bodily movement.

Embodying a Differentiated Mapping of the Hands and Feet

What does it mean to engage the hands and feet and spine in the manner described? We start by making the hands and feet and head and tail 'smart'. Smart means 'well-mapped' in sensory receptivity and articular aliveness. The embodiment of feet and hands and head and tail requires learning to sustain attention to build a recognizable, rich, effective, and dependable response. It is this potency of experience in the extremities that underlies successful stabilization. Peripheral stability becomes natural and automatic after enough practice. It's part of our 'bundled software'. It likely replicates the movement of our ancient ancestors: they couldn't afford wasted calories and conflicted motor control.

Integration: Linking Periphery to the Axis

To bring alive the experience of one's hands and feet creates integration as hand contact and foot contact is linked to eccentric movement in the spine. This movement learning begins during session time on the bodywork table; and then proceeds to application while seated and standing. Learning integrates best through a variety of contexts such as repeating the engagement of hands and feet and spine in a progressive sequence.

Using the Foot Board for Table Work

Table work, which can offer an accessible 'way in' to the process, is immediately enhanced through the use of a 'foot board' at one end of the table (see Figure 1). Each session of an SI series affords opportunities for the hands and feet to engage the table or the board, as well as holding or pushing against objects (sticks, balls, etc.).

Picture the client's foot pressing against the board, while supine or sidelying. Movement of the spine initiates with foot contact on the board. Foot engagement begins with attention to the sensory experience in the skin of the foot. Receptivity to sensation opens the body to motor pattern adaptability – new patterns are possible because conscious attention to sensation in the skin of the feet allows the body to anchor itself, to ground, to find security and location in the present moment. Foot contact, with sensory receptivity, allows the 'tonic system' – the gravity response system – to orchestrate the movement. On the table, the movement involves elongating the front line, the back line, or the sideline of the trunk, all forms of elongation in the spine. We have clients first practice a movement while lying down that they will then do in an upright position, so when standing afterwards, the movement has been learned and practiced under optimized support/guidance.

Figure 1: Client presses on foot board with toes, in combination with reach of hand and eyes to space beyond head, to open the front line via shifted pre-movement.

We start by making the hands and feet and head and tail 'smart'. Smart means 'well-mapped' in sensory receptivity and articular aliveness. The embodiment of feet and hands and head and tail requires learning to sustain attention to build a recognizable, rich, effective, and dependable response. It is this potency of experience in the extremities that underlies successful stabilization.

Vectors and Somatic Imagination

Hands and feet provide anchor and support for optimized movement. Imagined vectors of direction provide additional forms of support. The body builds a refreshed matrix of 'action space' into which movement will flow, a matrix of space that enriches body security and location. The power of the imagined vector of directionality is proportional to the strength of one's imagination. We call this form of imagination 'somatic imagination' because it is imagination that frees the body's creativity and intelligence for movement; it frees the body from its conditioning.

Directionality can be imagined in many ways, emanating from all places in the body. However, what is easiest and most effective to anchor movement and free the body to move skillfully are vectors that project from bony landmarks that inspire directionality: the coccyx, the top of the head, the distal aspect of the femur, the posterior aspect of the calcaneus, the posterior aspect of the ischial tuberosity, the olecranon of the ulna, and the distal aspect of fingers are all good examples.

Body intelligence is thus evoked from sensory receptivity in the extremities, and vectors of directionality from bony landmarks. In turn, revived body intelligence quiets antagonist motor units and evokes nuanced use of those motor units that optimally guide the movement. To stabilize the spine, the body will use those motor units that are close to the spine and that encircle it – the story is familiar at this point.

What about the Muscles?

Peripheral stability work has the intention to stimulate the anatomy that reflects the 'core' muscles: the transversus abdominus, the multifidi, the serratus anterior, and so on. We don't, however, want to think about those muscles because, inconveniently and ironically, thinking about them reduces and blocks body intelligence. Thinking about muscles is counterproductive for improved motor patterns. Sensing the skin of hands and feet, and imagining vectors hands the 'work' over to the sensory motor system which, in turn, skillfully selects the motor pattern that best meets the situation This approach can feel counterintuitive at first, however.

Start Simply; Gradually Add Applications

To learn peripheral stability, it's good to start with easy steps that lead to early success. Easy steps and early success are important to avoid adding a new effort pattern; and we learn that a peripheral approach is worth the effort because it works.

First learned on the table, simple steps such as toe press and hand reach combine with tail and eye reach to open the front line; foot press and hand press on the table with forward tail reach open the back line. These elements, explored slowly, lead to shifts in gait and offer opportunities to teach self-care based on these foundations.

Peripheral stability is doable, and efficient. Just telling people how to do it has limited value both for client understanding or adoption. The Ten Series, however, creates a context so the peripheral stability theme can be demonstrated, experienced, and learned iteratively, but at the same time, mindfully. Each session is a lesson in the 'how to evoke body intelligence' course that, in turn, provides movement experiences that feel good, get work done more effectively, and lead to healthier stability and security to meet life's challenges.

For more information and writing on working with the Tonic Function model, visit: www.resourcesinmovement.com and use the article archive tab.

Kevin Frank is a Certified Advanced Rolfer, Rolf Movement Practitioner, and Rolf Movement Instructor. He has worked with the Hubert Godard-derived Tonic Function model since 1991 and has written on this topic from 1995 to the present. Kevin advocates for an 'information system' view of Rolfing SI to help bring the SI field into congruence with modern understanding of motor control and perceptive/coordinative processes.

Caryn McHose is a Certified Advanced Rolfer and Rolf Movement Practitioner, as well as a Somatic Experiencing® Practitioner and Certified Biodynamic Cranial Practitioner. She is the collaborator for Bodystories, A Guide to Experiential Anatomy and The Place of Dance by Andrea Olsen, and is the co-author with Kevin Frank of How Life Moves: Explorations in Meaning and Body Awareness. Caryn has taught perceptual approaches to movement education for over forty-five years.

Fascia Insights

Active Contractile Properties of Fascia

By Robert Schleip, PhD, Certified Advanced Rolfer™, and Werner Klingler, MD, PhD

Robert Schleip

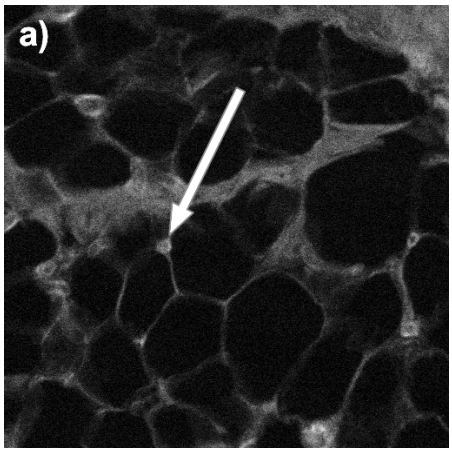
Werner Kingler

ABSTRACT *The ubiquitous network of fascial tissues in the human body is usually regarded as a passive contributor to musculoskeletal dynamics. This review aims to highlight the current understanding of fascial stiffness regulation. Notably the ability for active cellular contraction which may augment the stiffness of fascial tissues and thereby contribute to musculoskeletal dynamics. A related narrative literature search via PubMed and Google Scholar reveals a multitude of studies indicating that the intrafascial presence of myofibroblasts may enable these tissues to alter their stiffness. This contractile tissue behavior occurs not only in several pathological fibrotic contractures but has also been documented in normal fasciae. When viewed at time frames of seconds and minutes the force of such tissue contractions is not sufficient for exerting a significant effect on mechanical joint stability. However, when viewed in a time-window of several minutes and longer, such cellular contractions can impact motoneuronal coordination. In addition, over a time frame of days to months, this cellular activity can induce long-term and severe tissue contractures. These findings tend to question the common clear distinction between active tissues and passive tissues in musculoskeletal dynamics.*

Editor's Note: This is an abridged version of an article that appeared in Clinical Anatomy *32:891–895 (2019). It is reprinted here with permission from the authors and from Wiley Periodicals, Inc. We have done minor reformatting for this Journal. See the extended version for the Method section and additional references.*

Introduction

Myofibroblasts play a crucial role in the development of several disorders, particularly in fibrotic pathological conditions such as hypertrophic scars, frozen shoulder, and Dupuytren's contracture. Among other features, myofibroblasts exhibit a



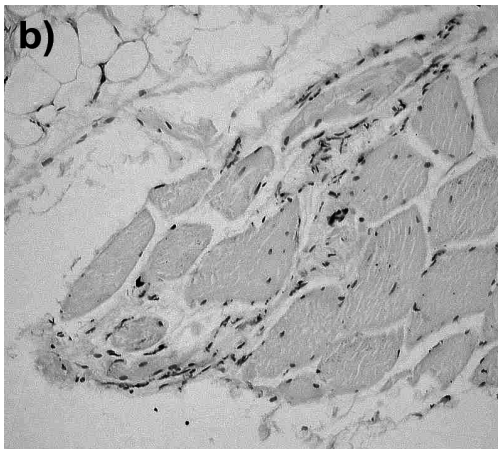


Figure 1: Histological slides of rat fascia. (a) Immunofluorescence imaging of intramuscular fascia. Light grey: alpha-smooth muscle actin labeling, indicative for the presence of myofibroblast. Note the clearly stained line from the upper right toward the upper left side, indicating a high density of contractile cells in this perimysium. Example of a typical myofibroblast is marked with an arrow. Image length 550 µm. (b) Example of perimysial fascia in regular immunohistochemical imaging. Larger black spots: alpha-smooth muscle actin stained elements. Image length 400 µm. Illustration with friendly permission from Hoppeetal (2014).

significant cellular contractility and an increased synthesis of extracellular matrix components such as collagen Types I and III (Gabbiani 2003; Hinzet al. 2012). In addition to their well-established occurrence in pathological conditions, their presence has also been revealed in normal (i.e., nonpathological) ligaments and tendons, as well as several other connective tissues (Tomasek et al. 2002; Schleip et al. 2005). Recent investigations suggest that myofibroblasts are also present in normal intramuscular (Hoppe et al. 2014) and extramuscular fasciae as well (Schleip et al. 2005; Bhattachary et al. 2010). It has been proposed that their presence and activity may be able to influence fascial stiffness and thereby influence musculoskeletal dynamics (Yahia et al. 1993; Schleip et al. 2008; Schleip et al. 2006).

Results

. . . Most studies confirm the presence of myofibroblasts — considered as a specialized connective tissue cell with augmented contractile properties — not only in pathological fasciae (Tomaseket al. 2002; Desmoulière et al. 2005) but also in normal fasciae (Battacharya et al. 2010; Hoppe et al. 2014; Dawidowicz et al. 2015; Schleip et al. 2019). When compared with human plantar fascia or with human fascia lata as well as with rat lumbar fascia, the human lumbar fascia contains a significantly higher density of myofibroblasts (Schleip et al. 2019). Interestingly, an apparently increased density of these cells has been observed in the perimysium (Hoppe et al. 2014; Fig. 1). In one investigation examples of histological sections of lumbar fascia from low-back-pain patients were documented which expressed an augmented myofibroblast density comparable to that found in frozen shoulder (Willard et al, 2012).

An increased fascial thickness in the lumbar area from older humans compared with younger humans was reported by Wilke et al. (2019). Although a trend toward an increased density of myofibroblasts with increasing age was observed by Schleip et al. (2019) in both human lumbar fascia as well as in rat lumbodorsal fascia, neither of these trends was statistically significant.

A contractile response of fascial tissues in vitro in response to pharmacological stimulation has been documented with rat lumbodorsal fascia as well as with human lumbar fascia (Hoppe et al. 2014; Schleip et al. 2019). Observed maximal contraction forces in these experiments ranged from 220 to 445 mN/mm^2. The most potent contractions were observed with transforming growth factor beta 1 (TGF-b1). Stimulation with botulinum toxin Type C3 – used as a Rho kinase inhibitor – provoked mild relaxation. In contrast, fascial tissues were unresponsive to stimulation with angiotensin and caffeine. A positive correlation between myofibroblast density and contractile force was found (Schleip et al. 2019; Figure 2).

The mean maximal contraction force of myofibroblasts has been estimated as 4.1 mN/cell (Wrobel et al. 2002). A hypothetical mathematical prediction of the contraction forces to the human lumbar region – based on the reported myofibroblast densities and the registered forces in pharmacological contraction tests – yielded a maximal contraction force between 0.95 and 2.63 N (Schleip et al. 2019). While being below the threshold for exerting an impact on mechanical joint stability (Cholewicki and McGill 1995), these force magnitudes are above the much lower threshold for mechanosensory stimulation and subsequent motoneuronal coordination (Krauspe et al. 1992).

Discussion

The reviewed literature suggests that the presence and density of myofibroblasts play an active role in influencing fascial tissue stiffness in both pathological as well as normal conditions. Although the short-term contraction forces of these cells might permit an influence on motoneuronal regulation, they do not appear to be strong enough to influence spinal stability or other important aspects of human biomechanics when viewed at a time frame of several minutes or hours. Predicted contraction forces of fascial tissues are then at least two orders of magnitude below that of skeletal muscle tissue of comparable cross-sectional area (Schleip et al. 2019).

However, in contrast to skeletal or smooth muscle fibers, myofibroblasts exert a relatively long-lasting Rho/RHOCK/myosin chain phosphatase pathway dependent contractile activity that induces more permanent tissue contractures which include tissue remodeling (Hinz 2013). Their incremental minute cellular contractions, combined with tissue remodeling can generate severe tissue contractures of ~1 cm per month (Follonier Castella et al. 2010) when viewed at a larger time-frame. Some of the induced tissue contractures, such as in frozen shoulder, develop a tissue stiffness and strength which requires the combined forces of several surgeons to break them up under anesthesia (Karas et al. 2016). Active fascial contractility may, therefore, be strong enough to impact spinal stability and other important aspects of biomechanical behavior when viewed at larger time frames, such as several days to months.

While myofibroblast contractile activity is already considered as a well-known contributory factor in specific fibrocontractile pathologies, such as Dupuytren contracture, Morbus Ledderhose, or frozen shoulder, it may also play a role in other pathological musculoskeletal conditions which are associated with an augmented myofascial stiffness. An increased fascial thickness and/or stiffness has been reported in ulnar nerve compression syndrome (Klingler et al. 2014) and in myofascial neck pain (Stecco et al. 2013, 2014). An increased fascial stiffness has also been suggested as a contributing factor in iliotibial band syndrome (Fairclough et al. 2007; Tateuchi et al. 2016). It might, therefore, be an interesting field for future research, to examine the potential role of active fascial contractility in these conditions.

The reported increased myofibroblast density in the perimysium could be of clinical significance (Figure 1). Food scientists report about a correlation between meat toughness and perimysial thickness (Bendall 1967; Rowe 1974). Because an increased perimysial collagen density has been observed in tonic muscles when compared with more phasic muscles (An et al. 2014; Roy et al. 2018), it seems justified to assume that a related perimysial stiffening could – at least in some cases – contribute to myofascial tonicity in human erector spinae muscles, and particularly to the deep multifidus layer (Mannion et al. 1997; MacDonald et al. 2006). In fact, several myofascial pathologies associated with increased myofascial stiffness are associated with changes in the perimysium (Williams and Goldspink 1984; De Deyne et al. 2000; de Bruin et al. 2014). In contrast, these described changes have not been found in the endomysium. Similarly, aging tends to be associated with an increased perimysial thickness (Nishimura 2010; Csapo et al. 2014). Future research into this dimension, including the newly developed myofibroblast quantification method based on needle biopsy extracts (Schleip et al. 2018), appears as a promising direction.

The potential influence of myofibroblast contractility in back stability and low back pain merits special consideration. This is supported by the increased density of myofibroblasts in the human lumbar fascia, reported above. It is also corroborated by the histological tissue sections reported by Willard et al. (2012) from a patient who expressed an augmented myofibroblast density comparable to that found in frozen shoulder.

The involved cellular contractility seems independent from a direct synaptic signal transmission from the central nervous system, such as via acetylcholine or adrenaline (Schleip et al. 2008). Instead, the contractile activity of these cells is influenced via the expression of various cytokines within the ground substance. For one of these cytokines, TGF-ß1, a clear influence of the sympathetic nervous system onto their activity has recently been documented (Bhowmick et al. 2009; Liao et al. 2014). This influence appears to support the hypothesis of Staubesand and Li (1996,1997), which proposed a close connection between fascial stiffness and chronic sympathetic activation. In light of the reported large contribution of psychosocial factors in low-back pain (Yang et al. 2016; Burgel and Elshatarat 2017), this connection appears to offer an interesting field for future investigation.

Besides the influence of TGF-ß1 and of other cytokines on myofibroblast contractility, the pH level in the ground substance might exert an enhancing influence on tissue

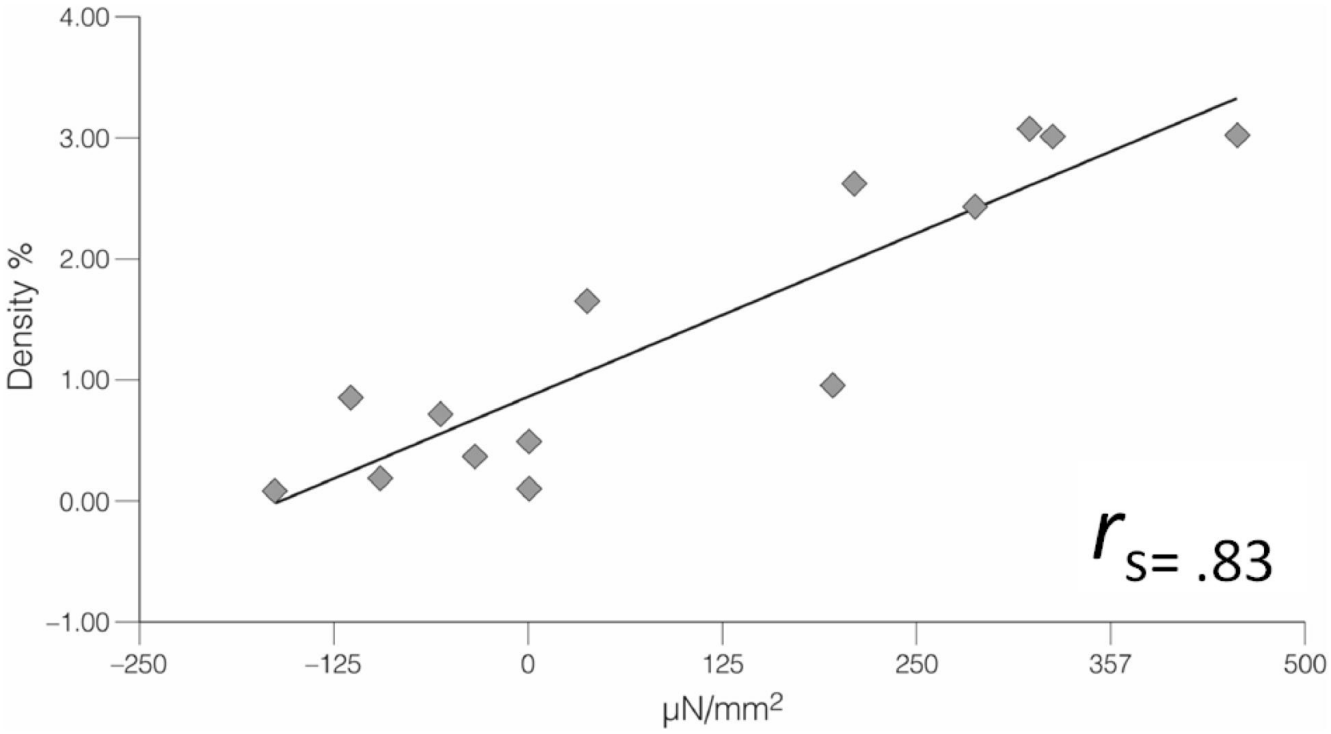


Figure 2: Statistical analysis of the contractile force of rat lumbar fascia in response to pharmacological stimulation in vitro revealed a positive correlation with the inherent myofibroblast density (n = 14; data and illustration from Schleip et al., 2019).

stiffness. This consideration is supported by the reported augmenting effect of an acidic pH condition on myofibroblast contractions in vitro by Pipelzadeh and Naylor (1998) as well as well as by the documented lactic acid-induced myofibroblast differentiation in lung fibrosis which is mediated by the pH-dependent activation of latent TGF- ß1 (Kottmann et al. 2012). If verified, therapeutic strategies to modify the acidity of the ground substance – such as via moderate exercise and nutritional modifications – might be explored as potential avenues in conditions with an enhanced fascial stiffness.

The reliability of tissue stiffness assessment via ultrasound elastography as well as via myometry and indentometry has been recently documented (Pruyn et al. 2016; Salavati et al. 2017; Wilke et al. 2018). Because mechanoadaptation of collagenous tissues does not always go along with the adaptation of related skeletal muscles (Mersmann et al. 2017), it is suggested to enhance the incorporation of fascial tissue assessments in future therapeutic as well as scientific investigations in the field of sports medicine (Zuegel et al. 2018).

To conclude, the reported capacity of fascial tissues actively to contract question the common clear distinction between active tissues and passive tissues in musculoskeletal dynamics (Panjabi 1992). Myofibroblast-driven fascial tissue stiffness regulation deserves to be considered as an additional important element in the complexity of musculoskeletal interactions.

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Werner Klingler, MD, PhD, is an anesthesiologist as well as myofascial pain researcher from Ulm University, Germany. He was chairman of the recent Fascia Research Congress in Berlin (November 2018).

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Letter from the Embryo

A 'Footnote'

By Konrad Obermeier, Basic Rolfing® Instructor

Konrad Obermeier

ABSTRACT *Structure is a dynamic, developmental movement. An embryological perspective can contribute to our understanding of structure and can provide us with insights into the practical work of structural integration. Development and differentiation follow lawful principals and what is described in the brief article below in respect to the organization of the foot is relevant to arm or hand development as well.*

Editor's Note: The complete original paper will reappear in its English translation as a contribution to a new edition of selected writings by the anatomist and embryologist Erich Blechschmidt, published by Kiener Verlag (www.kiener-verlag.de), Munich, Winter 2019.

The embryological formation of anatomical structures can be described as developmental movements in time and space — a seamlessly flowing sequence of expansive stages. In the course of growth and differentiation, some elements of the body expand more rapidly than others.

The elements relatively slower in growth-expansion will predictably manifest a highly specific local resistance to growth-movements on neighboring structures. Uneven growth rates inevitably create, manifest, and maintain formative frictional forces between the elements involved. From an ontogenetic point of view, any frictional developmental forces manifest as connective tissues. The relative position of these elements to each other will be of critical importance for the developmental unfolding. This is true not only for local, microscopic, cellular structures but, consequently, also for the formation of macroscopic structures (tissues) and the complete shape of the body.

When an embryo sprouts a limb bud (an arm, a leg, a finger, or whatever structure is to arise) the pioneering cells of skin and soft tissues protrude first into *outer space*. The supporting neurovascular bundles and the cells differentiating to form cartilage and bone will always appear later. This cannot be the other way around and consequently can be understood as an inevitable and lawful differentiation.

One of the many questions that may arise is: how are these elements spaciously relating to each other? For example: how is an artery or the neurovascular bundle positioned relative to a forming bone? This is of importance because the neurovascular bundle always is slower in longitudinal expansion than the proliferation of cells manifesting bone. It is specifically the arteries (supplying molecules for bone growth) that are

Figure 1: The immanent torsion of the calcaneus is orienting towards the path of artery and nerve tibialis posterior, extending posterior to the medial malleolus into the plantar region.

Figure 2: The foot expresses a general torsion that originates in its developmental growth. The torsion as a whole is oriented towards the position of the major neurovascular bundle, supplying molecular support and simultaneously orienting and restraining the formation of the foot from a posterior-medial fulcrum.

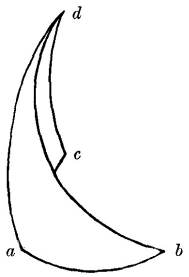

Figure 3: Abstraction – (a) small toe; (b) big toe; (c) calcaneus; (d) talus. The edges ac and bd are spirally wound around each other. The surface abcd is a spiral band arched in length and width. This spiral band wraps around the dominant neurovascular bundle (i.e. the *artery* and *nerve tibialis posterior*).

exerting a secondary, restraining force to the progressive bone growth.

Arteries and neurovascular bundles are creating and maintaining (!) a force of *retention* towards the primarily expansive bone growth. Simply put: the developmental growth of bone and cartilage is expansively pushing, while arteries and nerves (like muscle and connective tissues) are resisting the push. Therefore, the latter are tensile and serve to orient expansive growth through providing local resistance like a dynamic fulcrum in a specific direction.

So the growing bone (or the limb as a whole) is predictably and always orienting specifically towards the artery. In this way we can understand the artery (and neurovascular bundle as a whole) as a relatively orienting, slow-moving fulcrum to all surrounding structures. Ultimately this is the formative reason why the primary neurovascular bundle is located always on the flexion side of all joints. It is relative resistance to expansive growth that initiates and creates any joint development and defines flexion.

This principle will be illustrated below by way of a consideration of the leg and foot. The same principle, however, can be observed in many other anatomical structures. The arm and hand, for instance, offer a readily available analogue to the situation described below. It is to be hoped that the description to follow will prepare readers to explore further manifestation of this principle.

When we apply this line of thought to the formation of the foot, we have to consider the *artery tibialis posterior* (extending together with the *nerve tibialis, ramus posterior*) as the primary support structure for normal developmental growth. This means, for example, that the intrinsically torsional shape of the calcaneus (see Figure 1) originates from its developmental growth in relation to the nerve and artery *tibialis posterior.*

We can generalize this and come to understand the immanent structural torsion of the foot – including the formation of the arches – in relationship to the orienting force of relative arterial and neurovascular retention during developmental growth (see Figure 2). The general developmental torsion of the foot (see Figure 3, abstraction) not only manifests the curvatures and torsion of the calcaneus and the appearance of the arches, it can also be perceived in the asymmetric positioning of the lateral and medial malleoli.

The neurovascular bundle creates a spiraling organized tensional force that torques into the connective tissue structures of the sub-cutis as well. The internal organization of the *padding-of-the-heel* (inferior to the calcaneus) shows a turbine like arrangement of connective tissue lamina that reflects the force of retention arising from the *spiral band* around the neurovascular bundle in the *tibialis posterior* compartment (see Figure 4).

Figure 4: Schematic representation of the connective tissue lamina organizing the padding of the heel inferior to the calcaneus. Illustration from Prof. Dr. Erich Blechschmidt (1982).

Considering the clinical problem of a so-called *flat foot* or *collapsed arch* we invite you to re-evaluate your assumptions from an ontogenetic point of view. The medial arch of the foot does not *collapse* in the implicate sense of the word and is not simply falling down. There is no such thing as a collapsed foot. When we see a *flat foot* or a *collapsed arch,* we actually see a foot in which a number of elements have partly or fully disengaged from their natural torsion by way of de-rotating out of order. Any attempt to reorganize a dysfunctional foot might profit from considering the general and local developmental torsion as the necessary and normal arrangement (see Figure 4). The ontogenetic developmental movement initiated, constructed, and maintains the organization of the foot in this way. The embryo intended the foot to be torsional, like a propeller.

Konrad Obermeier holds a degree in communications from the University of Munich and has been a Rolfer since 1991. Currently, he serves as chair of the Anatomy faculty for the European Rolfing® Association. His is the editor of a series of books on the biodynamic embryology of Erich Blechschmidt.

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A Holistic View of the Upper Limb

A Conversation with Tessy Brungardt

By Ellen Freed, Basic Rolfing® Instructor and Rolf Movement® Practitioner and Tessy Brungardt, Basic and Advanced Rolfing Instructor and Rolf Movement Practitioner

Ellen Freed

Tessy Brungardt

ABSTRACT *Ellen Freed interviews her Rolfing faculty colleague Tessy Brungardt in this broad discussion of the arms, hands, and shoulders, touching into the holistic nature of our work, the arms in whole-body patterns, issues from injury and overuse, and the range of touch that makes our work most effective.*

Introduction

On a Zoom call recently, I interviewed Tessy Brungardt about the arms, the hands, and the shoulder girdle. After witnessing Tessy work for many years, I can categorically say that her words are in sync with her touch, which is kind, generous, profound, and clear. Her approach in this interview includes her holistic view of the arms, hands, and shoulder girdle, and how specificity of touch and anatomical knowledge will lead to a greater holistic framework. Tessy explores aspects of the nature of our touch as Rolfers™, how we *see*, and how cultivating these skills informs our work.

Ellen Freed: We are talking about the arms and the hands. What has been your evolution of working / seeing / strategizing sessions where the arms and the hands hold key issues for the client?

Tessy Brungardt: When I first started practicing Rolfing Structural Integration (SI), I was very dedicated to the Ten Series. At that time, we talked about where the arms and hands could be added into the Series. We were taught to complete everything essential in the Ten Series and add in the arms and hands as we had time or as they needed doing. Right away, in my first year of Rolfing practice, I started working with a lot of musicians and other people who used their hands in their work. I came to see that the organization of the whole shoulder girdle, all the way down to the fingertips, has profound influence on the core, the sleeve, and the axial complex as we talk about it in Rolfing SI. So, I had to think deeply about what is happening in the hand as it relates to the rest of the system, and include the hands and arms as part of the system; rather than thinking, “Hmmm, okay, I will work on that too.”

What people do with their arms and hands relates to the organization of their whole system. Trouble in the arms, hands, and shoulder girdle often ends up in the neck. Unbalanced use in the shoulder girdle is always part of a scoliotic pattern. By *shoulder girdle* I mean fingertips all the way up into the thorax, and then reflected throughout the body.

Curvature in the spine will change the orientation of the ribs, which will change the shape of the shoulders, for instance. That is one direction, from the center leading out. Also, a very imbalanced use of arms can drive or participate in a scoliotic pattern.

I started expanding my view because I would see how musicians played, how they relate to their instrument with their whole body. That means whatever trouble showed up in the arm or hand was part of the whole-body patterning and use. I had to think about the shoulder girdle as part of the whole patterning of the person. This is actually a reciprocal thing. Curvature in the spine will change the orientation of the ribs, which will change the shape of the shoulders, for instance. That is one direction, from the center leading out. Also, a very imbalanced use of arms can drive or participate in a scoliotic pattern. If you always do one thing in one direction over and over for years, or even decades, that will drive patterns into your spine and ribs. These patterns are multidirectional. Eventually, what started the symptoms or the pattern may emerge, but you really have to think about the whole system anyway, and work with all of it.

In terms of the Ten Series, we could work on hands, arms, and shoulder girdle seamlessly during sessions one, three, five, six, seven, eight, or nine. During post-ten sessions, or advanced Rolfing sessions, we create a series around the needs and wishes of our client. To do this well, we first have to learn and become aware of our own habitual patterns of perception that we have been relying upon, and expand that. That habitual pattern of perception is one of our greatest limiting factors towards being able to accomplish a variety of effective tasks while we are doing Rolfing SI. Then, with our expanded perception, and all the knowledge we have acquired, when we look at, or touch, someone complaining about her shoulder, we see: maybe it is partly about an old injury, or maybe habitual use. Also, her liver could be stuck, perhaps because of hepatitis from years ago. We see how the whole system influences the shoulder girdle, but also how the shoulder girdle is influencing the spine, the viscera, and everything else. That systemic view becomes more profound. Our understanding about how to address those things continues to develop as we continue our study, education, practice, and classes. Thank goodness, that way it becomes more interesting all the time.

I have found that one very effective interruption to my habitual way of thinking is to keep my curiosity engaged. To ask "What is happening here?" with an open mind. Continuing to cultivate curiosity, this will unhook habitual strategies in seeing and touching. So, when I become flummoxed by something I ask "What is this? What is happening here?" I touch the person and I check in with myself. I ask questions, watch them move, and question with my hand until a relationship is revealed.

EF: Absolutely, curiosity is key. And being humble and adaptable around our current beliefs about what is actually happening.

TB: That is right. A further questions is "Why am I doing this in this way?" Some of these perceptual and body use patterns in us are very deep and are profoundly unconscious, constantly influencing our work. I am not talking about our clients. It is true for them, but it is true for us. Oftentimes we do not become aware of these deeply held patterns as practitioners until we are in trouble. Certainly, that has been true for me. In one moment, I am aware of a subtle tension in the deep cervical fascia of my neck, and in the deep visceral compartment affecting my brachial plexus. Suddenly, it is really obvious – but it is something I have been doing my whole life.

EF: And now we are out in the world with all our own stuff, and our clients come in with all sorts of injuries and overuse issues.

TB: Yes, there are all kinds of ways people injure themselves, and we are familiar with them as Rolfers. There is impact trauma and injuries, and all the various things that could happen; for example, broken bones, torn rotator cuff, strains, and tears in the myofascia. There are injuries that arise as part of constant overuse or improper use. We also have overuse issues that come from how we behave and respond to our worldview or psychobiological aspects. It is not uncommon to see people who talk with their hands or tighten their hands when they begin to think. This leads to chronic overuse because they are consistently using their hands in a tense way. All of these injuries have underlying structural variety. People have differences in the shapes of the bones in their hands, arms, and shoulders. Some people are more inclined towards a carpal-tunnel problem as a result of the shape of the bones in their hands, or they had past injuries that tightened up their hand and predispose them to that.

EF: What do you do?

TB: Now that's the question, isn't it, if someone comes in with particular symptoms, what we are going to do is work with the whole system. But even though we are working in this large system, we have to work very specifically. One of the things I often observe is people will work generally in the myofascia of the hands and the arm, but there are a lot of very specific joint mechanics happening at the elbow and wrist, many muscles and ligaments moving and limiting every single joint in the hand and arm. Especially with people who have chronic hand and arm trouble, we will have to do both the general myofascial work, and move into the ante-brachial fascia and the compartments of the arm, down to the interosseous membrane. Eventually, we will have to work very specifically on the small muscles and ligaments of the hand all the way out to the fingertips, and all around each joint. Those tiny little joints have systemic implications.

One of the first times I really saw this was in a client who had jaw and shoulder trouble. She had the Ten Series and came back for more work. We were working on her jaw and I just started following the tension all the way down in the arm

and into her hand. In her hand I found this little scar. It was nearly invisible, just a small scar across the tendon on the back of her hand. She had never told me that she had been hit by a car. Her hand had hit the windshield and it cut open her skin and some tendons. They stitched it back together, and it had worked fine – it seemed to her. I worked on that very specific area, getting the tendons to move and work, normal opening and closing of her hand, all that. . . and her jaw let go. Maybe she clenched her jaw when her hand hit the windshield? I could track it through the myofascia right into her jaw.

This happened in my early days, so it was an additional thing to think about – looking at these long-term and distant effects of trauma and injury, finding the specific place in the myofascia, then going to the anatomy books to find exactly what I had felt. This changed my understanding. I realized very specific work in the hand could have huge systemic effects through the whole shoulder girdle and to other parts of the body.

EF: You are a master of being patient with a specific place in the body, and able to track from that place the entire body, and stay present with the minute changes happening locally and systematically. This is beautiful to witness.

TB: Thank you for saying that, Ellen. Just to piggyback on what you said, and people have heard me say this: you do not need to do everything on the list in every session. You don't even need to do everything you see or think is important. You only have to do the few things that are the most important to the client. If you do those few things very well, your client will have a more integrative experience than if you try to do everything well. This requires a tolerance of letting go of your own expectations, and sometimes your client's expectations. I actually find it is easier to address the client's expectation because I can explain to them what I am doing, and they can relax and trust me. It is harder to trust myself and the process of Rolfing SI. I do now, after long experience. This is a key thing, learning to trust the Rolfing process and our own selves to accomplish a task. I find that is the harder struggle for Rolfers generally.

EF: As you speak about relationships of the parts to the whole and the whole to the parts, you are touching into notions of identity, worldview/psychobiological, how they relate to our human arms and hands. Could you say a little more?

TB: Well, yes! We start talking about this right away in our Basic Trainings — the way our structure and posture reflect our own attitude and our work. In fact, in some dictionaries, the words posture, attitude, and belief are used as synonyms with each other. As Rolfers, being in a touching profession, our hands and arms are our crucial essential tools, in addition to our ability to converse with people in a somatically intelligent way, words, and body. Think about touching not only as how we touch people when we are working, but as a reciprocal action. We are touching and being touched, and that is what our hands are being receptive to. There are a lot of nerve endings in our hands so that we can feel our world in a very refined way. As Rolfers, we have worked on this refinement to a greater and greater degree. After thirty-five years, my touch continues to become more refined, which I did not expect when I was starting out! I continue to feel things now that I could not feel before or did not understand what I was feeling.

The way Rolfers touch and are touched, and the way we receive information as we are touching, is filtered through our own worldview. There is a whole range of how Rolfers touch: some work hard, some work soft – with all the preferences of where they set themselves on that spectrum. In order to be effective in our work, we need to be able to touch and be touched superficially and deep, firm and light, direct, and indirect – all of it in every combination (see Figure 1).

It is incumbent upon us as Rolfers to develop our skill in all those ranges so that we can work with our clients in the way they need to be touched, and to be careful not to impose our preferences on them. That said, our worldview is always going to be reflected in our touch. The more broad we can be about what kind of touch is acceptable to use and how we receive information, then a wider possibility of range of touch gives us greater and greater ability and refinement to respond appropriately to the needs of the person under our hands.

Tessy Brungardt received her BA in environmental biology in 1976 from New College in Sarasota, Florida. In her studies and career afterwards, she enjoyed exploring the interface of observing the natural world and the science of how things worked. Once she was introduced to Rolfing SI in 1979, she was inspired to take this exploration into the human realm. She became a Certified Rolfer in 1985 and a Certified Advanced Rolfer in 1988. Tessy completed her Rolf Movement certification in 1994. She also became certified to teach for the Rolf Institute® (now the Dr. Ida Rolf Institute®) in 1994 and became an Advanced Rolfing instructor in 2002.

Ellen Freed received her BAAS in philosophy and literature in 1978 and led a varied life that led her to Rolfing SI, becoming a Certified Rolfer in 1990. She was certified in Rolf Movement in 1996, and then became a Certified Advanced Rolfer in 1997. Shortly thereafter, Ellen began assisting Tessy in various regional trainings on the East Coast of the US, and became a Rolfing instructor in 2004. Ellen has both assisted and taught with Tessy on numerous occasions.

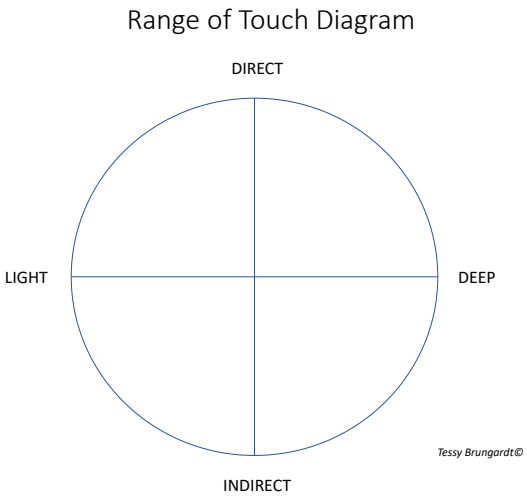

Figure 1: Range of touch. This chart shows a circle with two axes bisecting each other creating four quadrants. The horizontal axis shows a range of touch from light or superficial to deep or profound. The vertical axis shows direct touch into indirect touch. Looking to the quadrants, Rolfers are commonly familiar with the indirect and light quadrant, as well as the direct and firm quadrant. But there are other quadrants available to us. We can touch in an indirect and firm way as well as a direct and light way. Any single client might need something in any quadrant of touch, or perhaps that client responds well to a certain quadrant of touch.

The Complexity and Reasoning of Keeping 3D Hands and Fingers

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

Valerie Berg

ABSTRACT *This article comes from the author's experience of a trauma to her hands and arm. This inspired her to study in depth the shoulder girdle to the tips of the fingers. She discusses the fingers and how three-dimensional (3D), multiplanar movement is necessary for a fully functioning hand and arm.*

What if you lost your hand? I did!

This morning, before you even got out of bed, most likely your fingers grasped the edge of the sheet to move it or you scratched your face, your arm. Maybe you reached over and hugged someone next to you. You might have grasped your phone to see the time or used your thumbs to send a quick text or scroll the news thinking something might be different this morning!

Every morning the ritual of our fingers and hands requires precision touch and power grasping. We need flexion, extension, abduction, adduction, and rotation in all the joints of the fingers; we need to grasp with the hands to hold the toothbrush, to turn on the light, and to wipe ourselves! Our wrists need ulnar freedom and our elbows need radial rotation, pronation, and supination. Before we leave the house, something might need to be peeled, opened, cleaned up, or picked up. The strength we find in our fingers and hands require all planes of motion to be functioning in the intrinsic myofascial structures as well as the extrinsic reaching up into the arms and shoulders.

The exquisite movement of the radial joint at the elbow and the freedom of the ulnar joint at the wrist allows a huge number of choices for movement that converge to move the shoulder up and back down. The interlocking dependency of all these movements allows us to interact with the world with some kind of agency and confidence that we have control over material life. The orchestra of the movements in the hands, arms, and shoulder girdle is a miracle in action.

Learning from Injury

I didn't know I would spend a year intensely studying the anatomy, the functioning, the evolution, and the embryology of the relationships of my hands to my scapulae and humeri. I had become infatuated with my hands and fingers having been a swimmer, dancer, and a Rolfer™; my arms have always been my tools but mostly taken for granted. They responded to my demands.

In one moment, my hands and my arms became the focus of my life for two years. I was knocked down by my own rolling car, it crushed my left humerus and broke the fingers in my right hand. Not a good outcome for a Rolfer, or for any human being, our hands need to manipulate our world almost every waking second.

Arms were never given much attention in my training thirty-three years ago. For a long time, I didn't teach them well since I didn't really study and figure them out. It felt easy to leave them out except for the occasional shoulder injury, rotator cuff story, or arthritis in the hands. There was always more to teach in the Ten Series than arms and hands, and yet there were my arms and hands doing the work. I don't remember anyone ever teaching me the exquisite anatomy of the fingers. What would we be without our hands and our complex fingers? What is so quintessential for humans as our hands? (See Figure 1).

> The answer must at some level, be that the hand is a visible connection between us; it is a signature for who we are and what we can attain. Our ability to grasp, to build and to make thoughts real lies inside this complex of bones nerves and vessels. (Shubin 2008, 29)

I Cannot Find my Hand

That accident left my humerus crushed into what felt like a liquid mass under a car that I sensed as a human-eating monster ready to kill me. I went to scratch my face at one point a week later and I had lost proprioception of where my hand had gone in space. I thought my hand knew what to do by itself and find my face. My arm, my humerus, was no longer connected to itself or any proprioception. I couldn't locate my hand in space! I had to rely on my eyes and my other hand to guide it to my face.

This led me to an incredible fascination, an obsessive one actually, to understand how I move through my 'wings' from my shoulder to my fingers. The hand is the chief organ of the fifth sense: touch. Together with the eye, it is our main way of contacting the environment around us. Without it, a sense of vulnerability, dependence, and helplessness can prevail. Hands are a source of communication and expression of our ideas; they are a part of our way of being.

Figure 1: Expressing who we are through our hands. Photo credit: Alex Woods on Unsplash.

The Orthopedic Surgeon Said "Gravity will heal you!"

My fellow Rolfers, this is what I heard the night of the accident in the emergency room, the on-call orthopedic surgeon said these words to me: "I know a few doctors have said they will put pins and plates in your arm, but if you are willing to try something I would like you to heal with gravity." Yes! He really said that. All I had to do was sit up with my upper body on a slight angle for two to three months and have nothing under my elbow ever. I would have a sling and a tight sock around the upper arm but no cast and nothing else. "Just let it hang in gravity and the body will heal itself," said this surgeon. Music to my ears. He continued saying, "The gold standard in the literature is to treat without surgery. But there is the impatience of American culture and impatience of American people. Typically, the thinking of American and first-world people is that, fix me and I can get back to what I'm doing faster. I want that even if it's not the best." Our profession has this pressure as well, to fix quickly and to satisfy the paying client who needs to be back in life fast rather than experience a holistic full-body integration of all systems in collaboration.

The orchestra of the movements in the hands, arms, and shoulder girdle is a miracle in action.

As you can see, I got to experience hand and arm healing from the inside. The series of x-rays that tracked my healing progress is shown in Figure 2. This process changed my life and got me thinking deeply about how we heal and the possibilities inherent in all our systems. My bone trauma physician said that it was not very glamorous to treat a broken arm with nothing, but he made it clear to me that he felt it best to rest the arm in gravity. He said "The best recovery is when I can assist in natural healing and take advantage of how the body and bone heals." It was easy to agree to that logic. Let gravity be my therapist.

The bone would find its way home and come back together, the bone trauma specialist described that the injury site was

Figure 2: X-ray of bones over two months from break to healing.

creating fibrous material out of a hematoma, that would calcify and rejoin broken ends of the bone to create a bond: solid singular bone again. If I moved too much or didn't stay in gravity, the fibrous material may not calcify and the bone would then think it was a joint, surgery would then be necessary. Whether the bone would find its way home or otherwise the bone would think it was a joint, gravity was the requirement for full recovery.

The time that took was quite a journey. The first x-ray on the left of Figure 2 is the day of the accident, the next one is ten days later, and the middle x-ray is seventeen days after accident. The second from the right is a month after the accident, and the image on the far right is two months post crushing. The bone had gone home in ten days in spite of enormous edema, pain, and bone distortion. Gravity brought it back into alignment and 'home'. It was somewhere in those ten days that I had tried to move and couldn't find my hand in space. The fibrous formation was clearly still being created.

This experience left me swimming in questions: What did I need in order to find my hand besides my eyes and my other hand? What was the role of fascial relationships in the connection between my arm to my hand? What was lost with the broken bone? What moves my hand besides intention? When I couldn't find my hand in space, what was missing in that moment?

My bone trauma specialist physician described the lost hand experience as probably a neurological component where the signal wasn't feeding normal movement. He described that my humerus healing had many other processes intertwined, more than we appreciate. If the bone is not stable, then some of the connecting communications that rely on the bone's stability struggle to complete their function. That struck me as part of our Rolfing Structural Integration (SI) paradigm, isn't this what we call 'integration'? The bone was healing but there was so much more to a functional outcome than the fix of the bone.

> The shoulder contributes to movements that not only transport but also orient the hand. (Wilson 1998, 73)

Reading this quote got my full attention. My shoulder had no connectivity below the mid-humeral break. The proximal and distal pieces of my humerus, as you can see in the first x-ray of Figure 2, had no connection. The fascial elements were inflamed as well as the radial nerve. The movement of my shoulder to bring my hand to my face couldn't find the path. I did not have a brain injury. So, what happens to our hand movements when our shoulders are restricted, inflamed, and immobilized?

My hand movements were affected by this accident, especially since all the phalangeal bones of my other hand (right hand) were either fractured and broken. The details were unclear regarding what really happened to them. From this injury I learned the terms proximal interphalangeal (PIP) joints and distal interphalangeal (DIP) joints because mine were mangled.

I have always known that in the hand we need to balance the flexors and extensors. My hands had always just worked without me really thinking about them. Now I could not grasp anything with the broken hand, and I couldn't find the other hand that belonged with the broken humerus. Both hands had extension and flexion that was extremely limited. Everything had to be relearned. It felt like I had never been consciously aware of what it takes to pick up something small, turn a doorknob, turn a key, scratch myself, or hold something tight. These tasks are possible because of the PIPs and DIPs (see Figure 3); notice where they are and the extra wrappings involved, which have various directions in the myofascia under each joint while the flexor tendons are intact.

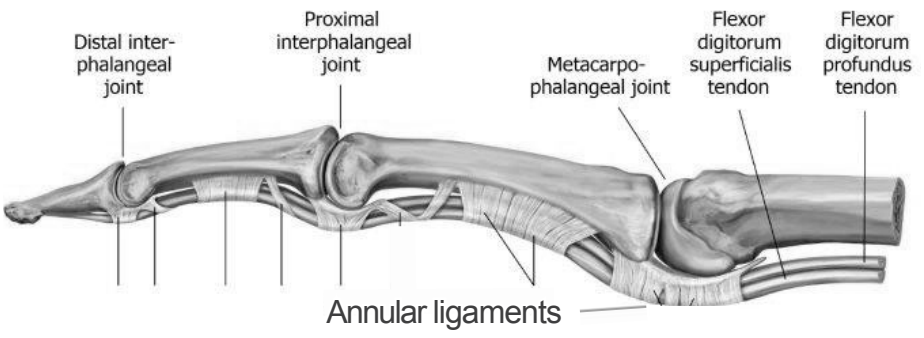

Figure 3: Finger wrappings.

Evolution and Embryology of Our Hands

We must consider that hands are a product of human evolution and born from a refined embryological development. We are all familiar with the homunculus map in the sensory and motor cortex

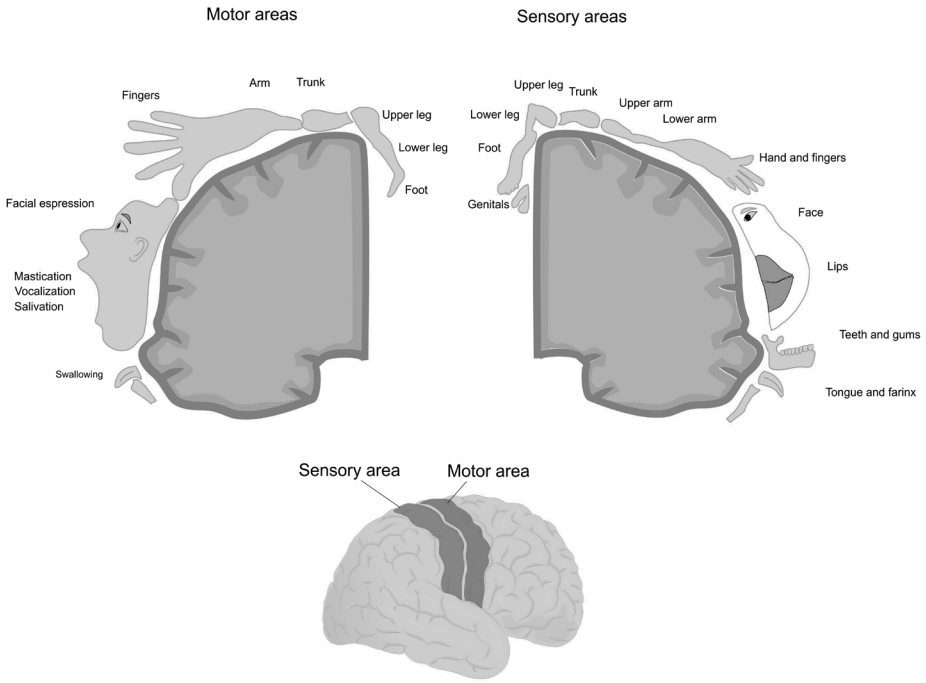

Figure 4: Sensory and motor homunculus.

in which the human hand and mouth have huge representation in the human brain (see Figure 4). About a quarter of the motor cortex in the human brain, the part of the brain which controls all movement in the body, is devoted to the muscles of the hands. Both the sensory and motor cortex are products of the human's inherited ancestral abilities and the individual's lifetime of experiences.

The hands and fingers of the human animal have evolved within the context of toolmaking, language development, and brain development (Washburn 1960). The modern human brain is a product of the human hand's sophisticated tool use, this is a visual/manual skill that co-evolved brain development, which also included language acquisition. The hand is a mirror of the brain. As the human hand has been making tools and using tools, the human brain has developed new spatial and proprioceptive pathways.

> The skill of the hand lies in the brain and it is here that dexterity or adroitness (or clumsiness) originate. (Wilson 1998, 320)

Our hands manipulate spatial arrangements, assess textural contact, and determine pressure gradients necessary for the hand task. Our human ancestors developed and used tool technologies with their hands, and the more they advanced their hand dexterity, the more the brain enlarged over the millennia to the large neural territory dedicated to the hand and fingers that we have today.

Let us consider the hands and fingers in three dimensions (3D): anterior/posterior, pinky side / thumb side, and base (proximal) and tip (distal). The genetic blueprint for the pinky is different than for the thumb. Each finger has its own destiny and meaning to the body for its unique functional contribution. In utero, the bone has the information that makes a scapula different from a phalange. My left humeral bone that I healed with gravity and time engaged the deep memory from my embryological genetic blueprint. My humerus had to remember a return to being a long bone. It was between the third and eighth week of gestation that my genetic material directed the bone stem cells to take shape, build structure, and begin to function specifically as a left humerus. Healing brought a cellular return to this creation and restoration of my arm and hand.

My left humeral bone that I healed with gravity and time engaged the deep memory from my embryological genetic blueprint.

We can take our interest in the evolution of hands and arms even further back. We can trace the formation of hands and fingers back to fish. In *Your Inner Fish* (2008), paleontologist and anatomy professor Neil Shubin traces evolutionary ancestry of the earliest structures of limbs to a fish called the Tiktaalik. Tiktaalik fish had a shoulder, elbow, and wrist composed of the equivalent bones to an upper arm, forearm, and wrist in a human. The fish was specialized and capable for doing a push up! The movement of opening and closing our hands is using joints and bones that first appeared in the fins of fish like Tiktaalik. Think about how these early creatures with bones like our arms, wrists, and hands also had scales and fin webbing.

The complexity of our hands and arms is very old, yet the modern human animal has so much refinement of movement. We can rotate our thumb relative to our elbow, essential for our writing, eating, throwing, and Rolfing SI. The ulna was not always separate from the hand. The key movements of the ulna and radius are crucial to our mobility and finesse of finger and hand articulation. The archeological record found there was a change of the radial side of the hand and its articulations with the wrist, allowing us a grasping movement needed by our human ancestors. Ulnar opposition, the movement of human thumb to lateral fingers, is the most functional advancement our hands have made and is not found in fossil remains of other animals yet. All of these evolutionary changes allowed brachiation, the hanging from trees, from bars, for reaching, for grasping, and bringing something towards ourselves for our use.

Early anthropoids were human-like primates that lived in the trees and had not made the shoulder modifications that permit suspended locomotion in the trees, not yet full brachiation. Development of brachiation required more of the brain's kinesthetic monitoring and spatial computing power. The key was freeing the attachment of the far end of the ulna that meets the wrist on the small-finger side, this was critical to brachiation and increasing the twisting of the arm.

The ulnar and radial freedom at both proximal and distal ends is crucial to the

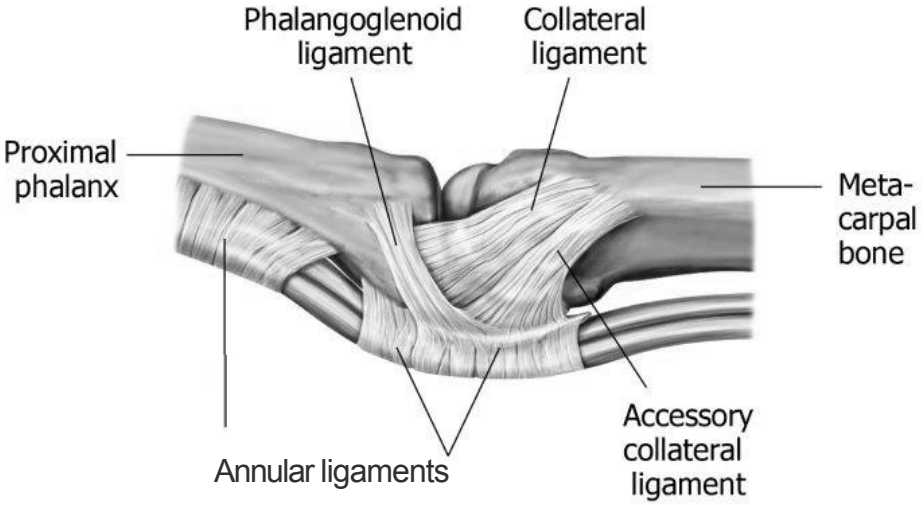

Figure 5: Multi-directional ligaments.

multi-planar use of the fingers and hands. Try typing your keyboard as if the ulna and radius do not rotate. I think it locks us up all the way to the temporal bones! Every motion of fine motor control in the hand requires a complex interplay among many parts. The evolutionary adaptation of being able to rotate the radius along a pivot point at the elbow was one that allowed us to use our hands dynamically, rotating them in relation to the elbow. Because of the ulnar deviation, our ring and little-finger metacarpals are more mobile than the others and give us the *power hold*. A very important rehabilitation of the hand and fingers is to strengthen the lateral arch of the hand, which is where the power comes from in a grasp.

The Hands and Arms in Three Dimensions

When we are looking at our client's hands and arms, and when we are feeling into our own for work and self-care, it is necessary to consider these structures as 3D multiplanar fingers, palm, and arm (see Figure 5). Notice the various directions of the ligaments: oblique, sagittal, and transverse. All these ligaments have relationships with continuous fascial connects of the whole. They all have the potential for limiting or releasing multiplanar movement in each joint of the finger.

For example, let's go step by step through the movements necessary to unscrew the lid of a jar:

1) Flexion of the PIPs,

2) Abduction and adduction of the phalanges,

3) Rotation of these joints,

4) Contraction of the lateral arch of the hand to use the strength needed for friction,

5) More precision grip with the fingers gingerly turning the lid to remove it,

6) Being able to use the index finger and thumb like tweezers while the rest of the digits rotate all the way up to the palm, wrist, elbow, and shoulder.

Fingers Possess Their Own Locomotor Independence

Each finger has its own range of motion and planes of movement. Every finger needs to perceive its own 3D structure in order to *handle* objects. For example, hand closure requires adduction of the fingers. The long flexors of the fingers are also adductors in that they not only bend the digit but also produce adduction when the tendons exert the force from its upstream muscle contraction. External rotation of the digits opens the hand. Proximal-initiated contraction moves the finger bones bringing the hand inward and distal-initiated contraction takes them out. The condyloid joint between the proximal phalanges and the metacarpals allows rotation of the fingers, movement from side to side of the fingers, and at right angles to the plane of flexion and extension. Having broken the proximal joints of my right hand, I learned the importance of these structures intimately when I had trouble grasping and closing my hand.

Working with clients' hand restrictions (this will of course include their shoulder) begins with finger work. Note which directions they have trouble moving the fingers and hands. In looking at the anatomy of the fingers, one can see the multiple directions of tension transmission within the fascia. Each joint has flexion and extension ability as well as adduction, abduction, and rotation. The fingers operate as if antennae reaching, grasping, endlessly sensing texture, temperature, contact, and placement. Our fingertips possess the highest concentration of touch receptors and thermoreceptors among all areas of the human skin; making them extremely sensitive to temperature, pressure, vibration, texture, and moisture.

Clinical Application with Hand Intrinsic / Extrinsic Structures

Fingers do not contain muscles. The muscles that move the finger joints are in the palm and forearm. The long tendons that deliver motion from the forearm muscles are the ones we see moving under the skin at the medial wrist and on the back of the hand. Muscles that govern the fingers can be subdivided into extrinsic and intrinsic muscles. The extrinsic muscles are the long flexors and extensors. They are called extrinsic because the muscle belly is located on the forearm. The intrinsic muscle groups are the thenar and hypothenar muscles (thenar referring to the thumb, hypothenar to the small finger), the dorsal and palmar interossei muscles (between the metacarpal bones), and the lumbrical muscles (see Figures 6 and 7). For these figures, note first the various directions

One could find a pathway to work from the little finger up to the back of the deltoid and towards the triceps, while the thumb can be traced to the sternum.

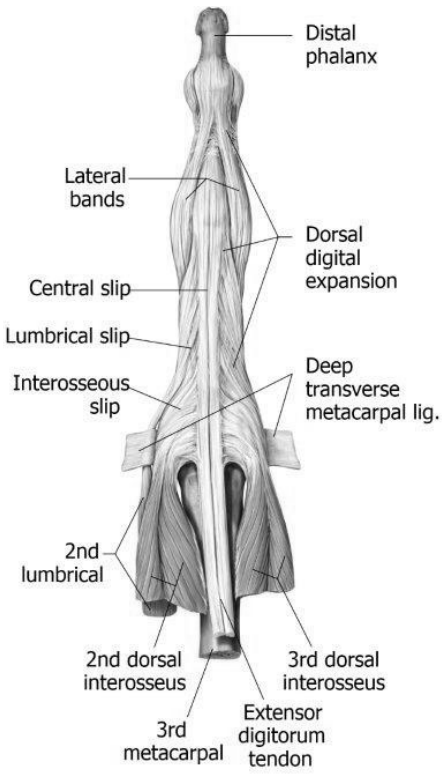

Figure 6: Lateral and sagittal bands and lumbrical muscle.

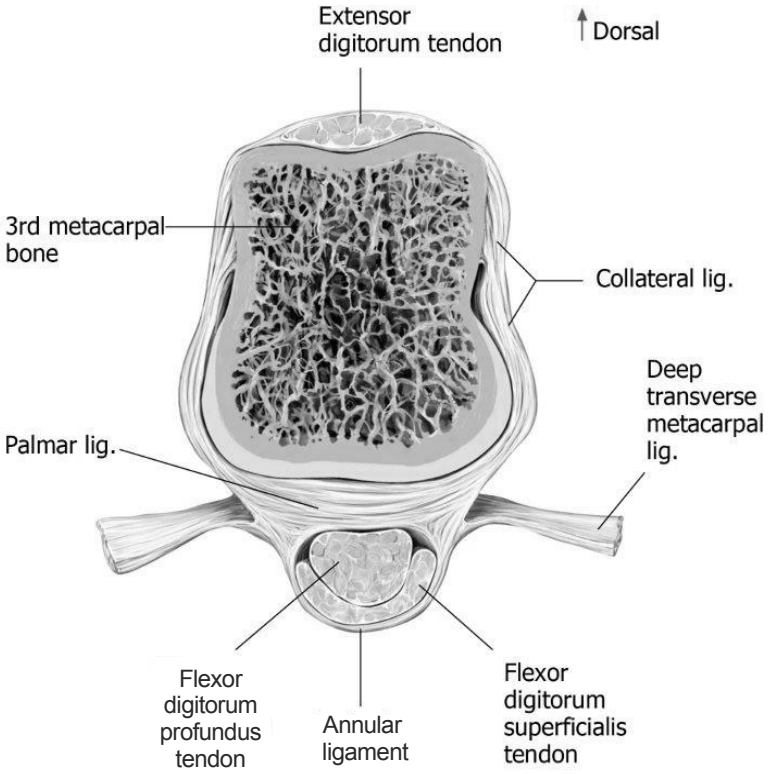

Figure 7: Transverse ligaments.

of the myofascial elements. Rotations in the fingers from injuries, chronic use in rotated patterns (as found in the work of Rolfing SI), and arthritic wear are patterns that can be helped by working all these fascial elements at the interphalangeal joints. The flexion and extension problems are affected by lumbrical muscles that influence both flexion and extension.

Second, note the transverse metacarpal ligament – I call this the 'webbing' of the hand. There is a slip for the flexor tendon going one way and then the webbing of the transverse ligament going across. Opening and releasing the fascia around both of these, and then working indirectly on the volar ligaments to unwind the phalangeal joints, can change the entire way movement can manifest from the shoulders into the hands. Plus, there is an added benefit of usually less pain in the hands and joints. Being able to pronate and supinate the hand relies not only on the wrist but the palmar fascia and these interossei and lumbrical muscles having free range of motion.

The Thumb

The thumb is one of the most common fingers to have complaints of irritation, wearing down, arthritis, scrolling pain from texting, typing, and overuse of general movements using opposition. When strategizing for the thumb, it is really useful to look at the intrinsic versus the extrinsic. There are eight muscles attached to the thumb, four of which originate in the forearm. The remaining ones are in the hand (intrinsic) and again have multiple directions of fascial tissue (see Figure 8).

Here is my best advice to my Rolfing SI colleagues regarding thumbs:

> Note the importance of the third digit for thumb attachments and the carpal attachments.

Also notice how similar the hyothenar attachments are to the carpals. In working with the thumb, allow your contact to emphasize the myofascia around the carpals and the third digit (third finger), this will have helpful results rather than working directly on the thumb joints. Just as when opening up the feet we focus on the mobility of the tarsals and the sole of the foot, the intrinsics of the hand should also be mobilized to relieve the extrinsics in the arm that do more than their share.

A big part of teaching new Rolfers is helping them find how to use their hands where they power through the right layer of their own arm and hand fascia while working with their client's tissue. Overusing the extrinsics in the arm has the potential of locking up our spine due to their fascial relationships. Differentiating fingers from the palm liberates fascial sequences all the way into the neck. Right in this moment as you read this, invite your awareness to feel that your fingers go all the way into your palms, to the carpals; this practice can give a whole new way of perceiving the possible movements of your hands. Play with how that influences your shoulder girdle, spine, and beyond.

Robert Schleip created a fascinating experiment that was presented at the last Fascia Research Congress in Berlin. He created various blocks of material that replicated fascial densities. People were invited in to see if they could feel and differentiate the density of each block with their fingers. Being able to touch fascia without palmar tension, without forearm tension or shoulder tension, is what we do. Finding the intrinsics open and mobile around the carpals and digits allows this function.

Lumbricals

These are very interesting muscles, the four lumbricals in each hand that are

crucial to finger movement. They link extensor tendons with flexor tendons. The lumbricals arise from the deep flexor and insert on the dorsal extensor hood mechanism, and are special because they have no bony origin. From the origin on a flexor tendon, its fibers dive dorsally and laterally inserting into the extensor hood. So, they both flex and extend, and extend at the interphalangeal joints. Lumbricals on the flexor side flex the joints between metacarpals and phalanges. Then the action extends joints within phalanges as we push with tips of fingers. These are clearly important for our various finger movements in the tissue. They also allow for these new 'texting' finger movements!

You can test for extension and flexion restrictions in the hands as follows:

1. Put the metaphalangeal joint (MP) in passive extension
2. Passively flex the PIP (proximal interphalangeal joint)
3. Passively flex the DIP (distal interphalangeal joint)
4. If they are both tight, then it is interosseous muscle of the palm tightness.
5. Then put MP in passive flexion and passively flex PIP and DIP
6. If tight then it's the extrinsic extensor tightness to work on.

Work with coordination of both the extensors and flexors. Many people are locked in one or the other as in any other part of our body.

Working in the Palm

Watch someone crawl. Look at his/her hands in the same way we look at feet in walking and a knee bend. Lengthen the arches! Balance the arches! Same in the hand (see Figure 9). As I type this on my computer, I see my hands in an ulnar deviation and my palms in a chronic flexion with the tension in both transverse arches. And of course, we all know how that travels up the arm all the way to our ears!

To be able to conform the hand to a small spherical object or to pick up small pieces of something – this precision grasp we use all day long – the arches of the hand need to be flexible and mobile. Differentiation in the hand arches is essential for the power grasp of exerting the extra strength of the lateral part of the hand onto an object to keep it from falling out of our grasp. The carpals have to have an ability to rotate and respond to the wrist movements for grasping, extension, and flexion. Falling on our hands can freeze up one or two carpals and change the movement of the entire limb.

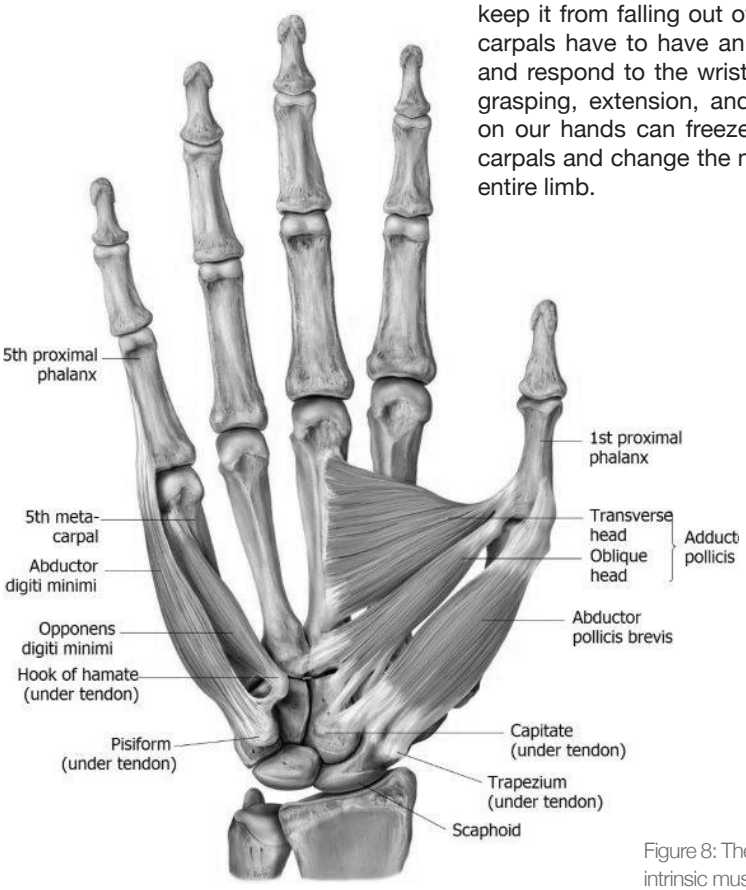

Figure 8: Thenar and hypothenar intrinsic muscles.

So how should we see hands when we are doing a body reading of our standing client?

- How are hands hanging? Curled? Straight?
- In pronation of the hand, how high up does the movement happen?
- Can the hand supinate and pronate?
- Making a fist, can all the fingers fold into the palm?
- Can the palm allow a precision grip?
- How does the hand contact the floor or the wall in an open position? Can the fingers fan out?

These are the essential Rolfing SI questions for seeing your client's hands. Think of the hand as a specialized end of a crane-like structure, the shoulder girdle, suspended from the neck and chest: can the hand do what is asked of it in all its intricate potential?

When working the tissue, differentiating the fingers in the palmar fascia can change the entire functioning of the arms. Working the webbing of each finger, understanding the superficial to deep layers into the palmar fascia to the capitate at the third metacarpal where thumb and palmar fascia meet are key to this differentiation.

Myofascial Sequencing

In watching our clients move their arms in the body readings and their daily movement struggles, one could find a pathway to work from the little finger up to the back of the deltoid and towards the triceps, while the thumb can be traced to the sternum. Look into Luigi Stecco's myofascial sequencing model (2004), he goes into detail on the spiraling nature of the fascial connections from the fingers to the shoulder girdle and spine. Depending on the directional pull and twisting of the fascial sheaths, one can make strategic decisions on where and how to work in the limb or hand. For example, he says that in all vertebrates the moving-backwards sequence, which he calls retro motion, is always located on the ulnar side of the upper limb (Stecco 2004). Each spiraling myofascial sequence begins and ends in one of the fingers. Feeling and sensing through the entire sequence when working on the fingers can deepen the effect of our work beyond the finger itself.

You see, we have small beautiful movements with each segment of the fingers! They are not just sticks at the end of my arms and

hands. They are the constant show of the impulses coming from higher up through the multidirectional fascial planes and sequencing to manifest our thoughts and ideas into the physical world. To lose their finesse changes our stability and security in managing our relationships in all realms. Our verticality depends on our limbs. These sequences meet and intersect with the trunk as a way of mediating our movement and our perception of motion. Again, the image of our fingers as antennae comes to me. This multidirectional fascia is structured to perceive motion in very specific ways.

The Psychobiological

Gestures can reveal our emotions. They can communicate what words cannot. Pointing can be a gesture of intentionality. Babies begin using this gesture at around fourteen months and this is one human quality that separates us from the chimpanzee, who does not spontaneously point. The clenching or opening of our hands can communicate a tension between two people or an opening to relationship, respectively. Touching of hands is a profoundly important human experience (see Figure 10).

Our hands are our primary interface with the environment, which is why we need to wash them so much. With hands, we decide on the spatial arrangement between ourselves and objects, and people, all day long. In losing the use of my hands, I became very dependent on others to do the most mundane tasks. I was immediately struck by the immobile wall between my thoughts and my actions. My desire to open something, hold something, was stunted. I could only use my eyes and my thoughts to imagine the movement, but no movement was possible.

Spend five minutes sitting and looking around a room at what movements you want to make with your hands but can't. My world became almost entirely internal with no external physical engagement. Walking was possible but my balance became tenuous without the reliability of my arms and hands supporting me. The frailty we see in people who have been injured comes from this loss of stable engagement with the material world. Helplessness shrinks us. Each finger has a direction for balance. As you hold this awareness, watch how peoples' fingers move when they are trying to balance themselves. Being able to fan the fingers has relationships to the humeral joint's mobility to match the fanning.

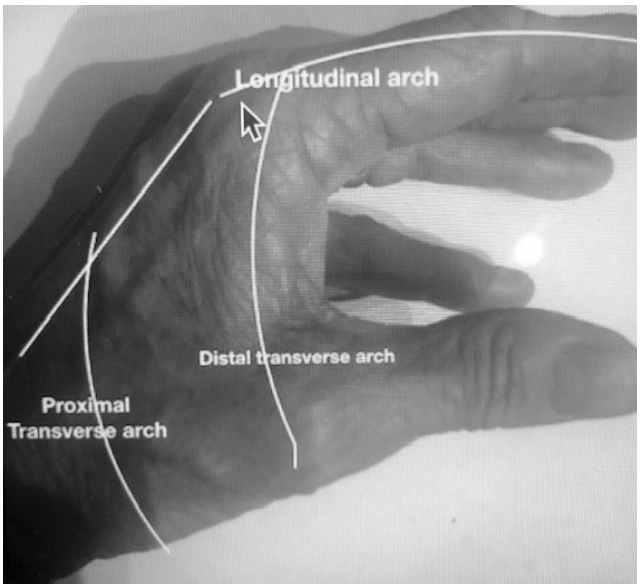

Figure 9: Arches of the hand.

Our ability to reach, push, and pull is a decision we make about how we enter the environment. Reaching has an attitude of curiosity, extension into the *other* and perhaps to be connected to something outside of yourself. Push requires going from inside to outside with a strengthening and stabilizing of the whole structure. Pulling requires a grasp and an acquisition of something. Our body changes its lines of tension in each of these gestures. Social interaction can be uncomfortable, and the shoulder girdle directing our hands will show that discomfort as we might immobilize the impulse to reach, push, or pull at a person.

Our arms send messages to our brains as a proprioceptive cue. A social psychology experiment found that participants who crossed their arms to attempt to solve complex word jumbles were more likely to persevere and eventually succeed (Friendman and Elliot 2008)! At the Dr. Ida Rolf Institute®, touching and how we teach touch in our classes now includes haptic touch. Can we allow the sensation of being touched to come into our hand? Typing now, I can either choose to feel the forearm tension up to my neck, or let my fingers sense the cold hard keyboard coming into my fingers and notice the change in tension in my upper body when I do this. A baby goes from eye to hand to mouth over and over all day. Now we know that the way we use our hands shapes the brain. Tool making was a long evolutionary act involving the hands, the eyes, and the brain in a three-way coordination.

This intimate relationship of the brain to the hands and language makes me ponder what is happening to our brains when I see someone driving while texting. So, holding the phone looking at it, moving the fingers rapidly (new evolutionary movements for our hands), and looking back up to drive. The nature of language is changing to coming from hand movements rather than our face and larynx, from our hands to a screen we see what people want to say to us. Written language is changing from hand movements of writing to typing and texting. What effect does this have on brain formation, expression in peripheral and central systems? What is the sensory information coming from our texting to our brain?

There was "a breakthrough in tool-making followed by an increase in the size and complexity of the cerebral hemispheres which in turn followed by further advances in tool making" (Napier 1993, 104).The cognitive power of the brain increased with new hand movements. Today hands have taken on completely new tasks, leaving some behind. We are clearly taking an evolutionary step in relation to our hands, brain, and eye coordination. Our relationships change if we are talking with typed words looking at a screen rather than a person we touch or don't touch. The social nervous system doesn't have to monitor facial expression, eye contact, or sense of touch. "For humans, the hand has a special role and status in the organization of movement and in the evolution of human cognition" (Wilson 1998, 291).

As Rolfers working with transformation and embodiment, we remind our client's hands and eyes that there are many options of movements and directions that open

expression and fascial sequences that change our internal landscape. As a bonus, we will change structural discomfort. The hands have huge range of motion and planes of motion, if you think about it, these have to occur for everything you do in the upper body is often in the fingers and hands. The shoulder girdle gives our hands the ability to manipulate our world and get what we need to reach and hold onto. Without the arm or the shoulder girdle freedom, the hand is restricted and vice versa. It is similar but not the same as the hip and leg.

The leg is a closed chain, connected to the ground. The hip joint is not like the humeral joint. It is truly a wing we have. It is what we love to watch in a conductor or a cello player or any musician who has to fully occupy his/her arms and hands to create the sounds that come from delicate and precise movements. We, as Rolfers, need to have the same delicacy and choices to reach different layers of fascia, different nervous systems, and to keep our own 'wings' healthy throughout our long lives.

Spread Your Wings All the Way to the Hands and Fingers

You can access your own precise movements of hands and fingertips. I encourage you to understand where and how to work on your own hands, this will enhance how you work with clients' hands. As Rolfers working with transformation and embodiment, we remind our client's hands and eyes that there are many options of movements and directions that open expression and fascial sequences that change internal landscape; as a bonus they will change structural discomfort.

Hopefully this discussion leaves you with a sense of the huge range of motion and planes of motion of the fingers and hands. Ease of hand and finger movement has to occur for everything you do in the upper body, which I learned so directly by injuring my left arm and right hand in the same event. As Rolfers we first think about how the shoulder girdle gives our hands the ability to manipulate our world and get what we need to reach and hold onto. Also, we should include that without the arm or the shoulder-girdle freedom, the hand is restricted.

The reclaiming of my own hands took very intentional work in various ways of touching and strengthening the fingers, I worked with the various grasps and holding. Sensing the relationship of the humeral joint and scapula to the elbow and into the hand has made my work, my touch, and the healing of the injuries more meaningful and complete. The bone had healed after a very short time but the fascial relationships and the coordination of movements had to be worked for over a year. The bone coming home would not have been enough to restore full function; receiving Rolfing work gave me the fascial connectivity needed. The effect of our work post-injury and in reconnecting function through all systems cannot be underestimated.

Valerie Berg has been a Certified Rolfer since 1988, a Certified Advanced Rolfer since 2000, and a member of the Dr. Ida Rolf Institute faculty since 2003. She is also a Rolf Movement practitioner and has been influenced by her history as a modern dancer, by Hubert Godard, and by yoga. She worked in Guatemala for five years doing Rolfing sessions during that country's civil war and, thus, pursued Peter Levine's Somatic Experiencing® trauma training afterward.

She has been practicing in New Mexico for thirty-two years and alternates that with working in San Diego, California. Tango, kayaking, sculling, and yoga keep her moving and interested in the vitality of our bodies continuing through the years. The joy of movement for the human body is what brought her to be a Rolfer and now continues to be what can be brought to anyone of any age through Rolfing SI.

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Figure 10: Emotional context of our hands. Photo credit Liv Bruce on Unsplash.

Bringing Hands and Arms Back Into the 'Recipe'

An Interview with Jan Sultan

By Lina Amy Hack, Certified Advanced Rolfer™ and Jan Sultan, Advanced Rolfing® Instructor

Lina Amy Hack

Jan Sultan

ABSTRACT *A conversation about hands and arms with Jan Sultan. The discussion explores the contrast between how hands and arms were underemphasized by Dr. Rolf and the modern inclusion of that material in the 'Recipe'.*

Lina Hack: Let's dive in, do you remember any moments with Dr. Rolf where she discussed the hands and arms of a client or gave a lecture on that topic?

Jan Sultan: I was reviewing my original, handwritten class notes. I have a three-ring notebook with topic dividers: one divider for each session in the Series; another divider for anatomy-specific stuff that she would talk about; and a third section of the notebook was what I called *wisdom*. I would go to *wisdom* when Rolf would go off topic. This was when she'd just discourse about things that weren't related to a session, or to the body directly, but more contextual. In all of this material, there is nothing in there directly elaborative about the hands and arms.

When we got to sessions eight and nine of the Recipe, the upper and lower choice, she did have observations to make about the shoulder girdle and the particular ways to position the arms to get the connections, of the elbows straight out, elbows straight in, in a sense to reset the geometry of the limb. But she didn't have much material about the anatomy / structure relationships of the arms and hands. It's just not in there. In conversation years later with Peter

Rolf had this particular thing about the arms that she did say: in a disorganized body, people tend to use their arms as though they were part of the neck; in a well-organized body, they use the arms as though they're part of the thorax and the trunk. Also, when the elbows are correctly organized, people engage their pectoralis and latissimus to lift or to do activities, but when they're not well organized, they lift their shoulders to get strength and it impedes the mobility of the neck.

Melchior and Emmett Hutchins, we were collectively amazed that how weak the Recipe was on the arms. I wasn't the only one to notice this.

LH: Do you think that there's been a change in how clients present themselves? Maybe people are working with their hands more now?

JS: Well, yes, there's a huge difference. When I think back to when I trained, in 1969 and 1970, we didn't have computers. We didn't have internet. Telephones had dials, people's homes and jobs were closer together, so much less sitting in cars and commuting – we actually walked a lot. People now do a lot more specific work at keyboards, and don't even write much anymore. The process of making things has now been supplanted by what I call the artificial intelligence revolution. So, first off, people don't use their bodies the same way they used to.

These days the people who use their bodies a lot are either athletes or blue-collar industrial workers who are still in manufacturing, but that whole group of workers who really did assembly and innovation, they've disappeared. You'd probably find more of them if you lived rurally. But if you live urban, nobody builds anything. In the Great Depression of the early 1930s, about 80% of the population lived rurally, and only 20% urban. So, I think the people literally aren't in themselves the ways that they used to be.

LH: That makes sense. The technology and lifestyle have shifted our body usage and body awareness.

JS: Yeah. I think, with that whole-body dexterity, a certain quality of intelligence has left the culture, or at least the North American and European life patterns.

LH: Would you say that Rolf's early Recipe didn't have much emphasis on the arms potentially because people were needing more spinal alignment, or just alignment in general? How were the clients presenting in class? Is it maybe they were just so disorganized in their axial standing structure, the arms were the least of her concerns?

JS: Rolf had this particular thing about the arms that she did say: in a disorganized body, people tend to use their arms as though they were part of the neck; in a well-organized body, they use the arms as though they're part of the thorax and the trunk. Also, when the elbows are correctly organized, people engage their pectoralis and latissimus to lift or to do activities, but when they're not well organized, they lift their shoulders to get strength and it impedes the mobility of the neck. A lot more could be said about the gym training that has taken the place of 'real work' and how necks disappear into overworked upper girdles.

So, people don't lift as much. If you sit at a computer, you're largely using the top part of your arm, your trapezius into the neck, more than you would use your pectoralis and latissimus. You simply don't. So, we have this fine motor activity that's going into the neck from the arms.

LH: Rolf's book, *Rolfing: Reestablishing the Natural Alignment and Structural Integration of the Human Body for Vitality and Well-Being* (1989) speaks about the yoke that we wear, that the arms are hanging as part of the shoulder girdle around the rib cage. How does the yoke play a role in how the arms feel and execute movement?

JS: The way she described that was that when the yoke sat correctly, you didn't have the arms impeding the neck but rather the yoke bore on the rib cage, and left the head and neck free to be more articulate.

LH: So, what does an arm that has completed the Ten Series looks like? What should a Ten Series produce for the client's arms structurally and functionally?

JS: Well, if you think about, somebody walking with that normal contralateral movement through the thoracolumbar junction, they would have arms that don't impede the gait but rather are following and augmenting that contralateral movement. So, as the thorax moves left, the left arms comes forward and swings. As it comes back the other way, that right side arm swings. So, the arms are following the contralateral movement and contributing to locomotion in a graceful way.

If somebody's shoulder girdle is bound up, you see tilting from side to side when they walk, and they don't use contralateral movement but rather they look like they're lumbering. There's a lot of side movement of the spine, rather than the twist through that keeps the midline. In a less organized body, you have the whole mast of the spine moving side to side with the gait and the arms typically either held close the body or swinging wide – not tracking in coordination with the legs.

LH: How would you say that the 'Line' and gravity are interacting with the hands and arms? There's so much movement to the arms, what is the Line in the arms?

JS: I don't think about it that way, frankly. For me, I'm echoing what I heard Rolf say so long ago, which was that the Line was the logo of relationship between the body and the planet under our feet and the stars above us. She said, if you extend the Line out, it goes to the far stars. And if you extend it down through the feet, it goes through the center of the earth.

So, it stands as a symbol of relatedness rather than as a thing.

So, if the midline is organized, that is to say if the Line is functioning and if the relationship is functioning, then you're going to see that contralateral movement and the arms swinging with the gait, resting easy with the shoulder girdle. But if you're off the Line, let's say the hips are in front of the Line and the person is leading with their pelvis and they have more of a 'banana posture' then the arms are going to be way back, and they'll end up with the elbows behind the spine. Rolf used to say, think of a human being as an upended quadruped. So, in a quadruped, all four locomotor limbs are in front of the spine and their movement propels the axial complex forward. If a person with this banana posture is walking and has arms hanging behind the spine, then you've got a heck of a job because those legs have to pull rather than push. In that case the spine is not free to be a spine. The other of end of that postural spectrum is when someone is tilted forward at the hip and tends to not come up tall. Those arms tend to swing like a gorilla's; they hang out way out in front and often bind up the neck.

LH: Lets apply your internal/external model looking at these types of patterns, how do you see these patterns express specifically for the arms and hands?

JS: Well, the internal/external model was a revolutionary idea in its time. I want to generalize about it for just a second and then I'll answer your question. When I started to see it, I was asking questions about the legs. How come some people have bow legs, and how come other people have X legs, but when we do the Second Hour of the Recipe, we do the same thing to each type of leg? I remember drawing a little cartoon, sitting in Peter Melchior's dining room. I drew these X legs and O legs, and I said, "Why do you do the same Second Hour to these legs that are completely different?" He looked at me and blinked, and he said, "I'll be damned if I know."

So, that question about the legs and the Recipe was the genesis of the internal/external model. Thinking about the Recipe as a generalized formula will help guide us, but if you're going to systematically bring these legs more to a place of support, the bow legs have to move medially at the knee, and the X legs have to come lateral at the knee, so that the femurs can actually be in the load line for walking.

The next order of logic was, if that's true for the legs, I wonder what the arms are doing. What I noticed was that, in let's say a pure external, someone who's got X legs, high arches, a relatively straight spine, and a big, lifted ribcage, then the arms end up organized to the back of the body. In an internal, having more high-amplitude curves of the spine, internally rotated legs, and long flexible feet, those arms tend to live with the front of the body – more pectoral and not so much latissimus, you could think. So, in the pure type – which is an uncompensated internal or external – roughly speaking, externals have the arms to the dorsal and internals have the arms to the ventral. All that means is that you get to look at the relationship of the rib cage and the shoulder girdle, and figure out what you have to do to bring the arms into neutral.

LH: And some are rotated, in some arms you're seeing the front surface of the elbow while the client is standing, and in others you can't see that nook of the elbow. There is so much diversity about how arms hang.

JS: Well, imagine that set of arms that's more organized to the dorsal side. Typically, those arms hang with the elbow angle pretty open. Somebody who's organized ventrally, those arms will have a higher carry angle. I began to look at what I called 'traits', like where do your people come from and what are the characteristic shapes that the people from that area have. That is part of what Rolfing SI tries to affect. That ended up being an awareness of how blood-driven characteristics underlie learned postural patterns, either through occupation or through emotional habits. The more current stuff, the learned patterns, is laid on the inherited trait pattern. Sometimes if you want to change the emotional habit pattern, let's say the character expression, or the occupational pattern, you've got to go dig into the 'ancestral' tissue to get the plasticity for it. So, the internal/external model took me down a long road in this particular way.

LH: That is beautifully said. I have this client whose arms hover at least a foot away from the body, and that's when the person is at ease.

JS: It's a male?

LH: Male. He works in heavy-machine operating, front-end loaders, and has multiple trade tickets. Of course, it's a shoulder-girdle issue, but whatever is happening in the shoulder girdle is happening all the way down to the fingertips.

JS: Yep. At one point I noticed that men who carried their arms like that were sometimes off-duty police, and they had developed a way of swinging the arms that would clear the holsters and radios that they wore on their belts. So, when you described this guy as a heavy-equipment operator, my first question would be, does he wear a tool belt, and has the arm pattern developed to clear the tools that he carries? Just a thought.

LH: Very interesting. When you think about our block model of seeing, have you ever thought about how the arm fits into that model? Is the arm its own block? Or, how many segments would you infer onto arm anatomy?

JS: I have to confess that I am not usually seeing with the block model. I got there because Peter Schwind gave a talk about the fact that the density of the blocks is not uniform, that if you look at the viscera in the thorax, you've got the heart off to one side, you've got the lungs, and you've got the heavy liver on the other side. He said, "If you take that block of the thorax, it doesn't actually stack as a homogeneous-density block on the abdomen. And the abdomen is definitely not homogenous, nor is the pelvis." He said, "In this way, the block model is sort of mythic."

Sometimes if you want to change the emotional habit pattern, let's say the character expression, or the occupational pattern, you've got to go dig into the 'ancestral' tissue to get the plasticity for it.

Think about how the brachial plexus comes out of the sides of the middle and lower levels of the neck. The brachial plexus nerves go under the collar bone, through the axilla, and down the arm. This tells us that anytime you're working on someone's neck, you should be including the arms.

Then when I got the internal/external model, and I began to see the rotational stuff, it really superseded the block model for me. It was a better seeing tool. I could spot an internal or an external two blocks away, just by the movement signature of the person coming toward me. Long before I would see their face, I would know the type they were.

LH: It's very functional and clear.

JS: To answer the question then, I'm interested in the arms having mass, in the sense of hanging from the shoulder joint, and I'm interested in how they move. But I don't think of them as a block or as a weight in a static way.

LH: Can you talk a bit about the hand/arm relationship? What are we to do with hands specifically?

JS: Well, here's the smashing news: the hand starts at the elbow. There isn't merely a hand from the wrist down, everything that runs the hand starts at the elbow. Most particularly, the radius allows the hand to pronate and supinate without the humerus moving at all. So, you can put your elbow on your desk and you can turn your hand palm up, palm down. The big end of the radius butts up against the thumb, in support of its power and grip capacity, and the small end is there at the outside of the elbow joint, enabling the hand to orient. This is the 'hand'.

So, when I think about working on *hands* my eye starts at the elbow and looks at the pronators and supinators; how the radius is set and how the bicep fits in between the radius and the ulna to participate in both forearm flexion and rotation of the hand. Anything that's going on in the hand has got to be considered from the elbow down. I have a whole protocol that I do for the forearm and hand, treating them as a function unit. This involves working from these perceptions, and then doing detail work on the flexor tendons in the hand and wrist, which is where people get in trouble.

I've been having some interesting positive effects with Dupuytren's, working on the contractures in the palm, not so forcefully but very systematically, kind of picking at that dense kind of hypertonic and gristly tissue, actually getting blood and lymph moving to rehydrate the contracture.

I've had one client, a weaver, whose hands were just starting to claw up. She both crochets and weaves, high dexterity stuff. Over time, her hands were contracting and the palm tendons were standing up from the plane of the palm. She was losing fine motor control because of this scarification. Over a series of four or fives sessions, her hands regained function. I would give each hand about fifteen minutes out of a session. So, half an hour of an hour session was on the hands and forearms, and the rest of it I did the shoulder girdle, pelvis, legs, and whatever else was needed. As it came back, the functional quality was stunning. It shocked me how willing her hands were to come back.

LH: That is also very interesting, I have a client with hands like that.

JS: Well, imagine I'm sitting at the table's side, and I'm facing headward with my client to my right, then I lace my left-hand fingers into the client's right hand – their right hand and my left hand – then my right-hand thumb gets into those tendons and systematically works. I have an interlocked grip with my left hand, the client's arm extended, and I just get comfortable and start using almost the back of my fingernail to scrape this tendinous, scarified stuff, being systematic and trying to work one layer throughout. Rather than getting a local, big release, I try to clear everything at one depth. The notion is both to encourage circulation and some elasticity. Then I put the person's forearm palm up on the table, and I iron out that ventral forearm, especially around the radial head. First, I open the palm, and then I scour the forearm where the musculotendinous structures originate, remembering that the hand structurally starts at the elbow.

LH: Does everybody get your forearm protocol, or maybe does the occupation of the client influence how much focus you give to the hands and arms?

JS: Think about how the brachial plexus comes out of the sides of the middle and lower levels of the neck. The brachial plexus nerves go under the collar bone, through the axilla, and down the arm. This tells us that anytime you're working on someone's neck, you should be including the arms. So, this comes back to Rolf's original, let's say, benign neglect of the arms. I work on people's arms all of the time. First session. Anytime that I'm going to do anything significant with the neck, I'm all the way down to the palm as part of it, because the whole ventral neck is anatomically connected to the arms. Once you get how these relationships interact, you cannot responsibly work on a neck without working on the arms.

LH: All the way down to the palm.

JS: Yes, what's happening is that as lots of necks are too far forward on the thorax, there are several primary lines of strain. One among them is that you've got to get the arms 'unwrapped' so that they don't bear on the neck so strongly. The other place that people's necks get influenced is through the pelvic floor. That's because the whole ventral visceral compartment ends up in the face. So, my neck work now typically alternates between shoulder girdle, pelvic floor, and then local work on the neck at the articular level and the ligament bed.

LH: Very interesting.

JS: Pelvic floors are problematic because you've got social problems working there. People have metaphoric private lives in their pelvic floors, and some people simply can't tolerate it, or it would feel an intrusion, but for people who would allow it I'll put my elbow on those rami, opening up the core through the pelvic floor, right

up to the face, and then unwrap the arms. The net effect of these diverse approaches is the potential for prevertebral length, from coccyx to jaw and nasopharynx.

LH: Wow. I'm going to pay more attention to that. We've already been talking quite a bit about shoulder girdle, because it does relate to the larger scheme of arms, neck, and thorax, how about the flow we want to see in walking? What's the pattern we want to see with the arms in relation to gait?

JS: The key is the gait; this concept of alignment is not meant to be a static "look how good I look when I'm standing still." It's nice to take photos and to show people how nice their posture is, but the truth is the real event is walking, how we get from place to place. So, the first thing I look for when I watch someone walking, in profile, is whether the femur on the push phase of the gait goes behind the midline. In other words, can the foot pass under the body and go behind to deliver the power stroke? If you watch any sort of random group of people, you'll see that two thirds of them, when they are walking, do not extend the hip. The femur literally stops in the vertical, and then they take the next step.

So, in order for the spine to work correctly, the hip has to extend in the gait, and the foot has to pass under the body. Then the ball of the foot will be the last thing to leave the ground. In that moment, the sternum lifts and moves forward, and gravity pulls the body forward at that point. Good walking is really controlled falling, not a constantly supported Line. The constantly supported Line is an artifact of a way of thinking, that you're carrying the Line along vertically. If you watch somebody walk who's going somewhere, they are leaning forward, and they're falling forward. The walking is actually an economical energetic gait. In that sense then, the arms should be free to swing and carry the momentum of the gait forward. The gait is reach, load bear, push; when the left foot is in the push phase, the right arm is coming forward to carry that fall, to put more momentum into the walking.

LH: I wonder if there's a proprioceptive piece about the hand at that point, that the hand is going forward and is also getting information about the space we're heading into.

JS: Absolutely, has to be. I heard a talk by Hubert Godard years ago at an annual meeting, and he was breaking down proprioception into interoception and exteroception. Interoception was your awareness of how your internal spaces were feeling; exteroception was how we project ourselves into space and how we feel moving into space. When the body is propelling itself easily, we're actually penetrating space a particular way. It's a delightful feeling. Often, you're not so much aware of your interoception when you're in motion; you're going somewhere. If your body's reasonably free of pain and restriction, you're not dwelling on the production of walking. You're actually feeling the process of moving through space. A really well-organized body disappears and that absence of sensation becomes a measure of order.

LH: This is a cool thing to think about. What about hands and feet, they are such similar structures; how do you see the functional connection between hands and feet?

JS: Well, you have to go to neurology, because first off, hand-eye coordination is profound. It enables us to do everything from tiny stitching, to throwing a ball, to any of the things we do that require the hands and eyes to be linked. But the foot and the eye have the same kind of profound linking. You can see it in action.

My example would be if you're watching a soccer game and you see a player running. There's a ball coming across his path on a diagonal that he will intercept. You see the runner shorten his stride in order to get the kicking foot ready when it will cross the trajectory of the ball. The way the player makes these adjustments is a function of training; the player makes connection with the ball by the coordination of sight and leg movement. Or if you're on a hike, and you look ahead and see a root across the trail, naturally you change the length of your gait so that when you get to that root you step over it.

This linking of the eye-brain with the hands and the feet is way deep, primitive stuff. You can't separate them in your understanding of structure. So, I'm constantly going to the soles of the feet and the ankles, also the forearms and the hands, to get integration of bigger movement patterns. I give people instruction to let their eyes go out to the horizon, or just scan while they're walking, to break the habitual fixations of the way they use their eyes as a key to unlocking other kinds of functional patterns in movement. You can't say enough about the role of the eyes in posture and movement.

LH: Agreed. We need to down-regulate the eye dominance so we have more access to the intelligence of hands and feet. If we think about older adults, they will use their eyes to monitor their feet. Of course, safety is paramount, but can we build safety into the proprioception of hands and feet without the eyes?

JS: Well, truth is, when you get older, some of your equilibrium gets difficult. If I'm going to descend a flight of stairs, I'll put my hand on the rail whereas it used to be I would run down stairs, even skipping steps. So, I know that's a balance issue, but all the same, when I go walking, I make sure that my eyes come up and I'm allowing my feet to be in my peripheral vision and my eyes to be more out like twenty or thirty feet in front of me to scan where I'm going to be in ten steps – as opposed to looking right down at the ground and kind of watching my smaller progress. That eye pattern is a habitual thing, and we can retrain people to look further out. What you'll see is their arms start to swing better, their necks lengthen, and they get better organization as they 'fall' into motion.

LH: More ease. When you think about the Ten Series, are there places in the Recipe you would expect arm and hand work to be more prominent?

JS: I spoke to this earlier, which was to say that, for me, anytime I'm preparing to do neck work, I'm looking at what leads to the neck. So, immediately I have to look at the whole shoulder girdle. Is the scapula riding easy on the back? Are the arms dangling in a sense? That's always part of my neck work. Sometimes half of my neck work is literally on the dorsal part of the neck through the trapezius through the extrinsic structures of the neck, before I go down into the scalenes and the splenius, longissimus, and the ligament bed.

In that way, my arm work is distributed throughout the Ten Series. The arms have become an intimate part of every session. Not every session is by the Recipe. When I observe that I'm going to have to get this person's neck better, I know I'll have to be in the arms at least every other time I work with them. "In the arms" doesn't mean an hour in the arms, but attention to the arms, it means probably five minutes per limb. The pay off in system-wide organization is enormous.

LH: Very interesting. In my practice, my youngest clients are small children and my oldest client is in their eighties. Their arms are very different. I am curious about how you change/modify your approach to meet the needs of people with lifespan differences?

JS: Well, for one thing, most young people these days are somewhat involved in sports. It might be tennis or cross-country running, soccer, or football, but in those sports you have very specific arm patterns that are required. When you're looking at someone on the other end of the age spectrum, they're typically not using their arms and hands in sports. They may not be doing that much, unless they're gardening or hobby working in a woodshop. So, the needs are different.

One of the things we could professionally emphasize is the great value of Rolfing SI for older people. You literally take years off of people when you get them moving better, and they will say it. "God, I feel younger." Younger is "I'm moving better." So, what about arms and aging? It's the same story. You want to get those arms so they're not dragging on the neck. You want to get that shoulder girdle so the yoke is resting easy and supported on the rib cage. That literally means better blood and lymph flow in and out of the head.

To digress, the other really critical part of getting a shoulder girdle resting easy is the organization of the upper two ribs, because the upper ribs have the scalenes come down into them. The scalenes are dual functional. In their resting easy, the scalenes participate in turning the head. If somebody's going to look over their shoulder, you can feel it – the scalenes fire to help turn the head. The left side fires, and the head rotates right, or the neck rotates right. The other place the scalenes work is breathing: they're attached to the ribs, and when you have a higher demand for breathing, like if you're briskly walking or even jogging, the scalenes participate by bringing the upper two ribs headward to make more room for the upper lobes of the lungs. So, the scalenes are really interesting in that they are involved in both respiratory and motor kinesiology kinds of activity.

So, to get a shoulder girdle resting easy, you've got to get the scalenes to stand between their two functions. Anybody who's got a chronic obstructive respiratory problem will have the scalenes turned on all the time. They end up with a kind of square look to the shoulder girdle. We can help those people by systematically, carefully, getting the scalenes to tonify and in that sense to become more elastic again. Then you see the shoulder girdle can ride better. You might have to go inside the shoulder girdle to get it to ride better on the outside.

LH: That makes sense.

JS: So, I think we can't ignore the upper ribs, we can't ignore the scalenes. The other key is the three cervical erector group, which is splenius, longissimus, and semispinalis cervicis. All come down and attach around T5, T6 – that is the leverage point to put the head on. It's easy to see in a horse or a quadruped because the support of the head is behind the legs, it is a cantilever in physics. But you bring a human up on their two legs and the cantilever then goes between the shoulder blades. So, if the arms rest easy, in a sense it reveals this lower pole of attachment of the neck and allows you to bring your head on better. There's a whole dance in there; scalenes, longissimus, and splenius, the mid-dorsal attachment of the neck, and the ease of the shoulder girdle, all dance together to produce what we're trying to do, which is somebody who can put their head on.

LH: That's a nice summery.

JS: That is what makes it Rolfing SI. This has been a life study for me.

LH: It is wonderful to hear you speak about it, you've painted so many pictures in my mind, thank you so much for your time and insights, we really appreciate it.

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The Three-Dimensional Hand, Part 1: Get a Grip!

By Michael Boblett, Certified Advanced Rolfer™

Michael Boblett

ABSTRACT *The focus of this article is on freeing and strengthening the human hand. Specifically, Michael Boblett presents some practical ideas you may pass on to clients. There is a list of stretches designed to make the hand more flexible by freeing the various proximal phalanges and their respective metacarpals from being stuck to one another and to their neighbors. There is also some advice about various kinds of equipment for hanging, which can be used to apply distal distraction to impingements, especially in the wrist. The article ends with the usual reminder that there are unanswered questions.*

> *I have held many things in my hands, and I have lost them all; but whatever I have placed in God's hands, that I still possess.*
>
> Martin Luther

Introduction

When Anne Hoff, one of the Co-Editors-in-Chief of this Journal, first asked me to write about hands and arms, my response was more dutiful than enthusiastic: "How can hands possibly be as exciting as feet? Oh, well, I'll just roll my eyes, and get on with it . . ." Little did I know the journey I was about to take. Indeed, a small part of me is nostalgic for that simpler, easier world I inhabited before I studied hands – my own and those of others – the way I have studied feet for so many years.

Exploring the three-dimensional hand has required more hard work than I ever imagined. I have had to enter, and help my clients enter, a deeply challenging three-dimensional world, if only for an hour or so a week. Entering this world requires digging up and dusting off lost patterns even older and arguably more powerful than any of the 'roads not taken' in tail-less bipedalism. (Although I confess that I don't *really* know the benefits of a tail in a biped. After all, what do we really know about arthritis in elderly kangaroos? Or superannuated velociraptors, for that matter?)

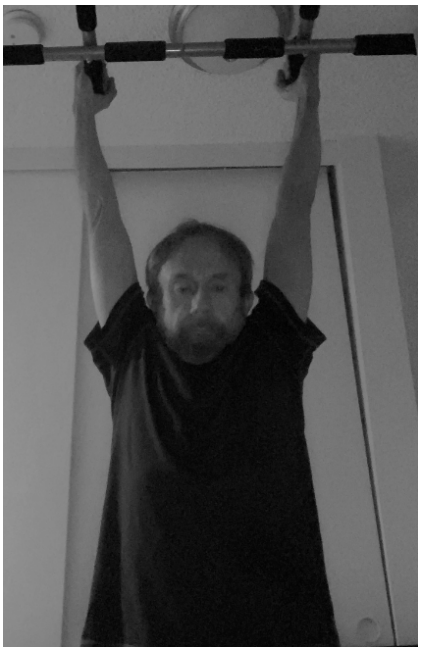

Figure 1: Passive hanging.

In phylogenetic terms, examining the human hand has returned me to the old (but still widely taught) fallacy that our ancestors 'came down from the trees' when Africa got drier around the end of the Miocene. Recent research has weakened this idea even more, with major East African ecological changes occurring at a frustratingly mysterious time in the evolution of the genus *Homo*. But here's good news for those of you already bracing yourselves for a classic Michael Boblett anthropological journey: I put all that in my next article, "The Three-Dimensional Hand, Part II: Opening the Toolbox" (see page 41). If that's your cup of tea, enjoy! The message of Part II is that the human hand, like the human foot, can do much more than most humans realize. Why? Well, that's in the other article. This one has the practical stuff.

Hands and Bodies

Reawakening three-dimensionality in the hand leads to unexpected freedoms throughout the body. Exercises that restore function to the hand inevitably restore lost function to other parts of us. Of course, this insight is not new. Many people in many disciplines have beaten us to the punch here. We live in a world of body-weight exercises involving straps or pulleys, with hanging yoga taking things off into yet another direction. I hope someday to make a list of all such practices – with critical commentary.

But what all these exercises have in common is the new three-dimensionality of a previously two-dimensional environment of floors, pavements, or even the occasional set of stairs or patch of rough ground. My contribution here will hardly be earthshaking, but it is an extension of that world. I begin with some advice on passive hanging, which I consider a prerequisite to a great deal of other work. I then review several pieces of equipment used in hanging. I end with hand exercises that do *not* require special equipment.

Getting a Grip

Presently, most exercises that involve hanging by the hands turn quickly into exercises that strengthen other parts of the body. Practitioners do pull-ups, leg extensions, or other movements that require a firm grip only as a prerequisite. But while I also use hand-strength as a necessary introduction to other kinds of work, I also encourage focus on hand-strengthening by itself. I try to get my clients to do passive hanging, which consists of hanging by the hands as long as possible, with the rest of the body as relaxed as possible (see Figure 1).

Why focus on the hand? A better question is, what is the lost potential of the human hand? Like our feet, our hands are very different from those of our remote ancestors and those of the very few people living today who use their hands as they are meant to be used. But unlike the modern foot, the modern hand shows little outward sign of its degeneration. When a foot is misused, it is usually crushed into a narrow shape immediately recognizable as a distortion. Even a broad but flaccid foot is recognizable at its outer edges, very different from those associated with a low but responsive arch. But the hand retains most of its ancient shape, only sometimes showing a tell-tale thickening of the thenar eminence in contrast to the underdevelopment of the other structures. This is often accompanied by a thickening of the joints leading to and involved in the thumb. But the real distortion, deeper than any imbalance in use and development, is an overall weakness in the whole hand. The wonderful fact is that the modern hand, in the vast majority of people, has a remarkable capacity to draw on strength that can be developed even late in life. I am sixty-seven and I am still experiencing rapid monthly increases in hand-strength, following a routine taught to me by a twenty-five-year-old personal trainer at one of the gyms I attend.

What follows is unprecedented for me in this Journal: it involves strengthening versus stretching. Indeed, I hesitated to include this kind of work in this article at all, given that it does not fall into what is generally understood to be the scope of Rolfing® Structural Integration (SI) practice. But I teach this routine, as well as the ideas underlying it, because my clients need increased hand strength to accomplish a long list of stretches that can help them greatly. I find that many issues in the shoulder girdle, spine, and hips begin to resolve when the human body revisits the older functions of hanging and even swinging. This is because traction (which is distraction) is the essence of hanging.

The problem is that most modern people can only hang for short periods. As a result, many of my clients believe that long-term hanging is impossible for them. But the underlying difficulty is rarely one of inherent strength. Almost always, the problem is comprehension. Our society is unused to exercises that involve endurance versus explosiveness. Our society is also unused to exercises that involve relaxing most muscles while engaging a few, though proper weight-lifting actually requires this.

Paradoxically, most of the solutions to hand-strengthening lie in precisely that often-misunderstood world of weightlifting. I am not often a fan of weights, but I used to lift weights frequently. I learned a lot from the overall process involved. Specifically, I learned the value of step-by-step work to increase the function of specific structures.

With weights, I would strengthen a particular muscle by 1) measuring what I did in each session, 2) writing it down, and 3) trying to beat my previous record the next time. The same methods work in passive hanging. I simply apply the organizational tools of weightlifting in another area. What follows may seem obvious, but it's surprising how few people 'get' this without help. Here's what I tell my clients:

1. Don't hang every day. You wouldn't treat your biceps or your lats that way. Why do that to the muscles of your hands?

2. With passive hanging, the variable is usually not weight but time. Measure

specifically. That means using a clock. Don't count seconds in your head – that's just guessing.

3. Keep a written record. Use the previous record as a challenge to increase hanging time.

4. The closer your hands are to each other, the more you are stretching your sides. Since most of what I address is the internal or external line, I focus on this relatively narrow kind of hanging.

5. Changing grip is important, but so is consistency in strengthening specific grips. Don't use changes of grip as an excuse not to keep track of what you're doing in pursuing incremental improvements within the same exercise.

6. On the other hand, when you hit a plateau, *then* it's time to switch things out.

Now for specifics of time. What follows is the routine taught to me by that twenty-five-year-old trainer I mentioned. The trick is increasing hanging time while decreasing rest time. The young man presented me with this ideal routine:

- Hang for 90 seconds.
- Rest or stretch for 60 seconds.
- Hang for 75 seconds.
- Rest or stretch for 60 seconds.
- Hand for 60 seconds.
- Rest or stretch for 60 seconds.
- Hang for 45 seconds.
- Rest or stretch for 60 seconds.
- Hang for 30 seconds.
- You're done.

Have I done this? No! I can hang for 90, 75, 60, 45, and 30 seconds. But I require two minutes (120 seconds) of rest in between. So how do I improve? Slowly, I am decreasing my rest time. I am also working toward adding hanging times of 105 and 120 seconds, in this case retaining my 120 seconds of rest.

If all these numbers are bewildering to you, join the club. Most of my clients feel the same way – at first. The key is the awareness that Rome wasn't built in a day! And, as some of us say in Southern California: "Rome wasn't built in a day. If it had been, it would look like Bakersfield."

It is also true that different arrangements of time, exertion, and rest can be invented. What's essential is keeping track.

Equipment

For hanging, there is equipment I recommend and equipment I do not recommend. What follows is just what I have used myself. There is more stuff out there. But I will neither recommend nor reject what I have not tried.

My first piece of equipment is pull-up bars and there are two kinds of pull-up bars that I recommend to clients. One is cheaper and much easier to assemble, the other costs more and requires tools to put it together. The costlier version has a biomechanical advantage that will be discussed. I present both types, each with an example available on Amazon.

First, there is the standard pull-up bar that hangs over the doorway (Figure 2A), but has handles that stick out below the level of the door jamb. The advantage is cheapness and easy assembly. The disadvantage is obvious: I must pull my feet up if they're not to touch the floor. I stand 5'5" on a good day, but this complicates even my hanging routine. But the model I show here is available for $19 on Amazon. Not bad for something that can change your life!!

The second type (Figure 2B) has handles that go back up in a U-shape when seen from the side. These bars are bigger, costlier, and a bear to assemble. I could not assemble mine without tools, which fortunately I have. The model I show here sells on Amazon for $59. For tall clients, this model will not solve the problem of having to lift feet from the floor, but it's an improvement. I'm considering assembling and selling these out of my office.

Other equipment options for hanging consist of things that attach permanently to walls and ceilings, with all the associated costs and complications. As I suggested above, I haven't explored these things, so I won't write about them (but one example is shown in my interview with Kevin Frank on page 61).

The final option is going to the gym, where there are usually several choices for hanging. But I suggest hanging at the gym only as a stop-gap measure, because the exercises I suggest require precise timing, which the gym makes difficult if not impossible. Precise timing requires either a clear view of a clock *or* the ability to keep track of the passing seconds on a cellphone or other device set out nearby in plain view. This is rarely possible.

I conclude with the one piece of equipment I do *not* recommend: inversion tables. I used to own one of these and I dislike them. These are my reasons:

1. I know of no muscle that is strengthened by using an inversion table. There are probably inversion-table exercises out there. I doubt I'd recommend them. And with no false modesty, if anybody can figure out how to hang with full body-weight by the toes, that person will likely be me. Just saying. I'll keep you posted, but don't hold your breath.

2. Inversion tables cost a lot more money than pull-up bars – money that could be better spend elsewhere.

3. As with money, so with space. Inversion tables take up much more room than pull-up bars – room that could be better used.

4. It takes time to get into an inversion table, unlike hanging from a pull-up bar. With the latter, you grasp the bar and pull up your feet. This increases the likelihood that the client will do the exercise more often. General principle: every increase in

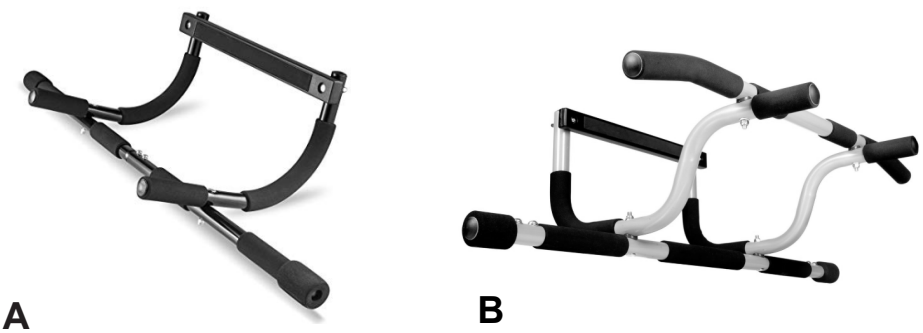

Figure 2: Examples of pull-up bars. The type shown in the picture labeled A will give less clearance from the floor, making the U-shape shown in the picture labeled B more optimal for hanging.

convenience creates an increase in a client's follow-through.

5. Nobody ever got stuck on a pull-up bar, at least doing the exercises I recommend. I have heard several horror stories about inversion tables.

6. Neither the human spine nor the cerebrospinal fluid is designed for upside-down hanging. Nor is the human ankle designed to bear the weight of the body. In contrast, hanging right side up by the hands is precisely what our ancestors have done for tens of millions of years – and continue to do occasionally.

Independent Stretches

I can't say this often enough: we are designed to do many, many things occasionally, not one or two things all the time. So now that I have discussed strengthening grip and hanging, I turn to stretches that do not require equipment. I must begin with the sad caveat that only one of these exercises (the last one) is appropriate for most people. Life is frustrating!

Inefficient hand-use leads to what I will call 'the tyranny of the thumb', just as inefficient use of the foot leads to what I have previously called 'the tyranny of the big toe'. As I address foot-problems by encouraging independent movement of various toes, so I encourage independence between fingers. As with feet, I like to separate digits by juxtaposing extension of one digit with flexion of its neighbor(s). But in the case of fingers, there are more opportunities for such juxtapositions.

Spreading the toe-box has a counterpart in spreading the 'finger-box'. In the former, we separate metatarsals; in the latter, metacarpals. In both cases, separation involves not only widening of the overall structure, but functional separation between rotating and counterrotating long bones coming out of the ankle and wrist respectively. In both cases, rotational independence can be elicited partly by inducing independent movement in flexion and/or extension. But here the similarity breaks down. Granted, feet and hands both suffer from a similar problem: the dominance of the largest digit. But what I call the 'tyranny of the big toe' works very differently from the 'tyranny of the thumb'. And, these two tyrannies must be resisted using different strategies.

In a previous article I have shown how the big toe may be separated from the other toes in both flexion and extension (Boblett 2018, 19). Separation between toes 2-5 is much harder to achieve. Frankly, it isn't a skill I've studied, except to realize how difficult it is. Here we may be approaching the limits of evoking a truly articulate foot, though I'd be happy to be proven wrong.

I have never, for example, tried to play a musical instrument with my toes.

With the hand, the equation is very different. Each of the five fingers can be stretched in relation to one or both of its neighbors – depending on how many neighbors it has. This reflects the greater length of fingers

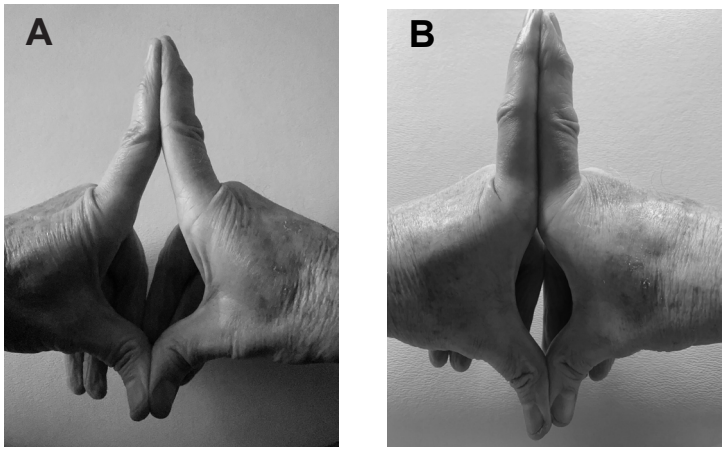

Figure 3: Stretching finger 2 versus finger 3.

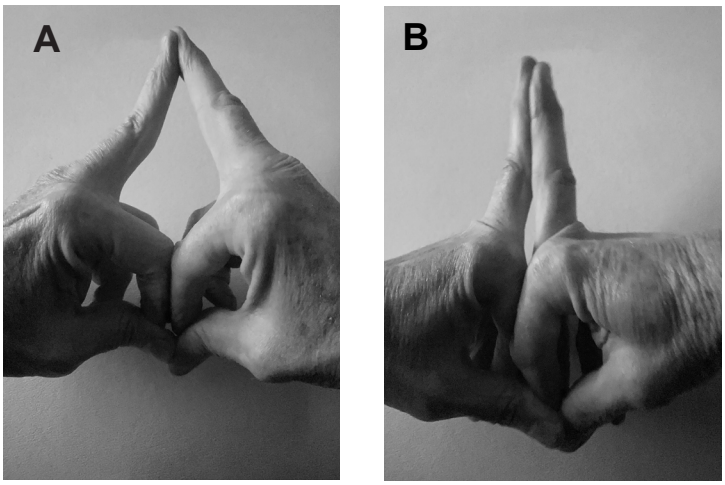

Figure 4: Stretching finger 3 versus fingers 1 and 4.

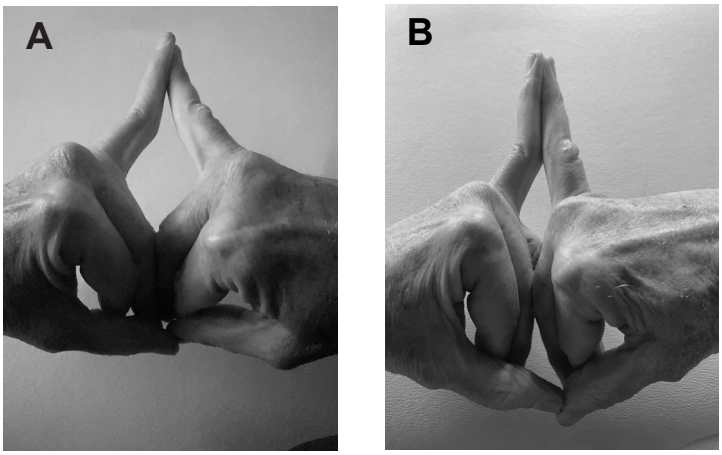

Figure 5: Stretching finger 4 versus fingers 3 and 5.

versus toes, but also the greater functional independence of different fingers. This is a fact I admit with reluctance, having stressed for years the hand-like nature of a healthy human foot. But with increased opportunities for independent movement come increased chances of injury. Please be careful with these exercises: they are not for everyone. Contraindications include osteoporosis, osteopenia, and any client with a tendency to jerk or 'power through' stretches. Fingers sprain easily! A background in yoga can be helpful, as long as it's relatively 'real' yoga and not some macho American version designed for impatient people.

Please note that my photographs for these stretches are much less symmetrical than I'd hoped. The reason has to do with the fact that I had exactly ten seconds to get my hands into place before my camera took the shots. But this is serendipitous, because it demonstrates clearly that symmetry will not happen quickly in these stretches. Indeed, it may not happen at all. In fact, I encourage my clients to work toward narrowing the space between the relevant joints when the hands are pressed together (this will be clearer as you read the instructions below) rather than try for a premature symmetry. If one hand, or one part of one hand, releases more quickly than another, go with it. We Rolfers make too much of a fetish of symmetry, anyway!

With that reassuring intro, here goes:

Stretching Finger 2 versus Finger 3

Create a diamond-shaped pattern with index and middle fingers, index finger extended and middle finger flexed, as shown in Figure 3 (A). Press hands together *gently* to reduce space between the ends of the second metacarpals (B). Gradual movement is important and achieving the maximum stretch may not be possible, even over time – emphasize this when teaching this to clients. Hold for ten seconds. Shake out hands.

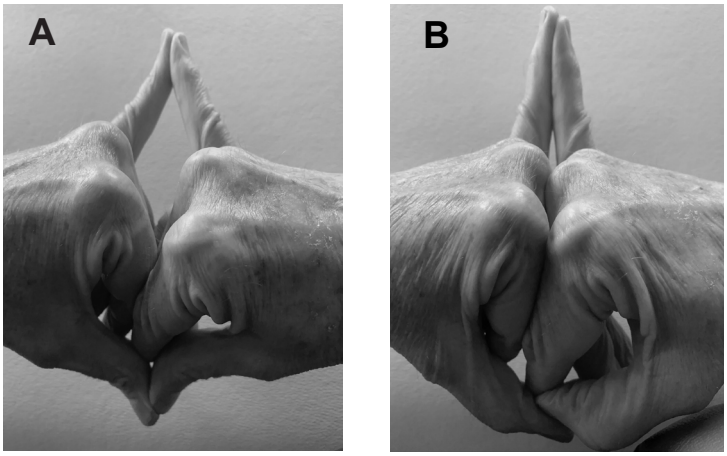

Figure 6: Stretching finger 4 versus finger 5.

Stretching Finger 3 versus Fingers 1 and 4

Create a diamond pattern with middle fingers extended and index and ring fingers flexed (see Figure 4, A). Press hands together to minimize the space between the distal ends of the third metacarpals (B), with the same warnings as apply for the previous stretch. Note that the minimal space will probably be greater than for the previous exercise. Hold for ten seconds. Shake out hands.

Stretching Finger 4 versus Fingers 3 and 5

Create a diamond pattern with the ring fingers extended and both middle and little fingers flexed (see Figure 5, A). Press hands together (B), with the same caveats as before. Here, the minimal space will probably be dramatically greater, even more than for the previous two exercises. Hold for ten seconds. Shake out hands.

Stretching Finger 4 versus Finger 5

Creates a diamond shape with the little finger extended and ring fingers flexed (see Figure 6, A). Press hands together (See Figure 6, B), same warnings. The minimal space will probably be more like the space for the first exercise; smaller than for the second and third exercises. Hold for ten seconds. Shake out hands.

Decompressing the Thumb and Wrist

The thumb is far more complicated to stretch. Creating interdigital independence with a simple diamond pattern doesn't work here, given the structure of the hand. But thumb release is essential. I'm eager to solve this problem. So far, this is the best I can do.

The opposable thumb is rarely the independent thumb. Nor are other fingers independent *of* the thumb. But the problem is the opposite of the problem with the big toe and its neighbors, which line up *too* much. To bypass this biomechanical difficulty, I go 'upstream' to the wrist, where the base of the thumb is so often jammed into what sits proximally

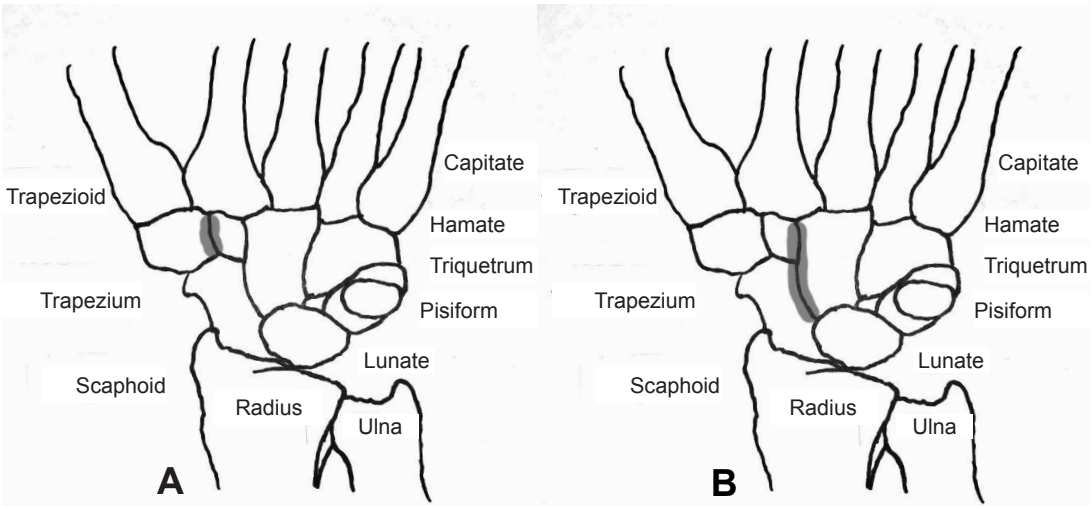

Figure 7: Common areas of compression of the base of the thumb and neighboring carpals, indicated by gray shading.

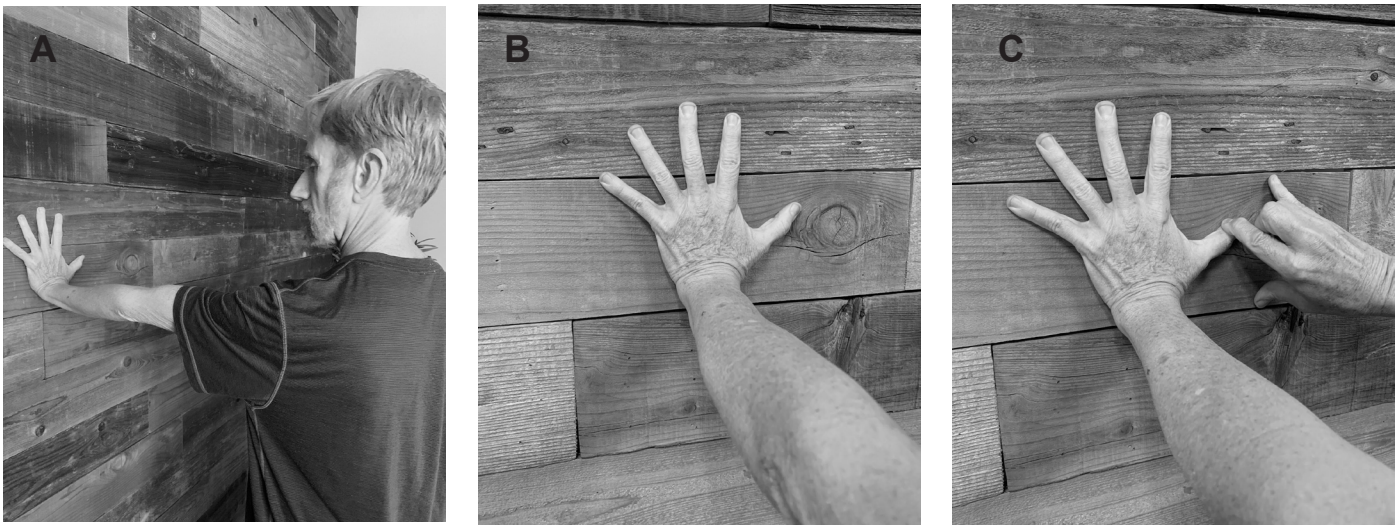

Figure 8: Thumb stretch/decompression, beginning. A – setup with arm perpendicular at shoulder height. B – closeup of hand and finger orientation. C – Spreading fingers to maximum distance.

to the first metacarpal, creating a lack of independent motion between the trapezium and the trapezoid (see Figure 7, A) Sometimes, these two bones will join to form a three-bone lump reaching even more proximally to involve the scaphoid. This lump will then grind against the capitate and lunate bones, creating an even bigger area of dysfunction (Figure 7, B) Both these patterns, common in many bodyworkers, are the reason why I initially developed this exercise for myself. (For the deeper problem of unwise use of the thumb, see my next section.)

To start the stretch, face a wall with your arm held out at a right angle to your body. (Figure 8, A). (If right-handed, it is best to begin with the left hand, where you may assume there are fewer restrictions. If left-handed, the opposite may usually be assumed. Obviously, these assumptions will not always be true, so use your best judgement.) Without bending the elbow, press your palm into the wall at shoulder height or a little above. The closeup image labeled B shows how the fingers and hand point superiorly. Now use your other hand to spread your fingers to their maximum distance from each other (C) then lean into the wall, pressing the wrist into extension. If there is sharp pain, cease this exercise and pursue other methods of stretching/decompression before re-attempting it.

If and when you can put the wrist into full right-angle extension, rotation of the elbow becomes a possibility. In the beginning, the elbow crease will usually face medially to the body (Figure 9, A). The exercise consists of rotating the elbow so that the crease moves as far laterally as possible (B). The client can then hold in this position.

Restrictions may be felt all the way up the line from the base of the thumb to the scapulae or even the occiput. This exercise can be used again and again, working on many different restrictions. Indeed, I often use it as a diagnostic tool to determine the locations of problems.

An even more advanced version of this stretch involves bringing the angle of the arm downward, increasing the extension of the wrist past 90˚ (Figure 10, A).

I have had less success with bringing the angle of the arm upward to decrease wrist

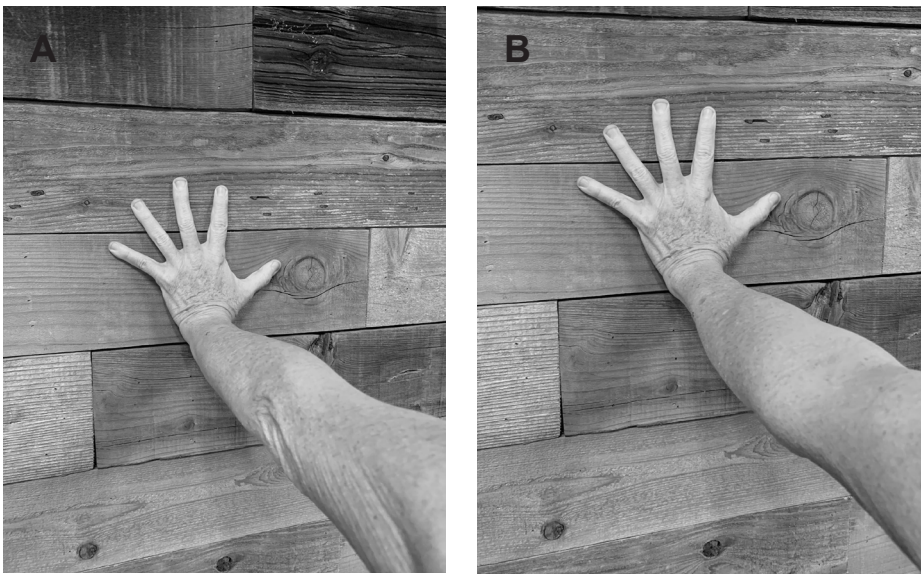

Figure 9: Thumb stretch/decompression, advanced. A - common starting orientation of the elbow crease facing medial. B - elbow rotation to bring crease lateral.

extension (See figure 10, B) for clients who cannot achieve the 90˚ angle. My difficulty in teaching this last stretch may be due to factors I have not yet identified. One problem may be the difficulty of communicating this possibility to already-frustrated clients!

This exercise to stretch/decompress the thumb/wrist also shows potential for relieving carpal tunnel syndrome, or helping in other situations where the radius and ulna fail to rotate properly. In most such cases, this exercise combined with work on the epicondyles can restore a great deal of rotational movement.

Conclusion

Compared to my other articles for this Journal, this submission leaves a particularly long list of threads hanging. To recap, these include a review of other modalities that involve hanging by one's hands and assessmwent of other kinds of hanging equipment. More important, the present article ignores the evolutionary background of the human hand. Normally, I would have subjected my readers to lengthy background material *and* exercises in the same article. This time, I chose to separate these elements into separate articles, a pattern I hope to follow in future.

That being said, I do have further advice about movement in my article on the evolution of the hand (see page 41). I do not present exercises. Rather, I have ideas about how we Rolfers can preserve our own hands. This advice fits better in the anthropological article. If and when you choose to read it, my reasons will be clear.

Michael Boblett has been a Certified Rolfer since 2003 and a Certified Advanced Rolfer since 2008. His graduate degrees (MA, MDiv, and DMin) are from Pacific School of Religion in Berkeley, California. At seminary, his focus was on the anthropology of religion with experiential training under Michael Harner, author of The Way of the Shaman*. He does competitive trail running and leads hikes in the San Bernardino Mountains for unwary lowlanders, wearing Vibram FiveFingers® for both sports.*

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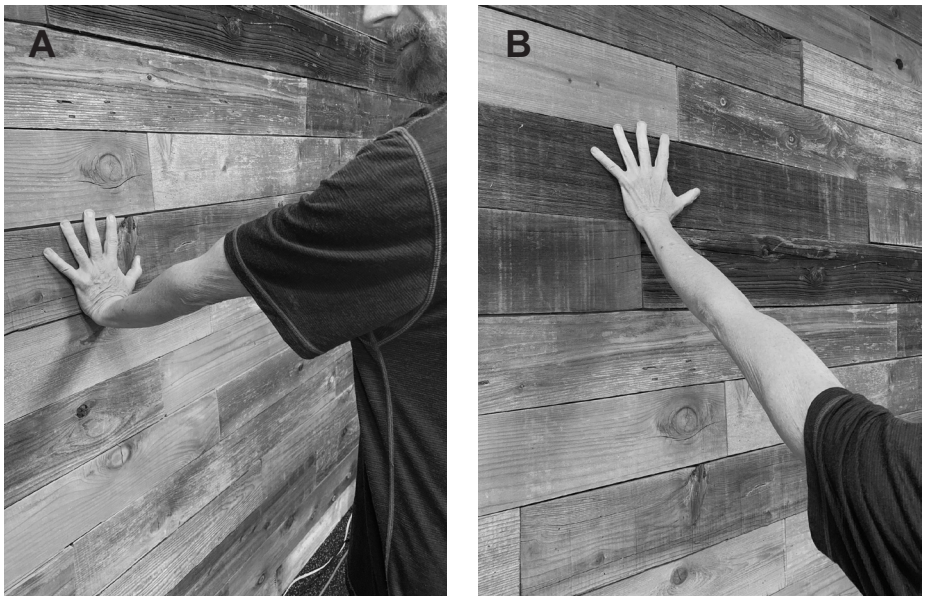

Figure 10: Thumb stretch/decompression, modifications. A – bringing the arm down increases wrist extension, adding challenge; you then initiate the elbow twist. It is more difficult but more effective. B – reducing the extension for clients with limitations.

The Three-Dimensional Hand, Part II

Opening the Toolbox

By Michael Boblett, Certified Advanced Rolfer™

Michael Boblett

ABSTRACT *This article focuses on the phylogeny of the human hand. Paralleling his earlier work on the evolution of bipedalism from* Ardipithecus *through* Australopithecus *to the genus* Homo*, Boblett examines the no-less-radical development of the hand. Though our hands look far more similar to those of our simian ancestors than is the case with our feet, the changes in structure and function are no less profound. Boblett concludes with some practical advice on self-care of hands for Rolfers.*

Cook Ting was cutting up an ox for Lord Wen-hui. As every touch of his hand, every heave of his shoulder, every move of his feet, every thrust of his knee — zip! zoop! He slithered the knife along with a zing, and all was in perfect rhythm, as though he were performing the dance of the Mulberry Grove or keeping time to the Ching-shou music. "Ah, this is marvelous!" said Lord Wen-hui. "Imagine skill reaching such heights!" Cook Ting laid down his knife and replied, "What I care about is the Way, which goes beyond skill. When I first began cutting up oxen, all I could see was the ox itself. After three years I no longer saw the whole ox. And now – now I go at it by spirit and don't look with my eyes. Perception and understanding have come to a stop and spirit moves where it wants. I go along with the natural makeup, strike in the big hollows, guide the knife through the big openings, and following things as they are. So I never touch the smallest

ligament or tendon, much less a main joint. A good cook changes his knife once a year – because he cuts. A mediocre cook changes his knife once a month – because he hacks. I've had this knife of mine for nineteen years and I've cut up thousands of oxen with it, and yet the blade is as good as though it had just come from the grindstone. There are spaces between the joints, and the blade of the knife has really no thickness. If you insert what has no thickness into such spaces, then there's plenty of room – more than enough for the blade to play about it. That's why after nineteen years the blade of my knife is still as good as when it first came from the grindstone. However, whenever I come to a complicated place, I size up the difficulties, tell myself to watch out and be careful, keep my eyes on what I'm doing, work very slowly, and move the knife with the greatest subtlety, until – flop! the whole thing comes apart like a clod of earth crumbling to the ground. I stand there holding the knife and look all around me, completely satisfied and reluctant to move on, and then I wipe off the knife and put it away." "Excellent!" said Lord Wen-hui. "I have heard the words of Cook Ting and learned how to care for life!"

Chuang Tzu (Watson 1964)

This article is very simple. It addresses the versatility of the human hand and the implications of this versatility for our self-care as Rolfers.

It is a continuation of my first article in this issue, "The Three-Dimensional Hand, Part I: Get a Grip!" (see page 34). That article consisted almost entirely of practical advice about stretches and equipment designed to facilitate stretches. My purpose was to give you tools to share with your clients – when appropriate.

I promised to save my usual phylogenetic musings for this companion piece. However, it would be a mistake to believe that I put all the practical stuff in that article and all the theoretical stuff in this one. Here, because it dovetails so neatly with the overall trend of human evolution, I present not a list of exercises, but an overall philosophy of how our hands evolved and how we Rolfers may best preserve these valuable tools.

So, my contribution is not new knowledge, but an encouragement to use knowledge we already have. As Rolfers, we were all taught to avoid overspecialization in our use of our hands as tools. But let's be honest: how many of us are tempted to fall back on one or two tried-and-true techniques, rather than consciously varying our use of the different parts of our hands? As Jan Sultan and a score of other teachers can testify, I myself am a recovering thumb-addict. And given the size of my itty-bitty thumbs, that addiction to using my thumbs was not smart! Therefore, as an addict among addicts, my job here is not instruction but persuasion. I am not teaching something new, but helping to break old patterns. I begin with the backstory, the evolution of a hand that keeps adding functions.

I. The Expanding Swiss-Army Knife

Bipedalism in human evolution did not evolve in one or even two stages. This is hardly news. However, anthropologists have focused primarily on the development of the foot in the various stages and *methods* of bipedalism. On the level of genus vs. species, the fully abducted big toe of *Ardipithecus* leads to the multiple-use toe box of *Australopithecus*, which in turns becomes the more specialized runner's foot of the genus *Homo*.

What were our hands doing in the mean time? Well, as they were less and less involved in tree-climbing (which shows in fingers becoming less and less curved), they took on a variety of other functions. In this way – and this is the underlying theme of what I am trying to convey in this section – the human hand does something that the foot does *not* do. Our hands express what is happening in the human body as a whole: a trend toward greater and greater generalization of movement compared to most other animals.

Instead of specializing, as our feet have done, our hands have taken on more and more tasks. This confession is hard for me to make, having spent so much of my life emphasizing the multiplicity of things that feet can do. But truly, the hand is the Swiss Army Knife of human evolution. More to the point, our flexible and multipurpose jack-of-all-trades bodies find their best expression in our amazingly versatile hands.

Here's a very complicated story made embarrassingly simplistic.

The hands of *Ardipithecus* were not the hands of tool-users. However, they were already adding something to the usual job of helping these animals climb around in trees: they were carrying food. And not just carrying food, which a chimp can do, but bringing lots of food over relatively long distances to share with others, something that requires walking on your hind legs. This is probably why an adult male *Ardipithecus* had relatively small canines compared to an adult male chimp. Instead of fighting other males for access to breeding with females, these new creatures resorted to something easier but apparently radical at the time: bribery!

This is old news in anthropology, but not (as far as I know) in the context of an *addition* to the uses of the hand. The *Ardipithecus* had curving fingers and hand-like feet, indicating a style of locomotion that still required a lot of climbing. Bringing stuff to share was an addition, rather than a complete replacement of older functions. That's the takeaway here: hands were now free to start taking on new tasks, even if only occasionally. And that was the beginning of a long journey.

Only with *Australopithecus* do we start to have tools – at least tools that were shaped, instead of objects just picked up,

The hand is the Swiss Army Knife of human evolution. More to the point, our flexible and multipurpose jack-of-all-trades bodies find their best expression in our amazingly versatile hands.

My hands are smarter than my head.

Figure 1: Bare Knuckles.

used, and discarded. But shaping tools requires a different hand. Among other things, it requires a stronger but different grip. Unlike the grip required for hanging, the new grip could hold objects relatively steady as stones were knocked against stones. (If you think this is easy, take up flint-knapping and get back to me.) This new grip is the origin of the enlarged thenar eminence in humans. But the australopithecine hand still has curved fingers. Again, a function is added. It does not replace another function.

When the climbing function *did* start to be replaced, a host of new tasks were being added. With the arrival of the genus *Homo*, we now have a hand without curved fingers – at least with most species of the genus. But the increasing multiplicity of cultural patterns in *Homo* convinces me that these new hands, whatever they may have lost or de-emphasized in earlier climbing abilities, must have added new skills. Even with the earliest *Homo*, we start to see the building of shelters, the probable use of fire, and certainly more efficient processing of animal carcasses than was the case with *Australopithecus*. So, although I cannot point to specific anatomical changes that accompanied these new technological adaptations, I am sure that the versatility of the hand has increased over time in the *Homo* genus.

To recap: the hand is the main point of application for a generalist animal that keeps adding things to its repertoire of movements. Therefore, overspecialization in hand-use goes against the way the hand has evolved. Injury is inevitable if we ignore this.

I repeat what I stated at the beginning: The purpose of this brief survey is not to provide new facts, but to put old and well-known facts into a new – and I hope persuasive – perspective that will change behaviors, for those of us who need to change behaviors. How specifically can we accomplish this?

II. Self-Care for Rolfers

I am a cross-dresser!

Did that grab your attention? What I mean is that I wear some items made for women; specifically, shoes and gloves. My reason is not a fondness for high heels and such. Rather, it's the fact that my hands and feet are small, even for my size. My Vibram FiveFingers® shoes and my hiking gloves are only available to me in *women's* sizes.

What has this to do with my self-care as a Rolfer? My little hands are simultaneously a gift and a challenge in my Rolfing® Structural Integration (SI) practice. On the one hand, my little fingers are an advantage when I enter narrow and congested places. I find seventh-hour work a lot easier than do some of my sturdier-handed colleagues. But compared to my more solidly-constructed friends, I was initially more prone to pain in my hands. When I say *initially*, I'm talking about seventeen years ago. In retrospect, this is surprising, given that I've always done a lot of mystical musing about mindful walking and running as "playing the piano with your toes." It took me years to start using my hands in a variety of ways. Opening up that toolbox, laying out the tools, choosing my tools wisely – these were skills that I only developed over time. Nor am I finished learning. I keep finding the hidden drawers that contain more tools, tools I never knew were in the box.

I have made the mistake of relying too much on my thumbs – and paid the price.

Now I save my thumbs for the times when they are the best tool for the task at hand. Instead I use fingertips, the heel of the hand, and various configurations of knuckles, not to mention elbows and forearms. Out of all these, however, I find myself called to emphasize one of these tools. I do this because this tool fits so well with the phylogeny of movement, especially as it can help us work on bodies.

III. Knuckles: Rolfing SI as Butchery

This tool that I want to highlight is the edge of the four knuckles at the ends of the first metacarpals, used as an edged tool for separating intermuscular septa and other lines of potential freedom (see Figure 1).

I like knuckles because they are hard. They're almost like using stones or other tools, which some bodyworkers do. But knuckles still have nerve endings, especially if we train ourselves to perceive through our knuckles.

But there's another thing I like about knuckles: they wake up old patterns in me. They awaken body dynamics that help me use my weight effectively when I apply force. And at 108 pounds, I need all the help I can get! I'm not talking about knuckle-walking here. I'm talking about something more recent, but still very old. Our ancestors were butchering most animals long before we hunted or killed them. As scavengers, our first tools were not weapons but *food processors*, tools that were used to chop up a variety of plant and animal matter. We knew that separating a joint quickly was often the difference between carrying off the leg of an abandoned kill and having to surrender it to our competitors.

I like to use my knuckles because they remind me of the edge of a hand-ax fitting neatly into my palm (see Figure 2). I can recruit very old synapses to the task of *deconstructing bodies*. I can relax into my task instead of muscling through it.

The key, I feel, is to get the ego out of the way. And the ego usually lives in our heads. To the extent that we allow all our other tools to reveal their potentialities and to communicate their truths, our work will be play.

By the way, it helps that I am personally familiar with cutting up meat. I am a committed carnivore, and I prefer my meat organic. Organic meat is expensive, but the bigger the piece, the lower the price per pound. I have learned to deal with legs of lamb, whole ducks, etc. And separating tissues feels a lot like cutting up meat – though that's not something I generally tell my clients! This helps with body mechanics, but also with perception. Which brings me to my final point.

IV. Parting Shots

My hands are smarter than my head. This makes it increasingly difficult to put into words the things I learn when I work. My hands question the tissues under them, make decisions, choose forks in the road, and lead me on explorations that I then struggle to explain verbally. (Granted, going back over the anatomy is vital if I ever want to repeat what I just did. That's why I continue to be an anatomy geek.)

In having hands smarter than my head, I am far from unique. Ask any good cook, potter, calligrapher, the list goes on. Potentially, we all have hands smarter than our heads. Why is this? It is because our hands are vastly older than our heads. Therefore, they are vastly wiser.

So proper care of the hand is not just about good body mechanics. It is also about listening to our hands. It is about allowing the hands to guide our perceptions. Like the human body overall, the human hand is designed for generalist work – but also generality of perception. Like the rest of the body, the hand has evolved to *do*, but also to *perceive*, many things well, not just a few things perfectly. And as I have often repeated, the perfect is the enemy of the good.

The key, I feel, is to get the ego out of the way. And the ego usually lives in our heads. To the extent that we allow all our other tools to reveal their potentialities and to communicate their truths, our work will be play.

Michael Boblett works in San Diego, California. He has been a Certified Rolfer since 2003 and a Certified Advanced Rolfer since 2008. Michael is a retired Unitarian minister. His advanced degrees (MA, MDiv, and DMin) are from Pacific School of Religion in Berkeley, California. At seminary, he focused on the anthropology of religion, with experiential training under Michael Harner, author of The Way of the Shaman*. Michael runs marathons and hikes up mountains wearing Vibram FiveFingers. His website is* www.rolfer.biz*.*

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Figure 2: Knuckles with tool. Note the different placement of the thumb compared to Figure 1. The tool is not an Olduvai hand ax, but a *gua sha* tool of remarkably similar shape.

Aspects of Shoulder Impingement

By Jeffrey Burch, Certified Advanced Rolfer®

Jeffrey Burch

ABSTRACT *This article describes aspects of shoulder-joint impingement including a definition of the condition, the contribution of anatomic variants, features of normal kinematics, and directions for assessment of some of these features. Awareness of these aspects can support a Rolfing® Structural Integration (SI) practitioner in providing superior individualized service to clients.*

What Is Shoulder Impingement

In general terms impingement in a joint refers to bony prominences approaching each other toward end range to an extent that they pinch a bursa, tendon, or cartilage. For any joint, impingement can occur with normal bony contours. Due to the inherent structure of normal bony contour, some joints are much more prone to impingement than others. The shoulder (glenohumeral) joint is particularly prone to impingement. The substantial variability in anatomy between individuals makes some people's shoulders more prone to impingement than other people's. The growth of osteophytes (bone spurs) presents new and idiosyncratic impingement opportunities.

For shoulder impingement the central osseous issue is collision of the greater tubercle of the humerus with the acromium process of the scapula during elevation of the arm. This impingement opportunity is greater in abduction than in forward elevation (flexion) and may be greatest in the scapular plane. The greater tubercle of the humerus is a prominence located on the posterolateral aspect of the proximal shaft of the humerus just below the humeral head. Adjacent and medial to this is the lesser tubercle. In between these two prominences lies the bicipital groove through which passes the tendon of the long head of the biceps brachii.

What Is Damaged in Shoulder Joint Impingement

The greater tubercle serves as the insertion of the tendons of the supraspinatus, infraspinatus, and teres minor muscles, with the supraspinatus tendon most central at the apex of the tubercle. Repeated impingement of the bony prominences of the greater tubercle of the humerus and the acromium process may damage the supraspinatus tendon. Superficial to the rotator cuff tendons is the subacromial bursa. This bursa is also forcibly pinched during the impingement described. The resulting damage to the bursa leads to chronic bursa inflammation and fibrosity.

Relevant Anatomic Variants

The altitude of the greater tubercle of the humerus is variable. Just as some people have more prominent noses or longer fingers than others, the height of the greater tubercle varies. A taller tubercle presents an earlier and/or more severe impingement opportunity. With a taller tubercle the angle of motion will be less.

The length of the acromium process is highly variable. In some people, the acromium processes extend much farther over than the head of the humerus than in other people. A longer acromium process presents an earlier and more severe impingement opportunity.

Humeral torsion describes the angular difference between the orientation of the proximal humeral head and the axis of the elbow at the distal humerus. The angle between these changes during development, much like the similar relationship between the distal and proximal ends of the tibia expressed as tibial torsion, will determine the amount of humeral torsion. Normal variability in adults has a range of more than 20°.

Kinematic Detail

The arm may be abducted on the scapula in a frontal plane. The shoulder may be flexed (or forward elevated) in a sagittal plane or at any angle in between. When the shoulder is elevated in the plane in which the scapula lies, this is referred to as *scapular plane movement*. Scapular plane elevation of the humerus is often the plane in which shoulder impingement will occur at the least degree of elevation. The blade of the scapula does not lie fully in the frontal plane. The scapula, lying on the curve of the rib cage, sits at a variable angle as if protracted from where it would be if it were in the frontal plane.

Movement Habit Contributions

When the shoulder is internally rotated, this brings the greater tubercle more anterior, more in line with the acromial process. Thus, impingement will occur significantly earlier during elevation of the arm when the humerus is internally rotated. Some tasks require that we have the arm internally rotated as we reach overhead. Avoiding or minimizing internal rotation of the arm when reaching overhead will reduce the likelihood of impingement.

As we elevate the arm the humerus rotates upward on the scapula. Normally the scapula also rotates in the same direction and at the same time so that the shoulder joint and the shoulder girdle share the motion of elevation of the arm. This shared movement reduces load on the individual joints and reduces the possibility of impingement. Many texts describe that the humerus can be elevated to a certain degree before the scapula must also upwardly rotate. This limit of independent humeral movement is where impingement has already occurred. That the humerus can rotate up to a certain degree before the scapula must also rotate has sometimes been misunderstood to mean that this sequence of glenohumeral movement, followed by scapular rotation, is the way we should move. This is incorrect. The two ideally share the movement from early in the movement process.

Assessment of Humeral Torsion

Humeral torsion is the angular relationship between a line through the lateral and medial condyles at the distal end of the humerus and the plane demarcating the base of the ball at the proximal end of the humerus. The base of the ball can be located in this way. Place the fingertips at the location where the glenohumeral joint line is thought to be. Have the client slowly make small slow internal and external rotations of the arm to feel for the actual joint line. Feeling the head of the humerus rotating on the scapula refines awareness of the location of the glenohumeral joint line.

Next, immediately distal to the perceived joint line, gently present a fingernail to the tissue aligned with the long axis of the tip of the fingernail more or less perpendicular to the scapular plane. Now use your other hand on the client's elbow to slowly make small passive internal and external rotations of the humerus on the scapula. When the groove at the base of the humeral ball presents at the line of the fingernail, the fingernail will sink into this. This line defines the base of the ball. From here look down at the direction in which the elbow is pointing and the line between the elbow condyles perpendicular to that. The angular difference between the head of the humerus and the inter-condylar line is the degree of humeral torsion.

Ideally the ball of the humerus should rest in a neutral position in the glenoid fossa, neither internally nor externally rotated, and be freely mobile from there. If it is held internally or externally rotated this is an issue to address in the course of SI practice.

With the humeral head in a rotationally neutral position the direction in which the elbow points will vary considerably between individuals. Ida Rolf wanted everyone's elbows pointing straight out to the side in a frontal plane. Her knowledge of biomechanics was slight. Lacking more detailed knowledge of the body she tended to apply cartesian coordinates to the body as ideals. For most people, elbows out to the side has the humerus held very much in internal rotation. If the arm is elevated from here shoulder impingement is likely.

Additional Kinematic Feature

The subscapularis muscle has more than one action. It is often described as an internal rotator of the shoulder. This rotary action comes into play when the arm is less elevated. As the humerus is elevated on the scapula, another action of the subscapularis comes into play. As the humerus is elevated contraction of the subscapularis draws the head of the humerus inferior with respect to the scapula, which substantially reduces the opportunity for shoulder joint impingement. This protective action of the subscapularis muscle is sometimes reduced or lost, with painful and damaging results for the shoulder. It is simple to assess for this motion. With the client standing or seated place two fingers on the top of the shoulder, one on the distal acromium, and the other on the head of

With the humeral head in a rotationally neutral position the direction in which the elbow points will vary considerably between individuals . . . For most people, elbows out to the side has the humerus held very much in internal rotation. If the arm is elevated from here shoulder impingement is likely.

the humerus. Ask the client to raise his/her arm in a scapular plane at a moderate pace. The head of the humerus should be felt to descend a few millimeters with respect to the scapula. Frequently the humerus will be felt not to descend.

If the subscapularis muscle is not active in depressing the humerus with respect to the scapula during elevation of the arm there are a number of possibilities. The client may have a severe tear of the subscapularis muscle or more often its tendon. The subscapularis muscle may be weak. There may simply be an unconscious movement habit that excludes this depressive action of the subscapularis muscle.

To begin to differentiate among these possibilities:

1. Inquire about any known history of rotator-cuff injury. Make medical referral for further investigation as appropriate.

2. With the client's arm at his/her side and the elbow flexed, place your hand on the palmar side of the client's wrist. In this position ask the client to push into your hand while holding his/her arm at his/her side, which internally rotates the arm. Note the apparent strength of the muscles used to do this. This test is not exclusive for the subscapularis but prominently includes the subscapularis. If this is weak but doing it produces no shoulder pain, giving exercise to strengthen this internal rotation movement may be useful. If moderate exercise produces subscapular and/or shoulder joint pain, again consider medical referral.

3. Offer an awareness exercise. As with the test above, place two of your fingers on the posterior portion of the shoulder joint to monitor the acromium and head of humerus. Invite the client to reach across and place two fingers of his/her other hand similarly on the same two bones more anteriorly. Ask the client to stay aware of this contact as s/he slowly starts to abduct the arm. Ask the client to note that the humerus does not descend on the scapula. Ask the client to lower and relax his/her arm. Now ask the client to gently begin to abduct the arm while searching for a way to gently glide the humerus inferior with respect to the scapula, while minimizing descent of the scapula with respect to the rib cage. With a little trial and error many people can do this. Suggest that the client practice this, and feel for the muscle deep under the scapula that is doing this. The biomechanical advantage of this movement pattern is great enough that the person's nervous system usually learns this with a modest number of repetitions, and it becomes automatic.

Take-aways from this article include:

1. The scapula and the humerus should both lift together during all phases of arm elevation to share the load and minimize the opportunity for impingement.

2. Internal rotation of the humerus during elevation of the arm is to be avoided.

3. Humeral torsion is quite variable. Very few people's elbows should point out to the side. For most people, 'elbows out' has the humerus in substantial internal rotation, which increases the likelihood of shoulder impingement. The head of the humerus resting centered in the glenoid fossa is a much more appropriate indicator of appropriate shoulder position than is olecranon process direction.

4. Some people's arms will be able to lift higher than others. We are all built differently. In the goals for your work seek ease.

5. The action of the subscapularis muscle depressing the humerus on the scapula to protect against impingement is often not working well. This is often easy to retrain.

Jeffrey Burch was born in Eugene, Oregon in 1949. He grew up there except for part of his teen years lived in Munich, Germany. Jeffrey received bachelor degrees in biology and psychology, and a master's degree in counseling from the University of Oregon. He was certified as a Rolfer in 1977 and completed his advanced Rolfing SI certification in 1990. Jeffrey studied cranial manipulation in three different schools, including with French etiopath Alain Gehin. Starting in 1998 he began studying visceral manipulation with Jean-Pierre Barral and his associates, completing the apprenticeship to teach visceral manipulation. Although no longer associated with the Barral Institute, Jeffrey has Barral's permission to teach visceral manipulation. Having learned assessment and treatment methods in several osteopathically derived schools, Jeffrey then developed several new assessment and treatment methods that he now teaches, along with established methods.

In recent years he has developed original methods for assessing and releasing fibrosities in joint capsules, bursas, and tendon sheathes, which he is also beginning to teach. Jeffery is the founding editor of the IASI Yearbook*; he contributes regularly to this Journal and elsewhere. He was for many years a member of the Dr. Ida Rolf Institute® Ethics Committee. He has served on the Dr. Ida Rolf Institute Board of Directors. For more information visit www.jeffreyburch.com.*

The Hands – Our Tools, Our Expression

Appreciation and Self-Care

By Bibiana Badenes, Certified Advanced Rolfer™, Rolf Movement® Practitioner

Bibiana Badenes

ABSTRACT *This article first discusses the sensory and functional qualities of the human hand; Bibianna Badenes uses sensorial words that illustrate the expansive qualities of the hand. Second the reader is invited into a series of hand movement interventions to support self-care for the hands of Rolfers and all hard-working hands.*

The body often expresses itself through the hands. By relaxing them and allowing them to move with fluidity, we can release and relieve blockages in other areas of the body. Helping our clients to be more aware of their hands and to teach them exercises they can do at home can create a connection to other tensional patterns throughout the body. This will be valuable in showing how emotional patterns will show up in the hands. Personally, working with my own hands on a daily basis has brought me a new understanding of embodiment and an ackwnoledgement of how important the hands are for the body to be fully integrated.

Our Expressive Hands

Our society places a lot of importance on the face: we use makeup to look more seductive, spend a lot of money getting nose jobs, whitening our teeth, and whatever else we deem necessary so that our face looks perfect from the outside. There is, no doubt, something to the saying that *the face is the mirror of the soul*. However, the truth is that our hands transmit the depth of human expression. It is important that we tell our clients how much the hands can show what is going on in the rest of the body as well as about their emotional state.

Figure 1: Acupressure ring exercises.

Perhaps our hands might not be our most glamorous body part, but they show a certain complexity and the richness of our humanity. They are full of sensory receptors which have their own language — touch is an entire world of its own.

With our hands we can express a myriad of emotions – delicacy, subtlety, love, strength, vulnerability. We write with them, as well as craft and create. Might we consider this a direct projection from our hearts? In fact, when we greet each other by grasping hands, this gesture brings our hearts closer together. When we hug, we use our arms as much as our hands, and with them the entirety of our body's energetic field, to transmit our feelings, thoughts, and emotions.

Figure 2: Hand exercises while seated.

As our species evolved into an upright posture, the hands were free to become more dexterous. Among the earliest expressions of human language was simple hand signs. The motor areas of language and movement are not only side-by-side, but are intimately connected within the brain. A great example of this is sign language, where hand symbols create language. By using our hands we activate different areas in our brain: a pathway of neural connections is formed and each pathway is unique to each function.

But our hands are much more; they can create, they bring food to our mouths, and, if it's tasty, we say the food is *finger-licking good*. The healing power of our hands has been used since time immemorial to restore health and transmit energy. In meditation we use our hands in certain postures. Also, in the practice of qi gong, specific hand positions are used to activate certain energetic circuits.

Using our hands makes us more human and the fullest expression of this is the infinite creativity of the human species. In that case, we could say that trained hands, hard-working hands, are creative hands, and we can be proud of them. However, in these times we seem to value machines more than our own hands. We even hide them if they don't look glamorous enough – the solid, strong hands of a woman who works with them or those of someone who bites his/her nails to let go of tension.

We are not aware that so much of the stress we suffer from is, precisely, the fruit of not being able to express ourselves or communicate, not only through words, but also with our body. We can change and reorganize our sensations and tension substantially just through our hands. Also, as Rolfers, our embodiment affects our client while being touched by us. By changing our sensation of our hands, we receive different information from out clients' bodies and, therefore, our way of touching changes.

Hand Exercises

The exercises and the awareness explorations proposed here can be done either separately or as a sequence. They help improve mobility and fluidity in daily movements, thereby preventing tension not only in our hands, but tension created in other areas that can be released through our hands. Keeping our hands versatile will furthermore improve circulation, prevent arthrosis, and keep the palmar tendons from retracting. These exercises could be a complement for Rolfers to take care of their hands as a daily regimen.

1. Relating your hands with your body

- Stand and observe how your arms hang, notice the sensation you feel in your hands in general, and then, in your fingers.
- Begin to walk with your attention on your hands, and then tighten them. Watch what happens in other parts of your body.
- Release the tension and continue to observe how you feel.
- Continue the exercise by applying less tension though keeping just enough so that you can sense it; notice how it relates to and affects different areas quite distant from the part you tighten in each moment.
- You can try this seated as well, while standing in line, or in a waiting room.
- This exercise helps identify unnecessary tension in different situations of daily life, including when you are working or just relaxing.

2. Stimulate your fingers and your body

- Sit comfortably with an acupressure ring (see Figure 1).
- Roll the ring repeatedly up and down each finger, at least seven to

eight times for each one. If you notice more sensitivity in one spot, go slowly without stopping. Do not use it if you have an open wound.

- Stand up and repeat the above explorations. Feel how your arms and hands hang now. Do they feel any different?
- Repeat the exercise on your other hand, making sure you address each finger.
- Acupressure ring work is based on a Korean therapy called Su Jok (created by professor Jae Woo Park). According to this therapy, the palm and fingers contain points that correspond to all organs and body structures.
- Daily stimulation with an acupressure ring can balance the entire body. It will also give a more fluid sense of your own hands, and therefore, your touch and your listening while working will change.

3. Wide open hands

- Start by making a fist and begin to release tension as you slowly open it.
- Glide your index finger along each of the inside edges of your fingers, massaging the webby area that joins one finger with another; push them a bit. Repeat this three times slowly.
- Do this first on one hand, then the other.
- Now interlace your fingers and rub them, creating some friction.
- This exercise opens up the hand in general and each finger specifically. It also improves finger flexion and total hand strength.

4. In line with your spine

- Sit on the edge of your chair facing a wall with your feet flat on the floor (see Figure 2).
- Place the palms of your hands on the wall spreading your fingers.
- You will probably notice that if one of your hands or any of your fingers loses contact with the wall, it will directly affect your back. Try this exploration with different types of contact with the wall.
- Stand up, relax your arms and shake them out, then notice how your arms hang and any sensations in your hands.

Figure 3: Hand exercises with ball.

- This exercise integrates the hands, shoulder girdle, and spine. It stimulates the line from hand to shoulder to spine.

5. Gain strength and mobility

- Place a tennis ball (or a smaller size ball if this feels too big) on the floor or seat of a chair (see Figure 3).
- Place your hands one on top of the other so that the ball is in the center of your palm, near your wrist.
- Using your body weight, very gently allow your hands to sink into the ball.
- Move the ball very slowly (as if you were painting) in different directions for at least one minute.
- Pay attention to your shoulder, the connection between your shoulder and hand, to your neck, and to your jaw. They can tense if they try to avoid part of your body weight in the ball.
- Repeat on the other hand.
- You will see how mobility improves in your bones and joints. Your hands will get stronger with consistency.

6. Massage to tonify and relax the hands

- Massage your hands with a bit of oil or cream. Enjoy every second.
- In a circular movement, wring each finger five times clockwise, and then five times counterclockwise. Do this at a moderate pace.
- Draw circles with your thumb on the palm of your hand, using soft but firm pressure and without overstretching the thumb.
- Using your thumb and index finger, pinch and draw straight lines on all your fingers, from the base to the fingertip. Do this three times on each finger.
- Make a soft fist with your other hand and gently slide it in circles along the entire palm.
- Massage the dorsal side of your hand. Use the entire palm of your other hand. Repeat five times.
- Draw circles with your thumb on the top of your hand.
- Repeat the entire sequence on the other hand. Do this work more slowly on the side that tends to be more sensitive.
- When you finish, rub your hands together, softly and sensually, as if you were absorbing the last drop of oil or cream.
- This massage not only improves circulation, mobility, and strength, but also yields better balance in movement.

Bibiana Badenes has a degree in physical therapy from the University of Valencia, Spain; she is a Certified Advanced Rolfer and a Rolf Movement Practitioner. She has been educated in different psychosomatic bodywork therapies throughout the world and is currently investigating and creating a program she calls Body Intelligence (Inteligencia Corporal) as a way to discover one's potential through one's body. Bibiana has developed one of the most comprehensive residential treatment programs available in the world today for rheumatoid arthritis (RA), working with more than 2,000 RA patients – adults as well as children. She leads stress management and burnout programs. She directs Kinesis Center in Benicassim, Spain where she leads retreats and lives with her family in this beautiful seaside town.

Inducing Fluid Hands to Reveal the Functional Layers of the Wrist

An Interview with Siana Goodwin

By Lina Amy Hack, Certified Advanced Rolfer™ and Siana Goodwin, Certified Advanced Rolfer, Rolf Movement® Practitioner

Lina Amy Hack

Siana Goodwin

ABSTRACT *This interview revisits a Rolfing® Structural Integration (SI) in industry success story. Siana Goodwin shares from her years of experience working onsite at a hearing-aid manufacturing company – work that directly reduced workers' compensation costs for a large employer. There is much to learn about hands and arms, and especially carpal tunnel, from her work with this specific client population.*

Lina Hack: You have a unique experience as a Rolfer, you have done a lot of focused work with hands and arms. Specifically, you worked in an industrial setting with Starkey Laboratories, a hearing-aid manufacturing company.

Siana Goodwin: Yes. One of the first questions people always ask me is how I first got started working at Starkey. It was a great thing but I didn't initiate it. I had a client who was very devoted to Rolfing SI, believed in Rolfing [SI], and he happened to be the human resources director at Starkey. Luck is a huge part of everything.

LH: That seems to be a common narrative amongst our colleagues, we get these devoted clients and they have the doors for us to walk through.

SG: I think that is the lesson, pursue your passion about the work and something will happen. I think it's really hard to go off and sell an idea to someone, at least for me. This client brought the idea to me. Starkey was having big problems with carpal tunnel injuries; they were costing them one million dollars in a year in lost time and workers' compensation costs. So, he was saying during a session one day "I'm sure Rolfing [SI] could help people but it would be really hard to get them to sign up for ten sessions." And I said, "You know, I actually think you can work on hands and arms without doing a whole series." It was something I had been exploring with people in the massage school here. And he just started to promote it and convinced the company to take a chance on doing it.

LH: I'm so curious how they structured that contract, did they hire you as a consultant?

SG: It started off experimentally, they were going to try it for a few months and see if it made a difference. It made a big difference within a short time so they kept

going. At one point in that first couple of years they decided to stop it – and then after a short while they came back to me with "Oops, now we can't not do this." So, it kept going. I worked there from 1992 or 1993 until about 2000. Then another Rolfer took over, and then I think in 2006 they asked me to come back, and I worked there until 2015. So, I had two different stints there. The company changed a lot in the time between. It greatly expanded its focus on wellness, and there were more workers doing desk jobs than actual manufacturing. They originally hired me to work with people actually constructing the hearing aids. That's where all their carpal tunnel injuries were coming from.

LH: Did you have an office in their facility?

SG: Eventually I did. At first, they put me in a kind of closet or storeroom where I could fit a table. Over time they made a special Rolfing office. I think that happened after I left the first time. They found that somebody was there often enough that they needed a space that would just be more pleasant, more accessible.

LH: Were people permitted to come see you during their shift?

SG: Yes, that was the idea. The closet I was originally in was set in the production area, which made sense because the workers were right there. An employee could come in for fifteen minutes to a half an hour. One of the production managers said at the time, "I'd rather have them lose half an hour of work than lose weeks of work." That became the attitude as they saw the value of the work over a couple of years. The difference in productivity was clear.

LH: In your article "Rolfing in Industry: Addressing Repetitive Stress Conditions" (Goodwin 1996) it was emphasized how Starkey management could see the value in productivity and reduction in the number of workers' compensation claims.

SG: Oh absolutely, that was the other thing. Not only did their immediate costs from worker injury go down, their insurance costs went down. They contracted with an insurance company for their own insurance packages. With that kind of arrangement there's something called the modification factor – or 'mod factor' – where there's an industry average of risk, and the company's insurances costs are determined by where they stand relative to that risk: about average, above average, or below average. Starkey's risk became so much lower than the industry standard that their entire insurance costs dropped. That was a huge savings for them for a long time.

The fascial matrix goes throughout all the constructs we think of as the anatomy.

LH: And your work was focused on symptom relief for carpal tunnel pain?

SG: One of the things I discovered was a way to really make something change while only working on this specific area of the body, without doing all the supportive work elsewhere in the structure, but it became really hard on me. And it was an exhausting kind of work, much harder on my hands than the regular Ten-Series work I was doing in my private practice.

LH: Employees were at work when they came to the treatment space, I imagine it didn't feel so comfortable to dress down, take their shirts off?

SG: Yeah, they mostly did not take shirts off. I would just work through clothing.

LH: In their work, they were working at microscopes, holding tweezers, doing finely detailed work with their hands?

SG: There was a variety of jobs but in the production of the hearing aids there was no job that didn't involve fine hand motor movement – the people were working through microscopes, assembling these tiny in-the-ear hearing aids. But there were other jobs. For instance, people had to polish the aids or buff rough plastic off the casings – that was a hazard because they were gripping a tiny object in their hands and using an electric grinding wheel to smooth the plastic. The tight grip created muscular stress and the vibration was irritating to the nerves. At another work station people tested the hearing aids, and to do this the hearing devices had to be wrapped in a certain kind of putty in order to go into the machine for testing. Their hands were doing this gripping and kneading thing repeatedly, opening and closing this heavy door. That was a whole different kind of repetitive-strain injury.

LH: Would one person always be doing the same work station? Would they be doing that for their whole forty-hour work week?

SG: Yep. Or more than forty hours. They didn't change workstations much. Sometimes somebody would do two jobs and they might trade off a little bit, but for the most part, they were just stuck in one place doing one job.

LH: I have a client who works in a factory assembling remote controls. She said they all move around and that's part of their strategy to change the demand on each individual worker's hands.

SG: People have learned from experience. In the 1990s, industries didn't really know anything about the cost of repetitive work, the whole idea of the repetitive-motion injury and carpal-tunnel pain was just coming up. By the time I returned to Starkey in the 2000s, they had instituted exercise breaks, and people had to stop working and do a series of stretches. This was part of their regular breaks though, so most people didn't give a lot of attention to the stretches. But the company and the workers had more consciousness of some of the factors that were physically stressful.

LH: When you were there in the 1990s, was the company open to hearing your suggestions about that?

SG: They were really concerned about the cost of repetitive-motion injury. They were open to lots of things and were looking at things like exercise breaks and the ergonomics of the different work stations; they were definitely open to my feedback about that. That was another important factor besides the bodywork, really working with how people were using their bodies and getting support for sitting, using microscopes, stuff like that.

LH: Would there be a difference in how individuals were injured depending on their own body type?

SG: Honestly not so much. It was more the stress of what was going on. When I came back in the 2000s, there were so many more office workers that I started seeing more people who had neck and shoulder strain from working at computers, and different kinds of hand and arm ailments from working with keyboards. With those issues there's really less direct stress on hands and arms – the primary factor is immobility, sitting in one position for so long. It seems like more people are aware of that hazard now.

LH: Did both groups of individuals present with carpal-tunnel-pain symptoms?

SG: The office workers mostly had different issues. I didn't find people developed carpal-tunnel syndrome unless they had that repetitive hand movement, although they would have other kinds of hand and arm strain. The very long work hours were more of an issue in production [of hearing aids]. People were always working overtime. You could not convince people that it wasn't a good idea to work twelve hours a day. But another factor was, I think, that most of the employees I worked with were immigrants. When they saw me for Rolfing [SI], the fact that they had even a break from work was a big deal.

LH: That's an interesting cultural piece. So, I'm curious, then, about the mind map you have about hands and arms. And of course, the neck, for the shared fascial network. What is the dominant feature about how you see these structures? Do you see it as the layers? The sleeves within tubes within tubes? Or what's your construct?

SG: That's a great question. Probably all of those things. In the last decade or so I've done a lot of dissection work with Gil Hedley, so my sense of what's in there has changed radically. I think it's all of those things. I'm really aware of the interweaving nature of fascia. The *layers* are created constructs in the same way that all the anatomical details are created constructs. But both the vision of the body and the sense of everything embedded in fascia has changed the nature of my work.

You asked earlier if I worked with arms and thorax at the same time – I don't think I did that as much when I first started work at Starkey. But in my current practice, especially with hand and arm work, I work much more broadly because I have such a different experience of the continuity of all those tissues. The fascial matrix goes throughout all the constructs we think of as the anatomy. Does that make any sense?

LH: Absolutely. And when I think about hands and wrists, I find myself thinking about its very material, that it's fluid. This is a gel that we call a wrist, that it is a really dense place with cylinders; what we need is fluid flow.

SG: I think you're absolutely right. The hydration factor is a huge part of carpal-tunnel syndrome because the compression from the hand usage will lead to the fluids not flowing well in there. The piece in my 1996 article about opening up the hand and wrist structures is largely a way to get fluid flowing more freely and to get the fluid moving through the nerve structures as well as the tendon structures.

LH: What really struck me in that article was your thinking about the pressure dynamics in the carpal-tunnel compartments. In that same *Rolf Lines* issue there was a carpal-tunnel article by Helen James (1996) that talked about the anatomy of wrist pressure. It's good to keep that knowledge fresh in one's mind.

SG: Absolutely.

LH: The shape of the carpals, changing the pressure in that small zone makes all the difference. And that's what we are doing with our fascial interventions. It's interesting to think about it influencing neural and vascular pressures.

SG: Things move in there! When you move your fingers, you can see the forearm tendons moving under your skin. That was something that fascinated me as a child – that you can see the tendons moving but you can't feel it. It's like, "What the heck's going on there?" And as Helen James pointed out, the nerves are changing lengths too with movement, and they have a limitation of adaptability. There's a lot of potential friction with movement. The fluid mitigates the friction. With constant repetitive motion, there's irritation, and then there will be more fluid to help the function of the tendons. But then the tendon sheaths distend and the space [of the carpal tunnel] becomes crowded and that'll produce inflammation and increased pressure on the nerves.

The whole length of the nerve needs that fluid. That's why we can get those other pressures elsewhere in the nerve pathway. Restrictions anywhere in the nerve pathway are going to affect the feeling in the hands and the arms, changing function of the nerves. It's a funny thing we do, to decide there's a single spot that's the problem when really the whole system is under stress.

LH: That was going to be my next question. How do you decide the spot? Do you have a way of going along the length of the limb, from fingertips to neck, to the brachial plexus?

SG: Well, why bother deciding it's at a spot? It's a functional issue and the function is of the whole structure, which is why doing work like this is both satisfying and dissatisfying. It's like you definitely can produce a difference in symptomology, especially in the person's immediate experience, but you don't see the whole system changing and it's going to be a recurring problem.

It's easy in a session to concentrate on a particular area or particular symptom. I'm sure every Rolfer runs into this, that people say, "It hurts here," and you feel obliged to work where they say it hurts even though you know that there's more going on. But I think we're led to look for different spots by lack of sufficient success in treating only a problem area. Now, when I see clients who come specifically for that work, [like upper-extremity repetitive injury], I'll work spine to fingertip from the beginning.

LH: Do you work passively and actively?

SG: I've developed a preference for working slowly and pretty passively, especially as my sense of the intricacy of the body has developed. And because, like many Rolfers, I've been exposed to energetic forms of work. This has changed my Rolfing work in general. I think there's more of a listening quality to it and less of a pressure to 'do'. And also, I really like to provide that resting space for people because everybody is so cranked up

Figure 1: Tension in the anterior wrist. Photo credit: Ian Noble on Unsplash.

Figure 2: Rotation of thumb while gripping a tool. Photo credit: Quino Al on Unsplash

all the time. I like those moments when you're working effectively and your client is actually resting. That's a preference for me. But I still have people move with the work sometimes. It just depends on what I'm feeling in the tissue. If I feel that they're getting the work they need and can rest at the same time, then that's where I go.

LH: Do you like working with your client's supine? Sidelying?

SG: Generally supine. What are you thinking?

LH: Well, I debate that. Sidelying, you get so much into the shoulder girdle, but then it's more challenging to get the hand. Supine is great for the hand work and the client is resting. Sidelying, easier to get at the brachial plexus.

SG: Yeah, that's true. Here's a tip if you have a physio ball, an exercise ball, in your space. If you have people sidelying so that their hand hangs off the table and rests on the physio ball, then you've got a whole chain to work with. Because they have their hand contacting something, it's actively engaged. You can also call for movements of the hand and arm that will engage it more. Neurologically, it's actively engaged with the shoulder girdle.

LH: Nice, I like it. It sounds like you don't really have a standard start for someone presenting with hand symptoms, that you work dynamically with each individual.

SG: It depends a bit on how they express their problem. Also, what I see. But I do think probably more often than not, with a hand client, I'll start somewhere in here [indicating upper thoracic, shoulder-girdle area]. Everybody has this problem area. And everybody immediately relaxes more, once they can feel some difference in the tension in there.

LH: And clients feel like their needs are getting met.

SG: Yeah, or it's a bonus for them. They wanted their hands worked on but they actually get something else that is equally good and that's a good start.

LH: In your 1996 article, you mentioned that the hand that's having some problems has a particular look to it – a bunched look to the carpal tunnel. What is the look of a compromised hand and wrist?

SG: It's this crowded look through anterior wrist (see Figure 1), like the hand can't open flat in supination. The other thing that's a clue for me for arm work is the inability of the arm to fully supinate when the client lies down, or if you ask them to turn their arm palm up, they can't do that without turning the shoulder as well. That's usually restriction in the layers of the forearm, the tissue of the flexors, pronators, and supinators. That space between the radius and the ulna doesn't open fully. And again, that comes from a lack of variety of movement, that we use our hands in the pronated position most of the time and the tissues don't get much chance to extend. But that can come back pretty quickly with [Rolfing SI] work.

LH: You also had an interesting focus on the thumb.

SG: Well, if there is repetitive stress or injury because of a gripping movement, this part [indicates thenar eminence] is affected. The opponens pollicis moves your thumb to the other fingers of the hand. [The abductor pollicis brings the thumb away from the midline of the hand; the adductor pollicis brings it back.] And you can see how this anterior area at the base of the thumb gets narrower in opposition (see Figure 2). The thumb rotates, the anterior space closes. Does that make sense?

LH: Then when we are working, it's the job of cleaning the kitchen in the thumb compartments.

SG: I like that. Get out the oven cleaner. Yeah, usually this space [of the palm] and all these superficial retinacula here [indicating anterior wrist], opening this up.

LH: And then differentiating the tendons, the flexion, extension tendons of the fingers, is that a key component?

SG: No, not really. If I want to do something with the tendons or check their movement I'll go to here [indicates muscle of proximal forearm]. Then you can get a feel for the motion and, if you need to, get hold a of the muscle bundle. But at the wrist the issue is more about making space in the carpal tunnel, and you do that with the retinacula and tissues of the intrinsic hand muscles. If the tendons have enough space to move, that's the main issue. Does that make sense?

LH: What about spreading the retinacula or carpal ligament?

SG: I don't think of doing that in particular. One of the things that changed for me in doing a lot of dissection exploration was appreciating the intricacy of the fascia and how everything is interwoven. I'm trying to think how to express that. Muscles in the palm have attachment to the ligament as well as to bone. If you think of working at attachment sites, which is where I tend to like to work, it will all respond because it's the same stuff. You can identify ligaments as separate structures, but it is a continuity of tissue. And sometimes just trying to make it look nice, wide, and smooth is sufficient focus for getting the results that you want.

It's all about fluidity. It's about bringing fluidity back to the tissue and movement back. It's not about prying one thing off another or finding an adhesion to break or any of that. It's all about fluidity, which is something you named right away. Working in this area would be one place to have the client involved in movement. If the client moves their fingers that will

produce movement in the tendons that go through the carpal tunnel. The dynamic contraction and extension help the fluid move again. And begin taking that fluidity into a more open space.

LH: So, you don't necessarily think, "What's happening with the median nerve, what's happening in the ulnar nerve?"

SG: It's kind of a funny thing about the way we practice and the way our practice has developed with our 'need to know'. We really want a story so that we can focus what we're doing. That's where symptomatology is useful – the client describes a situation and you can say, "Oh, that's the radial nerve," or whatever. And it influences where you choose to focus your work, but you can work without it too. We don't necessarily need this level of detail; a certain level of sensitivity and other principles – looking for movement and fluidity – those are enough to work with. I feel like I bounce back and forth between really loving the anatomical specificity and also knowing that it's not necessary, and sometimes it's a rabbit hole. Sometimes it's a false lead for not paying attention to other senses you have about what's going on, or listening to the client about what's going on.

LH: It's comforting to hear you say that. When I'm working, I feel like I'm accessing a part of my cortex that is creative, which is really far away from those specific terms, and they aren't always at the forefront of my mind. They get stuck on the tip of my tongue. Yet I know that I know.

SG: Right! I think that's exactly right. When you're working, you're accessing a different kind of intelligence that isn't that linear verbal intelligence.

LH: Yeah, it's this tactile artistry. It feels like moulding the most sophisticated clay possible.

SG: And participating with it, that is true. I think of the work as participating in this continual creative aspect of the body. The body creates itself in every moment. And you're participating in that, in some ways redirecting what the next moment of creation is going to be because the body has been adapted to what's happened to it. And Rolfers add an intervention that will help it create in a different way.

Naming anatomical structures in our minds in a way is eliminative. Any time you use that anatomical specificity, you've separated it from everything around it and you've actually separated it from its activity of participation with everything around it. It is useful in a way because our brains are kind of hungry for that kind of naming of the world. But it's also not necessarily your most useful tool when you're actually working, particularly when you're working with helping the structure become something else, another aspect of itself. When you're working to try to get someone out of pain, sometimes it can be quite useful to be broad with our mind.

LH: Absolutely. I love how you're saying that. And when creating a new moment for people in their hands and their hand comfort, we of course have to talk about the neck. It is essential that we name the whole line and then some.

SG: Which is why you have that urge to get at the whole shoulder structure. You need all of that connection. And why, even in that specific work with people with the hand issues, it was so essential to get them proper support, and comfortable in sitting. It is really hard for the arm to have support in general. If they can be more comfortable sitting, then they have a supportive structure, they're not fighting that as well as trying to do this delicate handwork.

LH: That said, is there any clear deduction that you've found to see impingement being more dominant at the proximal neck structures and nerves that emerge from the neck or it is clearly distal in the forearm, wrist, and hand?

SG: Yes, sometimes you can see just that. "Of course your hands hurt, because look where your neck is." But at the same time, when symptomology shows up, there's going to be some problem in the hand as well. I think that's why it just makes so much more sense to me to start working with the whole chain and not to see a problem as a single cause. It's really a condition, it's a syndrome, so there's no way there's a single cause.

LH: After all these years of practice, how are your own hands?

SG: Since I stopped working at Starkey, they've been good. But a factor of working there was that I did start to develop pain symptoms of my own. There was the kind of demand for me to feel like I had to concentrate on working in a particular way, and also the fact that I always felt rushed. And then there would be a tension that would get in my hands. I would do as much self-care as I could. I did the same things I would do for my clients, work around the thumb joint and just try to open it up and then rest.

LH: I ask because I just celebrated fifteen years in my Rolfing career and I feel like it's just the beginning, so I like hearing about self-care for having a long working life.

SG: You can keep going. I have my fortieth Rolfing anniversary in the spring, so you've got years.

LH: Congratulations! I do love this work so far.

SG: Yes, thank you. It is great work.

LH: Thanks to you for your time today and your insight, I really appreciate hearing your point of view after all that specific experience you've had as a Rolfer in an industry that requires workers to demand so much from their hands and bodies. Lots to learn from that group of clients, thank you so much for sharing with us.

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Waking Up Primordial Movement Patterns

Hanging and Other Suggestions

By Michael Boblett, Certified Advanced Rolfer™ and Kevin Frank, Certified Advanced Rolfer and Rolf Movement® Instructor

Michael Boblett

Kevin Frank

ABSTRACT *Michael Boblett interviews Kevin Frank on the art of reaching back into the human – and pre-human – family tree to reawaken lost patterns of movements. What sets this interview apart is a firm emphasis on the day-to-day needs of clients in a busy Rolfing® Structural Integration (SI) practice. In their dialogue, Kevin and Michael provide a very practical set of suggestions, things that work.*

Michael Boblett: What are we talking about today?

Kevin Frank: Our topic is the capacity to have an active kinesphere, especially in association with certain kinds of movements that involve hanging and twisting and being in different orientations to gravity and using all four limbs.

MB: In addition to your background in movement, one of the things I appreciated when I took your class in 2006 was your ability to really go back into phylogeny, back up the family tree literally and figuratively to find stuff that we've forgotten – mostly in probably just the last few thousand years as we have increasingly restricted the motions that we do. So, one of the things I wanted to talk about was monkeys and Australopithecus, who spent a great deal of time in the trees, and the fact that even now, if you put homo sapiens and hunter gatherers somewhere where there are trees, they're going to climb them. Children never got the memo that we came down from the trees. What are your thoughts about that? Specifically, how do you apply that with clients?

There's so many things that people have weighing on them, or triggering things that get in the way of actually discovering the fun of being in a broad experience of how many dimensions there are of the space around us. We first have to encounter, or negotiate, what that first little step is that allows the body to be comfortable enough, to feel safe enough, to allow it to feel good.

KF: Well, first of all, as we approach people's challenges, if there are limitations in the way people are using their body, we have an opportunity to introduce people to dimensions of their awareness and strategies for movement with enjoyment. We can introduce novel experience that supports a natural capacity to respond more, shall we say, creatively and ergonomically to life's daily challenges.

MB: Nice. Now, when you work with people on hanging, how do you deal with the fact that most people's hands are too weak to hang for more than a few seconds?

KF: Well, there are many things that all of us are introducing clients to that are perhaps initially too hard, intimidating, or off-putting. I think one of the chief roles we play as we support someone in opening up the world of his or her body is to create 'availability' [make something possible] and to continuously do just that, whether we're working with someone very elderly or very limited in their experience or someone who's recovering from injury. A huge part of what we're doing is finding a friendly trail of breadcrumbs between here and there. So, for instance, when I work with a client who's ninety-four and still actively Alpine skis, I'm always working to discover what's going to feel like the appropriate amount of difficulty that makes it interesting but not intimidating. I now have him hanging from a chin up bar but with his feet on the ground, bending his knees. I'm not working with many people in very vigorous hanging situations, and I'm not necessarily introducing it as a vital ingredient unless they're already interested in it.

I think you may have really done a great service by intentionally delving into the hanging because you like to do it. Let's say someone is interested in hanging but she can't really use her entire body weight. Well, then you find a way for her to not have to support the entire body weight. You work with her lowering herself down, on knees or in some other way, even on a chair. You might work with just one arm and girdle at a time. You can use a pulley system so that a person is able to really titrate the amount of weight that being sustained.

Again, I think about a 'trail of breadcrumbs', so a person finds that first tiny discovery that's an authentic appreciation of what it means to allow the weight to be experienced through the chain of bones from the fingers through the carpals, through the radius and ulna, through the humerus into the scapula, into the rib cage, and registering the value of having a refreshed experience of what it means to be in a suspended format. For many people, the barrier is often the habit of protecting against feeling the weight or immediately trying to apply a strong effort to be adequate in their performance of a movement.

There's so many things that people have weighing on them, or triggering things that get in the way of actually discovering the fun of being in a broad experience of how many dimensions there are of the space around us. We first have to encounter, or negotiate, what that first little step is that allows the body to be comfortable enough, to feel safe enough, to allow it to feel good.

MB: This is absolutely marvelous! I work in San Diego with a relatively young population for the most part. San Diego has been listed as one of the healthiest cities in the world. So, the whole issue of titration, and particularly with people who have fears about gravity and hanging, that's something I'm not as prepared to deal with. You mentioned using a pulley system. Pulleys are something that I've just started getting clients to use, but I just encourage clients to use the pull-down bar at the gym, with weights. Getting to and from the gym doesn't always happen. Are you aware of any hanging system that people can use relatively easily at home?

KF: For shoulder rehabilitation, these pulleys are pretty widespread online. You put hooks in the ceiling and attach it. It's not very robust; you wouldn't want to put all your weight on it, but for the practitioner to hold one of the handles while the client negotiates allowing his hand and arm to be raised slowly, we can catch the moments where a person starts to work too hard or when there's a habitual tendency to defend in the shoulder muscles. We can slow it down and track the person's experience and begin to create a new pathway. The least expensive thing is a small pulley at the hardware store and a piece of clothesline and then a couple of handles of some sort. You can just take a piece of dowel and wrap the cord around it, and you've got a simple handle. And in that way, there can be some continuity between the exploration in the office and then at home.

MB: One of the articles I'm putting together is about how to get people to the point where they can just use a simple pull-up bar over their door at home. Part of the skill with which you approach this is with different kinds of clientele. I make many assumptions because my clientele tends to be young and athletic.

KF: Let me affirm [the importance of] people beginning to learn what it's like to use their latissimus and their lower trapezius in a manner that is friendly enough that things don't get all bunched up, so people don't turn on every muscle in their body. There are so many ways in which the people I see, broadly, lead lives where there isn't so much opportunity to do that coordination

of pulling down with the hands to pull the body up. And, it doesn't have to be with the entire body weight. We've also put a hook in the ceiling and attached a loop of TheraBand attached to a 1⅜"-diameter [3.5 cm] by 32" [80 cm] stick, so a person can begin to pull down like at the gym, but again in a very controlled circumstance where there isn't a context of "this is all about building muscles, this is all about looking good." Pulling down the stick over their head can feel fun.

Another wonderful thing, although not available everywhere, is outdoor exercise equipment where a person can pull down bars and lift their body up in the air. They have these in different parks, I've seen them in Brazil and in Florida. What's wonderful is feeling the body lift up into the air; a person who could never do a pull-up is suddenly empowered in a way that's tremendous.

MB: Ah, the pleasure principle! Ed Maupin is big on finding the joy in the movement itself. In San Diego, many of my people are driven by pleasure. They're driven by, "I want to look good walking down the beach in La Jolla with my shirt off." The problem is that approach to exercise actually gets in the way. I have clients who are all about a few repetitions of concentric movement done clumsily on a machine and for cosmetic reasons.

KF: I have those people too, the gym enthusiasts. I'm probably not seeing as many who are just trying to look good. But I'd say I certainly work with people who have many conceptions about what it means to be fit and what it's going to take for them to be strong and have the kind of stability that they're after. What I get asked a great deal of in classes that I teach is what do you do with these people who have this focus? I'd say that my go-to's are the following. First of all, a person may come in and say things like, "My neck hurts." If someone says that kind of thing, I ask, "Are you interested in in a counterintuitive idea? Are you willing to consider finding out that there are assumptions in what you are doing and what you've been taught? Well-meaning people may be teaching you things about exercise and fitness that aren't serving you. Are you interested in that?" I think it's polite to first give someone a chance to say, "No, I'm not interested." But assuming a person is, I say, "So, I'm going to propose to you an idea that most strength issues are not about the hardware, it's about the software." It's about conflicted motor patterns that tend to lead to getting more compressed in joints. The tone in some of their musculature really only gets more uncomfortable because the brakes and the gas pedal are being pressed at the same time. I really take a great deal of time with this idea in the classes and with my clients, and it has to be reiterative, meaning over and over again. Then I have to show them in my body, this is me moving by letting go, this is me moving by adding more power to the agonist without releasing the antagonist.

Figure 1: Om gym inversion exploration.

Hans Flury with his normal function work made a big deal about how movement needs to start by letting go. Many people have. But the point has to get made over and over to our community because even though we have a legacy from Rolf saying we need to have extensors extend as flexors flex, to really flesh it out, so to speak, to really explain that and to really demonstrate it over and over again with clients, I think it's a very worthy and appropriate part of our scope. We really have to educate people to stop beating themselves up.

MB: One of the groups of people I work with are fitness trainers. These people often have very strange ideas about training. Somehow, without saying, "You believe things that are wrong," you can say to the client, ". . . By the way, here are some additional things that could add to your practice . . ."

KF: . . . To your repertoire of ideas and tools. I would add to that, with someone strongly committed to a particular orthodoxy of fitness philosophy, I try to give a face-saving idea, which is, "Look, I work with the people for whom what *you* do may not always work out delightfully. So, I have a slightly skewed perspective and I invite you to indulge me in learning about it." I tell them it's not "fair": there are people who *can* do abdominal workouts of the conventional sort – forced flexion – their whole lives and never pay a price for

it. By contrast, I see the people who, when they do those abdominal workouts, their back hurts worse, and then their neck hurts worse, and they end up really in trouble. I ask, "Would you be interested in finding out what I've discovered helps those people?"

MB: Very good. I've had trainers say that they took ideas from me – and my ideas worked! But if people take ideas from me, I must be willing to take ideas from them, which makes the conversation more agreeable. Nobody likes to feel stupid. Partly because most people really aren't.

KF: Certainly.

MB: This is how tactless I was when I first started out. There was one client who came in, twenty-six-year-old personal trainer and fitness model. He had 17¾ inch biceps, and they did not look good. He thought I was going to gasp and tell him what an Adonis he was. I said, "You're twenty-six. I'm sixty-two. If it came to a fight, I could probably beat you up." This is not the way you normally talk to a client. But that kid started my program of developing more natural muscles, and he now makes more money as a model than he did before.

KF: That's a beautiful story.

MB: Yeah, he looks like a human being now. So, I was tactless, but I knew this kid [through a friend]; I knew that I could get away with it.

KF: Sometimes you can get away with candor, which is a wonderful thing. I tend to give myself permission to be as blunt as I can be when it looks like it's going to be okay because why beat around the bush. People can tell if you're beating around the bush anyway.

MB: I think if the heart is in the right place, you actually have to spend less energy trying to be tactful.

KF: Very well put. I like that.

MB: So, you introduced the idea of eccentric movement for lowering down. What are your feelings about hanging yoga and some of the equipment that is used?

KF: Well, I think you're more familiar with what's current than I am. But I'd say there are specific ways we [Caryn McHose and I] use hanging; I feel like it derives a great deal from what we learned from Emily Conrad and Continuum Movement®. She did movement improvisation suspended on a device she called the 'explore board'. We own three of those things. Every morning, I do suspended movement, and there is a great deal of elongation in that, as well as maximized varieties in planes and combinations of limbs and spine. A chief value is the capacity to relax into it. We also use an OmGym, which is a suspensory thing that you hang from a hook in the ceiling. It's a cloth sling that you can wrap your legs around and suspend and move your body in different ways (see Figure 1). So, in all these things, I think a key feature is it can help people find a comfortable relationship to that suspended situation.

My stepdaughter had done a tremendous amount of aerial-type yoga, and it leads to a yummy body experience. I think there's something about having the weight of the body allowed to do its work and to feel how the body has an instinctive response to that. For the people who aren't the young whippersnappers, if it's titrated enough, they can begin to feel this experience, even just suspending themselves over a chair, which is a very interesting thing to do. To do that, you put some padding on a chair with one hip down on the chair and one hand down on the floor, then bring your legs up in the air and your other hand up in the air, and you begin to work with an inverted posture that allows for improvisational movement (see Figure 2). So, for me, I'm less interested in specific postures than I am in people calibrating, finding their own delicious discoveries in a suspended mode.

I think when someone, as a practitioner, does this on a daily basis, inevitably, it's going to spill over into what you suggest people do. Hanging off the table, hanging off the chair, hanging off a ladder rack, hanging off some kind of a slant board,

Figure 2: Inverted suspension exploration with body draped over chair.

[With suspension], you've changed the equation so that you have a different orientation to gravity, and now your proprioceptive sense is going to get stimulated in ways that then can inspire . . . It creates a great deal of flow of information that allows the body to begin to innovate movements when they're in the normal orientation to gravity.

hanging off . . . any of these things that one might try like the OmGym, whatever. A person starts to realize, oh, there's a tremendous amount of degrees of freedom to play with. You've changed the equation so that you have a different orientation to gravity and now your proprioceptive sense is going to get stimulated in ways that then can inspire. Again, if it's supported, if a person is encouraged to find their way in it, she can start to find innovative ways to allow their joints to move, for example. That stimulates the receptors. It creates a great deal of flow of information that allows the body to begin to innovate movements when they're in the normal orientation to gravity.

MB: This is cool. At my clinic we're putting together an exercise and movement room. And also, there's stuff that I can install in my own apartment that I can do.

KF: Right. We happen to live with many affordances as they're called, affordances for innovating movement in our studio and in our house. If it's there you use it. I think the discoveries one can make on a daily basis become the menu of choices that can be offered to clients.

MB: Well, I've been to your place, and I think if you saw my apartment you'd see something similar in terms of equipment. But to change track a little bit, we've talked a bit about eccentric movement. There's also the issue of slow-twitch versus fast-twitch muscle. People tend to think of movement as something fairly dramatic that involves either a great deal of weight or a movement that will impress people as opposed to doing the same movement or similar movements more than once in a slower and more relaxed way, which I think wakes up the slow-twitch fibers in muscles more than the other thing. We tend to be very fast-twitch obsessed society. What are your feelings about that?

KF: I would just make the comment first that a big piece of the whole Tonic Function theory is defining motor units, muscles within the body, as being in a continuum between those associated with a great deal of fasciae, proprioceptive components, architecturally associated with efficiency for 'set it and forget it' operations – postural activity – those that have really good blood supply, which is a big piece of the slow-twitch group. Then the 'move fast, briefly' motor units are the fast-twitch group. I'd say there is a common tendency to corrupt fast-twitch muscles into being used for postural activity, static or otherwise. A piece of what we're trying to educate about is that those strategies that people might think of as supportive, are, in fact, 'expensive'. Fast-twitch [phasic] motor units actually don't have the appropriate physiology for use for postural stability.

Because modern people have grocery stores [we don't have to hunt and gather], we can afford to be metabolically wasteful. You wonder, why have economy? Why not use the pectoralis and rectus abdominis and whatever to do daily activity, metabolically expensive as it might be? We modern humans often use our bodies sometimes like we did with cars during times of cheap oil. I'd say, well, there's no reason not to if you can, but if you're here to see me about issues that have to do with discomfort and compression and those kinds of things, then I think it's useful for you to know that there are ways of doing movement, ways of doing exercise, where you start to be discriminating about how you're using different parts of your motor-unit array so that you have a less compressed body and a more pleasurable experience of movement. Moving very slowly is harder for people because they're not used to it. But obviously when we move very slowly, we have an opportunity to change the preparation to move, which means we have an opportunity to change the coordination of ingredients to any movement. When one does that, if a person gets it, and learns some brief exploration they can do in her own time to reinforce that shift – something that changes from sit to stand, something that changes when she lifts a jug of milk, whatever it is – one gets an opportunity to change the equation in terms of whether they are using phasic/fast-twitch in unnecessary ways or in ways that are going to lead to more conflicted patterns.

Again, a big piece of enrollment, as I'm sure you've found out, is being able to show people what the two versions of the movement look like: Here's the fast-twitch version, here's the version in which you can't even tell what I'm using because it just looks like there's flow. Here I am doing work to lift up the jug of milk, and here, by contrast, the jug of milk looks like it's raising itself.

MB: I think much of what we are doing is encouraging people to see their bodies as something besides either a commodity that looks good or a machine that is here to work hard. Instead, our clients can discover a body they can inhabit and enjoy, which in a puritanical culture like ours is very difficult.

KF: I think sometimes on a good day, people birth the discovery of, "Wow, this feels easier. This feels more fun. This feels like something I'd like to try on my own." That's a wonderful thing. Sometimes I think we have to titrate the message about pleasure and fun because we all have some pretty strong beliefs. There's a certain stoicism and a certain sense of whatever we've been trained to believe about what life is about.

MB: Yeah, and the messages that we've gotten about the relationship between self-indulgence and health. That indulgent people are all fat, lazy,with bad skin, and the disciplined people who sit around eating raw spinach are the ones who are going to wind up looking good. So, pleasure and health as pursuing the same ends. For example, one of the things that I'm just beginning to dip my toes into is dance movements or dance-like

movements that are not necessarily from the ground up, like using music to do a little hip shimmy while you're hanging.

KF: Lovely.

MB: I do it myself and I give myself chiropractic adjustments.

KF: Precisely. Your body takes the opportunity to integrate and to unbind the fixations.

MB: How do you incorporate music?

KF: We've done many different things with music, not so much in sessions but in movement classes. I think oftentimes it can de-inhibit the playfulness, liberate expression. Certainly, like you're saying in suspended inverted movement, it's a nice companion. Sound is a form of touch. Rhythm is a deep, deep part of the ancestry of our species. So, the rhythm, the sense of touch that we feel with sound, oftentimes it's a way to change the mood in a group. You have a chance to change the dynamic, to move from something that's automatic, to feeling the body feedback. Being it's slow enough, you can work with nuanced shifts first and then, after time in that mode, you're moving on to where you're moving, faster than you can think about it, faster than you can correct it to make it right. The two modes are both important.

That's often a very integrative thing. Slow movement juxtaposed with a higher dynamic. Again, for many people, I think it's that sense of feeling that the context has changed, so the permission to move has changed. But if we are working primarily with movement, then I think it's ok to ask, "What do you think about movement?" And see where a person is at. So that, again, we're always hopefully creating a safe container where people feel they have prerogative. Then, if you're working with something and layered it in a kind of rehearsal way, you've got to say, "Okay, you feel the improvisational potential here. Would you be interested in seeing what it's like to add this other dimension, the dimension of music or the dimension of sound? There are many different kinds of sound and see how you have a conversation with the music, how your body has a conversation with the movement."

It introduces a triangulation. There's you, there's gravity, and there's the music. There's also you as a witness if you're with someone while doing it. Again, getting back to one of your very early points about the sense of kinesphere, we build a sense, or we help people restore their sense, of allowing bigger spatial dimensions to their context as something friendly, through happy accidents; through moments in which the inhibition against that limited field of spatial awareness is allowed to relax. We don't tear it open. It relaxes when there's interest, when there's a sense of, "this is fun."

MB: As you were saying this, I am realizing how I still have to work on some of my own style of communication. I think a great deal of what I began to learn from you back in 2006 was how to invite people rather than be parental with them, which is something I tend to do.

KF: Well, that's a perspective that you're offering here, Michael, that we all have these super egos. They're not usually kind in tone – the super egos that we listen to in our heads. There is also something about the history of structural integration, we'll say, where the training doesn't always emphasize client-centered curiosity. I don't want to indict anybody or anything, but when you do manual therapy, as you listen to Rolf's adages, or any teacher, there is a tradition that emphasizes it's *you* who looks at the body and makes the choice for the places to work and *you* make the outcome assessment. This can occur to a greater or lesser degree of course.

That's all fine. As we shift into the movement inquiry, I'm suggesting that we, as a profession, find it doesn't work to prescribe how people move and just tell them to do something differently if they don't have a feeling of their own agency in the process. How do we help support their sense of agency in the discovery process? I really do think the term 'happy accident' is appropriate. You don't make a new motor pattern; your body gives birth to a new pattern. It does so with an abundance of support, curiosity, and interest.

MB: Part of it also is that these things we discover are often tools that have been in the toolbox for generations. Jan Sultan talks about shaking hands with the ancestors. We find ourselves doing things we didn't know we could do.

KF: Isn't that wonderful? There's this inheritance, the opportunity to feel the potential of our inheritance for these primal types of movement that we are set up to do. Our architecture is really pretty identical for the last hundred thousand years, and yet the usage patterns may really eclipse a lot of that history.

MB: When you first became aware that we were going to have this conversation, is there anything that you thought of, like, aha, now I get to talk about spider monkeys or whatever?

KF: Well, I love watching primates move. My body loves it. There's a wonderful resonance. They appear to 'know' things we don't anymore. I think seeing other species move, in general, and then feeling that we have those capacities in our body, seeing it, feeling it, opening to the implications, certainly opening to the suspending thing, as an example, is a wonderful opportunity. We start to realize that we can have a different relationship between the hands and the feet and the spine; a different relationship with the spatial surroundings and get much more connected to that. We get many different

There's a treasure chest of opportunities for discovery: learning from the primate, from fish movement, from the things we can do when we're on the floor. What comes out of it as people get some support to feel, again, their inheritance, to see the possibilities, is a much repertoire of fun things to do that are healthy.

dimensions of movement suddenly happening in the spine – the spine likes it.

You were talking about how you feel all these adjustments happening naturally. Well, yes, I think also of the endorphins that happen when we're in that novel territory, the twists and the turns and the loading happening in the body in ways that are completely novel for people who normally stay oriented to up and down. Again, it leads to happy accidents if it's titrated sufficiently and people get the basics. I do a great deal of climbing in trees because I prune apple trees. I wrote an article about that for this journal [see "Persistent Doubt, Perches in Apple Trees, and Putting Ground Under One's Faith" in the March 2017 issue of *Structural Integration: The Journal of the Rolf Institute®* (Vol. 45, No. 1), pp.20-21]. The challenges that I experience hanging out with a pruner in one hand while being suspended by different parts of my legs and feet – I do it for a long time and it's enjoyable. So, there's a treasure chest of opportunities for discovery: learning from the primate, from fish movement, from the things we can do when we're on the floor. What comes out of it as people get some support to feel, again, their inheritance, to see the possibilities, is a much repertoire of fun things to do that are healthy.

MB: I grew up in Southern California, where there were many orange trees. When I was a kid, taking an orange from somebody else's orange grove was not stealing because there were so many of them. We had three orange trees in our yard, but there were miles of orange trees. So yeah, we would just go through and take oranges. Part of it was just the sheer joy of climbing a strange tree, a different tree.

KF: Every tree is its own personality. Yeah.

MB: Do you have any classes coming up that you want to talk about?

KF: Well, we do a course that has been retitled, but it's similar to others we've done on stability. It's called Normal Stability: Invoking Inherent Capacity to Meet Demand. It's a course we love to do because it covers many of the issues we've raised about fitness. It also covers the issues of how we relate the 'Recipe' to stability, the places in the Ten-Series Recipe that don't necessarily get fleshed out in the conventional basic series. We ask, "Where are the opportunities in the Recipe to address the stability issues?" There are plenty of them. So that's the kind of thing we're doing. We've started an ongoing study group on tonic function so that there's a chance to progress into certain issues and maybe get into more about how we work in our practice in some specific ways that don't happen in all the courses.

MB: For anybody who hasn't been there, just going to your place in New Hampshire is a mind-altering experience. That lake is fun to play in.

KF: Yeah, the lake is a great place to boat in and swim in and look at.

MB: You've still got that wooden thing that you can stand on and kind of wiggle back and forth?

KF: Well, we do have the balance boards, like Darryl Sanchez created, his tuning board. We try to keep bringing in new devices that people can make for themselves that enhance what they can introduce to their clients in their movement classes.

MB: Any last words of wisdom you want to pass on?

KF: Well, I didn't know anything that's necessarily wisdom. But I'd say there's a huge opportunity to give people agency in their movement. I think it's good for us to remember those moments where learning movement was not easy and to recall what would have helped, what would have made it easier for us. Because I think we often underestimate the intimidating nature of the offer we are making.

MB: Very good. I think we will end with that. Thank you very much for agreeing to this interview.

KF: Great to talk with you, Michael. I really appreciate the conversation and all the provocative questions you asked, which I'm really enjoying thinking about. Thank you.

Michael Boblett works in San Diego, California. He has been a Certified Rolfer since 2003 and a Certified Advanced Rolfer since 2008. Michael is a retired Unitarian minister. His advanced degrees (MA, MDiv, and DMin) are from Pacific School of Religion in Berkeley, California. At seminary, he focused on the anthropology of religion, with experiential training under Michael Harner, author of The Way of the Shaman*. Michael runs marathons and hikes up mountains wearing Vibram FiveFingers. His website is www.rolfer.biz.*

Kevin Frank is a Certified Advanced Rolfer, Rolf Movement Practitioner, and Rolf Movement Instructor at the Dr. Ida Rolf Institute. He has worked with the Godard-derived Tonic Function Model since 1991 and has written on this topic from 1995 to the present. Kevin advocates for an 'information system' view of SI to help bring this field into congruence with modern understanding of motor control and perceptive/coordinative processes. His articles can be found at www.resourcesinmovement.com under article archive. Kevin is also the co-author (with Caryn McHose) of How Life Moves: Explorations of Meaning and Body Awareness *(North Atlantic 2006).*

Dialoguing with Arms in the Ten Series

By Lael Katharine Keen, Basic and Advanced Rolfing® Instructor, Rolf Movement® Instructor

Lael Katharine Keen

ABSTRACT *Rolfing and Rolf Movement Instructor Lael Katherine Keen gives a detailed overview of how to incorporate arm work into the Ten Series to support integration not just of the upper limb but the whole body.*

The hands and arms are essential parts of the body to address with our Rolfing Structural Integration (SI) work. Through the arms, we interface with the world, we express ourselves, we manipulate our environment, we touch and are touched by others. The structure and function of the hands and arms are important factors in determining the function of the upper weight center, whether it initiates movement (G' anterior) or follows the lower weight center (G' posterior). [G' anterior refers to the person initiating movement by moving forward with G', the upper gravity center; G' posterior means that the person initiates movement by moving forward with the lower gravity center (G)].

In this piece I write about how I work with the arms sequentially within a ten-session series. It is important to note that, in practice, the order of interventions that I use will change from person to person, as the need varies. I will typically turn my attention to the hands and arms in almost every session of the ten sessions that deals with the upper body.

In the earlier sessions of the series, the arms are an important part of the preparatory/adaptability principle. Before deeper issues in the diaphragm, rib cage, cervicals, and cranium can be addressed, it is usually necessary to help the arms to come to their next possible level of integration and coherence. This in turn will open the door for a higher level of ease and openness in these more proximal structures.

In the first session I try to work with the arms as they relate to the client's breathing pattern. When the myofascial web is fluid and flexible, the arms will have their own response to the breath. On the inbreath, as the rib cage fills and expands in all three dimensions, the shoulder girdle will lift and widen, the arms externally rotate and there is thenar deviation at the wrist.

On the outbreath, the opposite happens. The shoulders drop and settle back towards the midline, there is a slight

internal rotation of the arms and ulnar deviation at the wrist.

You can feel how this works by rotating your arms externally, lengthening the thumb side of the lower arm. While breathing in, notice how the inbreath is facilitated by this movement, then notice, as you breath out, how it is harder for the outbreath to complete. Now do the opposite, rotating the arms internally, lengthening the little finger side of the lower arm and hand, and breathe out, noticing the effect of this position on both the inbreath and the outbreath.

When there is an inspiration or expiration preference in the rib cage, very often the rotational pattern of the arms holds it in place. I like to work with the arms and the phases of the client's breath, encouraging them into external rotation as the client breathes in and internal rotation as the client breathes out. Often, just helping this coherent movement of the arms in relationship to the rib cage will help the client to encounter a new level of ease and fluidity in the breath.

In the third session, the arms are an important part of the lateral line. Their capacity to organize to the coronal plane of the body is necessary for the client to be able to embody the Third-Hour line. Working in and around the shoulder and armpit to help the shoulder girdle to rest evenly over the rib cage, is important, as is work around the elbow, to begin to address rotations and counter rotations between upper and lower arm that may simultaneously be compensating for issues deeper in the rib cage and diaphragm, as well as holding them in place.

In the fourth and fifth sessions, and onward into the eighth and ninth sessions, as the deeper core / sleeve areas of the trunk begin to be more available, a deeper layer of work in the arms also becomes necessary. Our attention turns to the interosseous membrane. When it is able to function as a fluid, flexible, 'breathing' structure, it will bring about deep opening in the chest, neck, and all the way up into the face.

The interosseous membrane and palmar fascia are the 'core connections' in the upper limb. As they come alive, so too do the visceral spaces of the thorax, the neck, and the cranium, as well as the core stability of the thorax and shoulder girdle. When we speak of the interosseous membrane, it is important to note that we are also addressing the relational body. Hubert Godard calls our interosseous membrane "the diaphragm of our relationship to the world."

What happens in the interosseous membrane to make it the diaphragm of our relationship to the world?

In the hands we have both intrinsic and extrinsic muscles. The intrinsic muscles originate and terminate within the hand itself. When we hold an object, or touch an object, or touch another being, we use intrinsic musculature of our hands, the hand remains free and differentiated from the rest of the arm. The sensing function of our hands is awake and we are able to experience ourselves as both touching and being touched by that which our hand encounters. In this functioning of the intrinsic and sensing hands, the way we touch and hold creates the structure that we look for as Rolfers™ —differentiation between hand, wrist, forearm, and upper arm — a 'breathing' relationship between the radius, ulna, and broad open hands inclusive of palmar fascia.

When the intrinsic musculature of our hands comes online it also awakens the healthy coordination of the serratus anterior. The serratus anterior is an essential player in our core stability system. It has many diverse actions of which only a few will be mentioned here. (Raymond Sohier, Belgian physical therapist, mentions twenty-one different actions of the serratus anterior in his book on the shoulder *L'Épaule*). It acts as the major stabilizer of the shoulder girdle, by rotating the glenoid cavity superiorly in the beginning of elevation/ abduction of the arm, thus opening the space between the head of the humerus and the acromioclavicular joint. This avoids the tendency for the head of the humerus to collide with the underside of the acromioclavicular joint. When the serratus anterior is able to perform this function, the superior trapezius does not need to engage, and this allows the head to lift off the neck and stay free of the movement of the shoulder.

In the space that the serratus anterior creates in the shoulder joint, the muscles of the rotator cuff have room to function in the most harmonious possible way. The serratus anterior is an auxiliary muscle of breathing. It also organizes and lifts our ribs and stabilizes our clavicles. It is the dynamic antagonist/synergist of the transversus abdominus in such a way that when one of this pair is called into action the other also responds, balancing and aligning the abdomen and the thorax in what Dr. Rolf used to refer to as the psoas-rhomboid balance.

Thus, we see that the intrinsic musculature and the sensing function of the hands are also gateways to the balance of the shoulder joint and the core stability of the trunk.

In the best of all possible worlds, when we touch, hold, handle something, or handle someone, we start with the intrinsic function of our hands. If, or when, more force is necessary, then the reinforcements kick in — the reinforcements being the extrinsic

When there is an inspiration or expiration preference in the rib cage, very often the rotational pattern in the arms holds it in place. I like to work with the arms and the phases of the client's breath, encouraging them into external rotation as the client breathes in and internal rotation as the client breathes out. Often, just helping this coherent movement of the arms in relationship to the rib cage will help the client to encounter a new level of ease and fluidity in the breath.

We have all seen clients with this profile where the interosseous membrane hardens and the palm of the hand retracts up towards the forearm, no longer being free to reach towards the world and no longer as sensitive and available to be touched by that which it touches.

musculature. These are the long extensor and flexor muscles. Being larger and more global muscles, they bring in the next level of strength that we may need.

The extrinsic muscles of the hand, forearm, and elbow all have at least a part of their origin on the interosseous membrane. Since they cross multiple joints, when they activate, one of their side effects is to shorten and compress the joints through which they pass. When the extrinsic muscles overwork, or initiate movement without allowing the intrinsic muscles to come on line first, the hand telescopes compression into the wrist, which shortens into the forearm, which constricts into the elbow. We have all seen clients with this profile where the interosseous membrane hardens and the palm of the hand retracts up towards the forearm, no longer being free to reach towards the world and no longer as sensitive and available to be touched by that which it touches.

Activating the long flexor and extensor muscles of the hand and forearm is normal and appropriate for short periods of time, when extra strength is needed. When it becomes chronic, however, it locks the interosseous membrane and compresses all the joints between fingers and elbow. This makes the thoracic, cervical, and cranial core spaces unavailable for deeper levels of integration.

Psychobiologically, a person who grasps — activating the 'reinforcement' of the extrinsic muscles of the hand and forearm each time s/he goes to touch, hold, or handle an object — is often caught in a grasping, fearful relationship to the world or the 'Other'. This coordination pattern may have its origin in a traumatic incident or in developmental patterns of relationship. At a purely functional level, the activation of these muscles makes it very difficult to sense that which one is touching; to allow oneself to be touched, as well as to touch. Also, the body habit of calling in the muscles of maximum strength every time one touches reinforces a neural circuit that perpetuates a sense of fear and urgency, often feeding an unconscious belief that if I do not grasp with all my strength I will die.

So, when we think of helping our client to soften and open the interosseous membrane, it is frequently necessary to help the person understand and embody the difference between an intrinsic and sensing activity of 'holding' as opposed to an extrinsic and compressive activity of 'grasping'. To help our clients find the place where their normal is a soft and breathing interosseous membrane, we often need to not only to free the fascial restrictions in the forearm, but also to educate the clients to a different relationship to the world through the medium of their touch.

As we move from the fifth session – a time in which we may use more of a tissue approach to soften hardened and undifferentiated interosseous membranes and palmar fascia – into the second half of the Ten Series, we may find ourselves doing more perceptive and coordinative interventions to help the client to own and embody this new quality of touch. In so doing, we help balance shoulder movement and bring core stability activity into the thorax and pelvis.

At any given moment it may be appropriate to use a tissue intervention along with a more educative intervention, to help the client free that which is held in hardened tissue. Address tight tissue and simultaneously call forth new patterns of touching and being touched to help the client create and recreate a different body.

In my work, I will go back and forth between direct, mobilization, indirect, and perceptive/functional techniques to help the client come to a new level of integration in his/her arms and hands. In almost every client I have worked with over the years, the arms have been an essential part of that client's 'Recipe' and are always something that I take into consideration and address.

Lael Katharine Keen has been teaching Rolfing SI for the Dr. Ida Rolf Institute® since 1995. She teaches Rolfing SI at the beginning and advanced levels and is also a Rolf Movement instructor. She is one of the founding members of the Brazilian Rolfing Association. In addition to teaching Rolfing SI she is also senior faculty of the Somatic Experiencing® Trauma Institute where she teaches Somatic Experiencing at the beginning, intermediate, and advanced levels. She has practiced Ki-Aikido since 1976 and taught it throughout North America and Brazil since 1980 and holds a fifth-degree black belt.

Lael is fascinated with movement and the process through which each of us becomes more truly ourselves through uncovering the movement that is our most intrinsic and authentic potential. She continues to study and learn about what it is to be a human being and how we can heal and express ourselves more fully at all levels: body, mind, soul, and spirit. She holds certification as an Anthroposophic Art Therapist is an Educator in the Bates Method of Vision. The Bates Method of Vision has helped her to deepen her understanding of how the way that we orient relates to structure, movement, perception, and health.

Observations of a Blind Rolfer™

A Conversation between Tomas Makiyama and Monica Caspari

By Monica Caspari, Rolfing® and Rolf Movement® Instructor and Tomas Makiyama, Certified Advanced Rolfer and Rolf Movement Practitioner

Monica Caspari

Tomas Makiyama

ABSTRACT *Monica Caspari interviews Tomas Makiyama, a blind Rolfer in São Paulo, Brazil, about Rolfing Structural Integration (SI) training, body readings, and his insights into creativity and adaptability, among other topics.*

Introduction by Monica Caspari

Tomas Makiyama, of São Paulo, Brazil, is likely the world's only structural integration practitioner who is blind. Due to this circumstance, he has developed his own way of learning, as well as his own practice techniques.

Tomas was born in Brazil to Japanese immigrants. His blindness is from congenital glaucoma, for which he has had twenty-three surgeries over his lifetime toward preserving what little vision he has had. When Tomas became a Rolfer in 2005, he was already a physical therapist. At the time he began his university studies, he still managed to read under strong light; however, soon he needed his textbooks to be read aloud and transcribed to CDs. It was then that he went to Japan to participate in a special government-sponsored program for the blind to learn professions that would afford them independence, and Tomas studied massage therapy and acupuncture. Some time later, Tomas decided to become a Rolfer, and during his training, in both learning and practice, he used touch as a substitute for vision.

At first, Tomas was told that he could not become a Rolfer because he could not do a body reading; and I, his teacher, was told the same — that it was not possible to train a person with such grave visual

deficits. But Tomas persevered, using his tactile sense to read the bodies of the class clients — and I myself learned a great deal from Tomas. The entire class was entertained when, during his delicate tactile body reading, Tomas would bring his index finger to his lips and exclaim, "But, Teacher, . . . "; and I would see that he had located some disorganization or deficiency in the client's tissues. In fact, Tomas has become a highly successful Rolfer: having completed his advanced training in 2014, he now sees forty clients per week.

Monica Caspari: I have heard you speak of the relationship between adaptability and creativity. What is the difference between them?

Tomas Makiyama: I believe that while we all have adaptive capacity, the same is not true of creativity. Humans, as I see it, are adaptable beings that adjust to their environments. Were that not so, we would not be able to live in very hot or very cold climates. The desert Bedouin cloaks his entire body to prevent loss of humidity and protect himself against the ambient heat. But this kind of adaptation can be accompanied by creativity: the person who builds an igloo not only adapts to the cold, but also creatively perceives that ice can be a thermal insulator. While we're all adaptable, those of us who are also creative are more adaptable than the others. Adaptability and creativity, taken together, increase our chances of success, and even of survival.

MC: On your own life path, how have you experienced the combined power of adaptability and creativity?

TM: Interesting you ask this. I've had progressive loss of vision – which, by the way, is not yet over. It seems to me that my adaptive capacity is good, because I have not suffered in the transitions. Although I feel them, I don't fight them, as many would; and when a person fights the change, it becomes harder to adapt to it. There was a time I did fight it: when I was around thirteen or fourteen years old, my condition worsened and I had a huge loss of vision. But then I thought to myself, "Should I fight this change and become isolated because of it – or should I adapt to it and go on with life?"

When we accept what has happened or is happening and choose to adapt, we open the door to thinking creatively on how to adapt better – and we begin to find tools to do so. In the context of rehabilitation, the person is finding tools of adaptation: while the person's condition will not be restored to what it used to be, ways can be found to live with even progressive difficulties – and in the process, to discover a new path.

MC: In your case, how did you seek your own tools?

TM: One must find one's internal potential, in terms of abilities one already has, and abilities one must develop. This is the big question when a visually deficient person decides to become a massage therapist, a physical therapist, or even an X-ray technician.

There are blind lawyers, doctors, and psychiatrists, and one can consider whether one of those professions would be a good fit. But for anyone to say that someone else can't do some particular thing or another is to erect an impediment. This should not happen, because nobody but the person himself really knows his own potential. I believed that I had the potential for far more than I had been doing, and my family supported my efforts to do more, to fly a little higher.

It makes a big difference to have a family willing to support exploration of various options and possibilities – a family that doesn't say, "Poor thing . . . you can't do it," but instead asks, "What is it you'd like to do?" – and supports exploring potential that can be developed.

After I took the entrance exam for the University of São Paulo's physical therapy program and passed, I became its first blind student. Some of the professors were fine with it, but others just didn't know how to deal with my deficiency and see the situation as I saw it myself. To me, this attitude is contrary to the premises of physical therapy – a profession that finds ways around deficiencies. In any event, some professors never managed to deal with the presence of a blind student in the classroom. They could not see my potential and open the doors that would allow me to develop it.

After I graduated, I was invited to work with University of São Paulo Medical School professor Dr. Gregorio Santiago Montes, who headed the cellular biology laboratory. At that time, I came to realize that many professors had been unsupportive of my studies, but also that others had supported me and made it possible for me to graduate.

When I was working at the medical school, my supervisor gave me all the support I needed – including a secretary and technology that allowed me to perform my tasks. I developed a manual of medical research protocols, *Scientific Research in Medicine*, which was distributed to the entire faculty. It catalogued the different procedures at more than 300 laboratories, as well as the research sites and particular projects of each student. This was possible only because someone was able to look at my challenges from a different angle.

While I was pursuing my master's degree, my faculty advisor, Dr. Linamara Rizzo Batistella, bet on my potential despite my limitations, and gave me all the support I needed to pursue my research. There was even a group that would complete questionnaires, and other things like that, which supported my capacities.

MC: How did you come to Rolfing SI?

TM: While I was in graduate school, a fellow student's dissertation described her experience as a Rolfing class client. From her paper, I could see that Rolfing SI was both interesting and efficient. When I realized how much could be achieved in ten sessions, I understood that Rolfing SI was more powerful than everything else I was aware of at that time, including RPG (Global Postural Re-education, a protocol derived from the Mézières Method).

MC: In terms of body awareness, a soccer player can know nothing about the laws of physics, and still have superb biomechanical intelligence. In your situation – having visual deficiencies, but also other senses much sharper than the norm – how did you develop your own body awareness? And, how does your own process inform your work with clients?

TM: When we're born, we're not delivered with instruction manuals. For example, none of us has a predetermined way of walking and moving, and we have to learn. In my practice, I see many different ways of doing, because each of us makes our own as an expression of how we go through life. Like anyone else, I started out with little body awareness – and I didn't gain much more through my training as a physical therapist.

In fact, the question of body awareness did not even present itself to me until I began my own Rolfing process. Intellectually, something had told me that Rolfing SI was a method I wanted to learn; but when I actually experienced it, I felt the improvement. Through that felt recognition of change, I accessed the body awareness that had only been latent without stimulation.

For me, the best way to communicate is through direct experience: When I'm treating clients and touch them, I have to adjust the position of my own body so that I can entrain myself with the other person. The change in the client happens through the contact between the entrained systems of client and practitioner – and this method is highly effective.

We have all the capacity for body awareness, but we rarely use it. If we stop to think about it, physical education is minimal. Though there could be a curriculum for development of body consciousness and perception, instead we are given a ball and told to go play games. Our physical activities are not conducive to body awareness; they're just diversions – and we move how we think we're supposed to. Nobody gains body awareness or perception through movements like these.

It wasn't until I started my Rolfing sessions that I began to perceive the possibility of a balanced body, a body that could adjust, where the tissue was alive and formed an integrated whole.

MC: Didn't your experience in Japan provide a foundation for this?

TM: It provided something – but maybe I was too immature. In Japan, the teaching is quite technical, and emphasizes correct forms and styles through endless repetition. We don't stop to say, "This is what is happening in your body", or to explore what it is we perceive. There's no real context for the technical demonstrations – and I feel that to really take ownership of what we learn, context is necessary.

This is why I say that I began to develop body awareness only with Rolfing SI: it is because of the context provided by the 'Recipe'. Take respiration, for example: it is a theme of the Recipe, which helps us to put the parts of the body into the context of the integrated whole.

And with this context, one can say, "Wow, yes – the feet do support breathing, and affect how the thorax is positioned and how the ribs work!" When we put what we sense in a context, it expands our ability to perceive the body. Trainings for other modalities are more concerned with technique, with exactly how something must be done, and the subtleties of how to move one's hands just so, etc. Anyway – without Rolfing SI, I probably would have herniated a few discs by now.

MC: Was your first experience with SI through the recipe, or through non-formulistic work.

TM: Through the Recipe.

MC: And how was that for you?

TM: I got my first sessions from a Guild [for Structural Integration] practitioner. I remember how light the touch was, and thinking at the time that it wouldn't do anything. But after the first session – despite the lightness of the touch, which at times was barely perceptible to me – so much became clear to me. I felt my body to be much more balanced, and when I went up the stairs, I sensed a certain verticality and much fuller breathing. I asked myself, "How can this be?" I began to sense *from the inside* everything I had studied about the body, which made things much clearer.

MC: What are your thoughts about Hubert Godard's work on sensing and perception – on how we hear, touch, and see?

TM: The concept of perception is important in many contexts, such as philosophy, psychology, neuroscience, and cognitive sciences, in respect to this: the cerebral function attributes meaning to current sensory stimulus according to the person's memory of past sensory experiences. Godard's approach brings a new direction to Rolfing SI, helping us to begin to appreciate the role of reinterpretation of experience for relearning motor patterns. Working with this perspective helps integrate changes in movement patterns into the body.

But to apply Godard's insights about perception is very specific to the circumstances of each client – especially in regard to whether the client wants to change, or is receptive to the possibility of a particular change. And with many clients, showing them the changes is a challenge.

For me, the best way to communicate is through direct experience: When I'm treating clients and touch them, I have to adjust the position of my own body so that I can entrain myself with the other person. The change in the client happens through the contact between the entrained systems of client and practitioner – and this method is highly effective. Working with the senses as we change the spatial arrangement of the body through touch allows the person to integrate more easily and makes the session more efficient. And of course, working through the fascial system, when we touch a part, such as a lower leg, we can feel the entire body, which makes the work much stronger.

Walking with the client, we can feel the vectors of movement and see how the movement has changed. The thing is to transmit this information to the client so that the client can perceive the change. For some clients, this is very difficult. Those who do lots of physical activity can perceive more easily, and dancers, runners, and other athletes tend to perceive their bodies quite well.

Of course, runners don't really know exactly how they run. But, when we work with them and their structures begin to change, they notice the differences when they compare the current state to how things were before. With a basis for comparison, it is easier to perceive change. The person recognizes a change in breathing by perceiving a difference. How the foot meets the ground, how the leg is aligned – perception is the effect of comparison.

When we see how the person is moving to the back, to the front, or to one side, what we see is a flat movement – even though movement actually happens in three dimensions. Which vectors does the person's movement engage? This is what I perceive as I walk with someone.

Some clients are so dominated by their intellects that they can't feel physical changes. Others don't want to change – or maybe the change requires too much energy. But somehow they know they can be better, and they keep coming and eventually do feel better – even though they do not necessarily perceive how or what is better.

MC: What would you like Rolfing Instructors to learn from your experience?

TM: Of course, teaching Rolfing SI to a blind person is entirely possible – otherwise, I would never have been taught. But instructors should be more open to that possibility and provide tools for developing one's own means of perception and experimenting with the body. Observation of students' experiments can inspire change in how Rolfing SI is taught.

Let's consider, for example, how body reading is usually taught. For me, the body is a verticality that deforms in space, and I ask how I can help the body to relate better to gravity. The body must be balanced in three dimensions. In this respect, my perception is different from the perceptions of those who look at the body as a front-to-back and side-to-side structure, and within those two dimensions miss the body's true three-dimensional nature.

Seeing the body in only two dimensions prevents us from seeing what exists at levels beneath the surface. I look for how the body, in a static state, deforms in space, and how to bring it into better alignment with gravity. I also want to assess deformation during movement, which is different. When we see how the person is moving to the back, to the front, or to one side, what we see is a flat movement – even though movement actually happens in three dimensions. Which vectors does the person's movement engage? This is what I perceive as I walk with someone.

And the clients are intrigued, asking how it is that I know they step with their weight rolled forward on their feet – or that their feet are asymmetrical. It is because of the pattern of the force of their movements. This vector, that path of transmission of force, this change in the position of the tissue, too much bone for the space in the fascia – with things like these, one can make a very precise body reading.

I also ask whether there is contralateral movement not just in the superficial fascia, but also in the bones. When we sense the superficial fascia, we also sense reverberations from deeper layers because it is all one tissue. Teaching with questions like these, and encouraging students to learn and practice in this way, could make a big change in the conceptualization and understanding of Rolfing SI.

We often spend hours manipulating tissue in order to loosen it, or to disengage one thing from another; and working in the way I'm describing makes our efforts more objective. It is easier to perceive through touch a shortened psoas or the presence of a palpable visceral restriction than it is to visually observe the outside of the body and infer what is happening inside.

When we touch, we sense what is happening in the tissue; that is, touch is another diagnostic method to be deployed alongside the visual reading, whether of the static state or of the body in motion. But this only works when we can touch in three dimensions – and many of us touch only in two dimensions.

MC: When you're walking with a client, how do you touch the client? Front and back – or how?

TM: For a structural body reading, I begin by touching the person from head to foot so that I can perceive the body's dimensions and distortions, and also notice the distribution of tonus in the fascia and levels of tension in the muscles. From there, I begin to develop my strategy, whether the work be according to the Recipe or non-formulistic. Next, I do my movement body reading. I walk with the person, one hand on the person's back, at about L2 or L3. If necessary, I investigate the entire spine, and sometimes perceive that more movement happens, say, around T2 – but that nothing moves above. Or, I might perceive the absence of contralaterality at the axial level (though it is present in the limbs) – or even that the spine is still altogether. It's just that, more or less.

Having designed the strategy at the start of the session, I feel how tonus is distributed in the fascia when the client is lying down, and keep working according to my hypothesis from the evaluation. As I work, I continually perceive how the fascia responds – in terms of both direction and depth – always looking to see how the movement propagates through the body as a whole. At the end, I have the client stand up, and I re-evaluate the body both in static standing and in motion.

MC: Do you have any advice for your colleagues – whether new or experienced?

TM: I think Rolfers need to lose their sense of self-importance and learn to be more open to new situations. If we don't have the humility to want to reinvestigate in a new way something we believe we know already, we won't be able to improve. For example, someone can learn a particular maneuver – but what it is that one knows is only what was learned at a particular moment. To learn the maneuver again, preferably with other students, is to learn it in a new way until one develops one's own way. There is no single right way of body reading, and neither is there any single right way to perform a maneuver. There is the way you do it now – and a way to do it that is more efficient. And – learning with others is always best.

I have a friend – a gravure artist – who keeps repeating courses she has already taken. She says that each time she learns

Figure 1: Tomas Makiyama does his body readings through touch, in both standing and walking.

something new, something she missed before. There always is something more to be had, something she didn't get before. Because Rolfing SI is an art, we can't learn everything the first time around; and as we each find our own way, we should study what others have done and continually learn from their techniques.

There is no such thing as "The Technique": there is the Tomas technique, and the Monica technique, each person developing their own, combining what they have learned from others and what they themselves have developed, making their own synthesis, creating their own identity, their own way of being a Rolfer. Some believe that Rolfing SI is too limited, and go off to learn other modalities, such as osteopathy or chiropractic. But a practitioner doesn't need to collect a certificate for every type of body therapy in the world. What we need to do is to grow professionally as best we can by developing our own techniques within the system of Rolfing SI. To put it another way, there is no single formula, but only the formula that each of us creates for himself.

Isn't that all it is? The time comes when we have absorbed and processed everything, and we decide that one solution works better than another. Each of us will find many ways – and even our own ways – to do the work.

Monica Caspari, of São Paulo, Brazil, taught and practiced Rolfing SI and Rolf Movement work worldwide for thirty years. She was a prolific contributor to this publication; unfortunately, this piece is her last. *See "Remembering Monica Caspari" on page 74.*

Tomas Makiyama, of São Paulo, Brazil, is likely the world's only SI practitioner who is blind. Due to this circumstance, he has developed his own way of learning, as well as his own practice techniques. He was already a physical therapist when he became a Rolfer in 2005. He completed his advanced Rolfing training in 2014.

It is easier to perceive through touch a shortened psoas or the presence of a palpable visceral restriction than it is to visually observe the outside of the body and infer what is happening inside.

Remembering Monica Caspari

(27 May 1953 – 1 November 2019)

By Pedro Prado and Heidi Massa, Certified Advanced Rolfers™ and Rolf Movement® Practitioners

ABSTRACT *Monica Caspari, of São Paulo, Brazil, was for many years a key figure in the Rolfing® Structural Integration community worldwide. Her contributions, through her teaching and her writing, are enormous. Here she is remembered by two colleagues. We also share a selected bibliography of her written contributions.*

Thoughts from Pedro Prado

Rolfing® Structural Integration (SI) and Rolf Movement Integration are young sciences, and as every young science does, they depend for their development and propagation on their most astute and determined pioneers. One of these pioneers was my friend and faculty colleague, Monica Caspari, whose efforts over thirty years were essential to the evolution of our work. Since she first became a Rolfer in1989, up until her untimely death, Monica dedicated her formidable talents and energy to advancing Rolfing teaching and practice, as well as to spreading the word about it worldwide and building the international community we enjoy today.

Monica's true passion was Rolf Movement work, which she early and rightly perceived to be inseparable in a practical sense from the structural work. Together with her ABR[1] colleagues, she was instrumental in the design of the 'dual certification' curriculum, which treats as a single body of work its two complementary faces. Monica continued to integrate movement concepts into the basic curriculum; and her synthesis, "The Functional Rationale of the Recipe" (Caspari 2005), has been for many years a basic text in the canon at the Dr. Ida Rolf Institute®.

Monica's contact with Hubert Goddard and deep study of his theories of perception greatly enriched her own teaching and practice, making her approach to movement work far more nuanced and sophisticated. Fortunately, she applied her didactic skills to make Goddard's vast and complex studies intelligible and accessible to Rolf Movement students worldwide.

Monica taught extensively in Brazil and the world over – in Germany, Japan, Australia, South Africa, Argentina, and throughout the United States – always weaving the warp and the woof of the structural and movement aspects of the work, together with complementary local resources, into a single intricate tapestry of the reality of human being. She believed that while every person is organized in relation to space and gravity, the way each person experiences the relationship is not only unique, but also culturally influenced – and that to honor cultural differences in connection with our work is essential (Caspari 2011).

Her projects, beyond being intellectual and pedagogical, were humanitarian and evolutionary – always in the service of particular human clients, students or colleagues, including herself. Monica *walked her talk*, using what she taught and practiced on her own path of personal growth.

May we all honor and give thanks for her presence among us, and for her legacy.

Thoughts from Heidi Massa

Monica Caspari was far more than a Rolfer: she was a *bruja*. For over forty years, Monica devoted her gifts of attention and insight to bringing others through life's most challenging passages: to be born, to give birth, to die, and to become our better selves.

She began her life's work at the age of twenty-five, when a brother in his pain of dying asked her to *just do something*. She discovered that her hands had power, that she could set him to sleep by rubbing his back. Monica helped others through their dying – including her own gynecologist, who had been sending pregnant patients to Monica for her to *just do something* to ease their way. Self-taught and instinct-guided as a doula, Monica helped the women through pregnancy and labor, and their babies into this world, long before she became a Rolfer. She worked as a doula for nineteen years.

When Monica taught and practiced Rolfing SI – and her paradigm even in clinical practice was always that of a teacher or a guide – the essence of her work remained the same: she helped her students, as well as her clients, through the big transitions.

As Monica explored her own abilities, her work came to emphasize movement. With keen perception and deep empathy, she established kinesthetic conversations with others, allowing herself to receive their movement and be touched by it herself. No need for laser pointers: Monica read others' bodies through her own, and

taught her students to do the same. She brought the curiosity, openness, and respect that allowed each person to feel not just seen, but understood. When Monica 'got you', the effect was magical. As she traveled the world, teaching throughout the Americas, Australia, Asia, and South Africa, Monica recognized that cliché Rolfing norms around being in the body would not necessarily work for everyone everywhere. She empathized and improvised, and was ceaselessly creative.

Monica was adept at *jeitinho*, the Brazilian art of *finding a way*: "You can't do that. Unless, of course, you have to, in which case . . ." In the early 1990s, at the very start of her teaching career, Monica was assisting in Boulder, Colorado, in what today would be called a Unit I. She was assigned to teach the curriculum on kinesiology, a subject in which she herself had no training at the time. But there were eight kinesiology lessons – for twenty-four highly motivated college-educated students. Monica's solution was to divide the class into groups of three, and to have each group choose one of the lessons to master and teach to the others. Everyone learned a great deal through that inspired workaround.

Monica always *found a way*, a way to serve each client, and a way to teach each student [2], to bring each person who sought her guidance through their passage. This stance required perseverance, faith, and courage. It also required confidence: though disarmingly modest in her demeanor, Monica never demurred as to her abilities. She knew who she was and what she could do and she owned it – never mind the discomfort of those who would have preferred greater deference from her.

But Monica deferred only rarely; and once she set her path, she dug her heels in deep. Monica insisted on *finding a way* to teach *student-organized* movement courses in the US; Rolf Movement certification courses in Brazil fully subscribed with international students; and the first-ever certification series for the first graduating class of Argentine Rolfers. Monica insisted on all of these things and more, despite local hardships and institutional resistance. Much to the chagrin of many a bean-counter, bureaucrat, and fellow traveler, once Monica *decided*, the question was closed.[3]

Monica prized loyalty. To those with whom she shared that bond, she was singularly generous. She showed you the way forward and watched your back. She

"Dearest Monica, those whom you have touched, and whom you have allowed to touch you, are far better for it. You were taken from this world by surprise and much too soon – and we, your loyal friends, send you *beijos* and *abraçõe*s, and wish you Godspeed to wherever your travels next take you."

solved problems, made connections, and found resources. She gave everything from good counsel on life's essential questions to a home-cooked meal and a bed for the night. Her generosity was in full force to the end: suffering from wrenching ill-health, she was still refining movement curricula, hosting study groups, and entertaining and sustaining her friends and family.

Finally, Monica was admired for her personal elegance. Her world was imbued with grace and beauty. She needed these qualities around her the way others need oxygen, and they always informed her work. For Monica, structural and functional integration wasn't about geometry, symmetry, or palintonicity:

> I want my clients to experience delicious movement – not just to look better, but be [only] like ancient Greek statues. . . . As Rolfers, we are after grace, pleasure, aliveness, and coherence of the body in motion. Deliciousness, joy, and happiness are more important than perfection.

Dearest Monica, those whom you have touched, and whom you have allowed to touch you, are far better for it. You were taken from this world by surprise and much too soon – and we, your loyal friends, send you *beijos* and *abrações*, and wish you Godspeed to wherever your travels next take you.

ENDNOTES

1. Associacão Brasileira de Rolfing (Brazilian Rolfing Association).

2. See page 66 in this issue for "Observations of a Blind Rolfer™," – a conversation between Monica and Tomas Makiyama.

3. This was a good thing. In 2014, she diverted an entire Nepal trekking party from one location to another at considerable expense to all concerned, having simply decided that she didn't care to go to the planned destination. The original destination had been Annapurna, the area which – at the very time they were to travel – suffered catastrophic avalanches, which caused what was then Nepal's worst-ever trekking disaster. Had Monica not insisted on having her way, she and her entire party (which included other Rolfers) might very well have been killed.

Selected Bibliography in English

Note: For a more complete bibliography, including Monica Caspari's works in Portuguese, please see https://tinyurl.com/caspari-articles. This link takes you to The Ida P. Rolf Library of Structural Integration, an online resource. (Registration is required to access the articles.)

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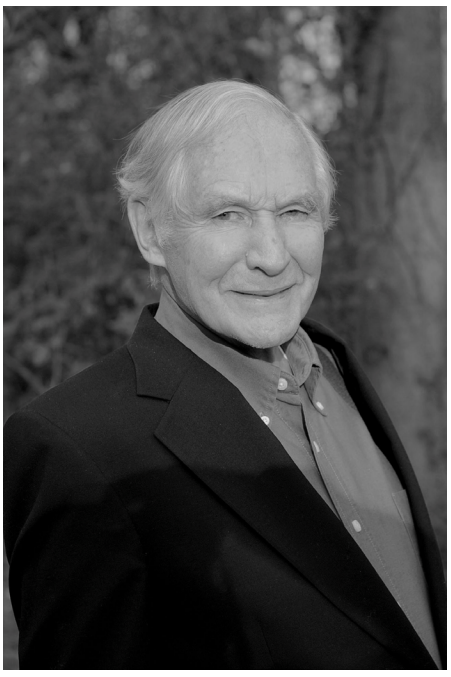
Remembering Alan Demmerle

By Joy Belluzzi, Certified Advanced Rolfer™

Joy Belluzzi

In 1978, I had the profound honor and gift of working for Dr. Rolf as her personal secretary. It was during that time that I met her son, Alan Demmerle. Unlike his older brother, Richard, who had followed in his mother's footsteps and trained as a chiropractor and Rolfer, Alan followed the path of his father, Walter, and became an electrical engineer. (Walter Demmerle died suddenly of a heart attack in 1947, when Alan was thirteen.) Alan received his bachelor's and master's degrees in electrical engineering from Carnegie Mellon University and Columbia University, respectively. He had a successful career working for Westinghouse, serving briefly in the Navy, and then working at the Naval Research Lab, NASA, and spending the remaining twenty-two years of his career as the Branch Chief of the Division of Computer Research and Technology at the National Institutes of Health in Washington, DC.



Left to right, Richard and Alan Demmerle with Dr. Rolf off Stony Brook, New York on Walter Demmerle's boat *Sinbad* circa 1937.

Shortly before Alan retired from government service, he was encouraged to become involved in the administration of the Rolf Institute® (now the Dr. Ida Rolf Institute®). Inspired by the possibility to actively support his mother's work, he ran for the position of President of the Board of Directors. He won the election and served in that office from December of 1987 through the summer of 1992. (The position of president and the process of election has since been modified.) This time period proved to be a particularly difficult and challenging moment in the history of the Institute, and Alan helped to manage this conflict.

Ultimately, there was a major split in the organization with some faculty leaving and forming the second iteration of the Guild for Structural Integration. Although it was a painful process for all involved, Alan would later say that "ultimately my mother's primary interest was in widely disseminating her work," and perhaps this was a manifestation of that desire?

Alan was a man of integrity, keen insight, and intuition. Surrounded in his early life by his mother's diverse intellectual and metaphysical interests, Alan also embraced both the spiritual, metaphysical world and the physical, intellectual world that he mostly lived in. He listened to and followed his own moral compass, and he was not averse to addressing things as he saw them. I had the good fortune to be married to him for thirty-five years and knew him to be devoted to and proud of his children, Andrew, Frances, and Justin; and his grandchildren, Kyle, Elisabeth Grace, and Maya. He was incredibly skilled at building and renovating (undertaking this at several homes, "with his own two hands" as he liked to say), and he was an avid sailor, woodsman, and conservationist.

Alan was a rock in my life. He was someone you could always count on to do what he said he would do, and to be there when you needed him. Although he often seemed serious, he had a wonderful sense of humor, and occasionally a soft heart. Plus, he was one of the few people I've met who never complained about his mother!

A year before Alan passed away, he took it upon himself to write his own obituary, and I'll close with a quote from that. "Some people found Alan to be somewhat temperamental, perhaps even moody. Through it all, Alan regularly claimed to be especially lucky that his life developed as it did. Lucky with his health, his career, his marriage to Joy, his children's health and personalities, and his place in life. Moody or not, he claimed to be happy and lucky. He died, he would claim, comfortably situated in old age."

I miss him every day!

Alan reading to his mother, Harpswell, Maine, 1977.

Further Remembrances

Thoughts from Dean Rollings, Certified Advanced Rolfer

Our gratitude goes out to Alan Demmerle for the many contributions that he made during his life.

Alan became actively involved with the leadership behind Rolfing SI at a time when the fate of his mother's lifework was facing numerous challenges. The notoriety of the work brought with it a large following of people and organizations, many of which looked to see how they personally could benefit. Different philosophies as to what the work should be, how it should be taught, how it could be incorporated into other organizations, or what the school should be and the research that was needed to expand the work were only a few of the pressures facing our organization at the time. As you can imagine, having a number of Rolfers, with their own ideas as to what that should be, became a most unpleasant time. Alan's background at NASA and the NIH, qualified him well for the tasks he had ahead of him. It was also during this time that Alan fell in love and married Joy Belluzzi, Ida's personal secretary and a Rolfer, further assuring his commitment to his mother's work.

The majority of us were pleased to see Alan become the Rolf Institute president, and in that role he brought stability and direction. He did indeed have many difficult times, but also many wonderful achievements as the organization matured to what it is today. He continued his interest and contributions throughout his life, and with his help, the Dr. Ida Rolf Institute is here to stay.

Alan and I sailed many a mile together and had many an adventure. I will miss my friend.

Thoughts from Robert Toporek, Certified Advanced Rolfer

When I first became a Rolfer I started by living with Richard Demmerle and his family. I was as green as could be and had no real idea of the magnitude of the family. From time to time Alan Demmerle would come by for a visit with his family. I would not say that we formed a long and lasting relationship – for the most part we hardly ever really talked – but over the next four years as Dr. Rolf's self-appointed right-hand person I would again from time to time cross paths with Alan.

One day Dr. Rolf needed a new personal secretary, and as Joy Belluzzi lived around the corner, I asked her to take it on. When I told Dr. Rolf I found a new person and her name was Joy, she said, "I hope not." Nonetheless, there could not have been a more perfect person to help Dr. Rolf through the final phase of her life. A few nights after Dr. Rolf passed, Alan, Joy, and I went out to dinner and had our own little private celebration of Dr. Rolf's life. We told stories, laughed, and shared our love and respect for her. It was the first time that I had spent quality time with Alan. His love and appreciation for his mother was clear, as well as the challenges of being her son and all that came with it.

Over the past forty-plus years I have had many more opportunities to interact with Alan. The work he did behind the scenes to support Rolfing SI was substantial, and that he did it without any fanfare or need for acknowledgement speaks to one of his greatest attributes. One unmistakable thing about Alan was his love and support – for Joy, for his children and grandchildren, and for the work his mother ushered into the world.

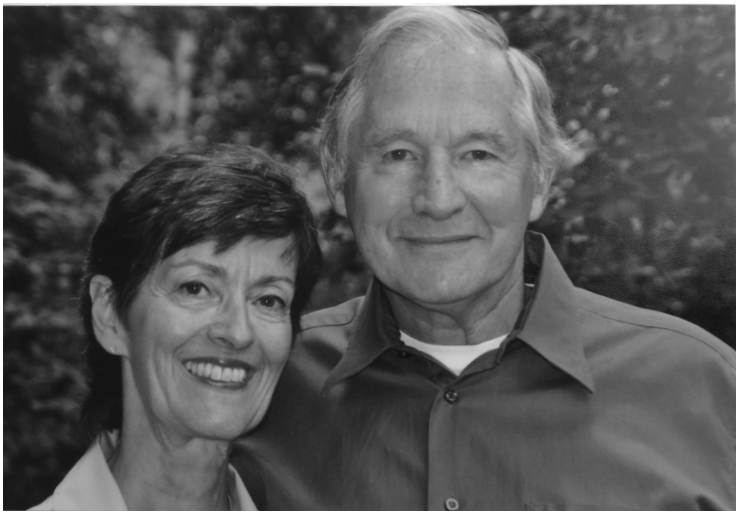
Thoughts from Jan Sultan, Advanced Rolfing Instructor

Alan Demmerle was always in the background of my journey with Ida Rolf. He was her 'other' son, and was not involved with the immediate circle around Dr. Rolf in the early days. In contrast, her son Dick Demmerle, who was a chiropractor, was much more present. Even as Alan was distant, there was an aura of respect for him as a working scientist.

In the late 80s, Alan stepped into the arena of the Rolf Institute, to lend his mind and commitment to the continuance of his mother's legacy. Dick Stenstadvold invited him to run for the Board of Directors; Alan accepted, and won the seat in an election.

That point marked the beginning of my personal involvement with Alan, and I found him to be practical and possessed of a sardonic wit. He was very sharp, astute to nuance and subtle shades of meaning. He was a lot of fun to talk to, and held a solid neutral ground as an observer.

I was chair of the faculty during some of the time Alan was President of the Board, and we had interactions in our respective capacities. He always supported the development of Ida Rolf's work, as well as the clarity of the political function of the Board of Directors. When he left the Board in around 1992, after the split with Dick and Emmett Hutchins [who left to form the Guild], we remained friends and would occasionally have a meal and social time together. His interests ranged far beyond the Rolfing moment, and he was always very human and accessible. I will miss him, and have great respect for him.



Joy Belluzzi and Alan Demmerle

Trust

The Bedrock of Relationships

By Heather L. Corwin, PhD, MFA, RME, Certified Rolfer™

Heather L. Corwin

ABSTRACT *The author discusses how trust drives mutually satisfying relationships, ways to build trust when making business decisions, and explores ways it is promoted or broken in the therapeutic relationship.*

Trust is at the core of every relationship we have. Though we may not think about it this way, all interactions that leave us feeling bad usually include a breach of trust. Some define trust as "the belief in the benevolence of human nature" (Yamagishi and Yamagishi 1994, 139); many others are convinced that trust is taught by caregivers (or not) early in life, also known as attachment style. Some people are raised by people who are trustworthy in some ways and not in others, which can establish unhealthy ways of engaging with others.

As Rolfers, we work with clients who may have histories of 'trust abuse' in varying degrees, and who themselves may not practice trustworthiness in their own relationships. We practitioners have our own experiences around trust, which further complicate interactions with our clients. The fact that touch is involved in our therapeutic relationships with clients makes our work fraught with potential challenges. Some clients have learned to mistrust the voice inside them that gives warning to a psychologically or physically dangerous situation, leaving

A critical element of trust is reliability: doing what you say you're going to do. This may seem simple, but the impact of following through on promises is what establishes lifelong clients.

them vulnerable to repetition of a breach of trust. Others may perceive danger where it does not exist, and actually create a trust breach through 'acting out' and sabotaging relationships. In some cases, those for whom we are modeling healthy boundaries and trustworthy behavior act out *because* we are a safe space for them to do so. In this article, we will look at how to create and promote trust, a variety of ways that might be common for trust to be broken in our profession, and safeguards to put in place to promote safety for both practitioners and clients.

Trust is complex. Many elements can build trust or break trust. Because we are social creatures and require relationships with others to meet our needs, trust enables people to engage with each other to achieve or create an outcome. Research suggests that a personal referral or recommendation to a specific practitioner inspires more trust on the new client's part than the absence of such a referral (Lewicki and Bunker 1995). This is also why sites that offer reviews like Yelp and Google are valuable: many people do not have firsthand knowledge of a product, and these websites are based on experiences in their area (Barrot et al. 2013, Ying et al. 2006). Notably, trust is more easily roused in people with similar backgrounds and nationalities (Glaeser et al. 2000). Additionally, Glaeser et al. point out that a person of higher social rank within their field – involving education, income, location of office, years in practice – is awarded more trust than those of lower rank.

Creating and facilitating trust can occur in many forms. As the last paragraph suggests, if you are able to make your credentials clear, people will see your experience and expertise. Another way to build trust is to have an evaluation system in place to help the client feel heard and communicate that you as an expert are taking their individual case into account to decide how to best proceed in the work. For example: your intake form; how you address the intake form and information shared during your consult/first session; any policies and/or disclaimers; ethical standards as suggested by any governing body you belong to or as outlined by the profession; and, not least, how you communicate (email, phone, text, etc.) to establish your first meeting.

I want to elaborate a bit on this last point, as our chosen mode of communication pertains to trust-building. In our present culture, we've come to rely on online platforms to reach out to new clients. Even with word-of-mouth referrals, connecting with new clients is crucial to building our business. Research has demonstrated that email can be an effective way to manage an existing business relationship, but other forms of communication are more effective to establish a new business relationship (Boase 2006). Ray McCall, who was my teacher in Phase III of the Rolfing® Structural Integration (SI) training, insisted that Rolfers need to return phone calls as soon as possible to build on the client's interest and enthusiasm. Best practices suggest that a business should respond to the client in the same mode of communication with which that the client reached out – we can assume this is the way the customer prefers to connect. [despite Boase's (2006) recommendation to avoid email to establish a business relationship]. The 'meta' message is that you are meeting that client where s/he is at, with a desire and ability to answer to his/her needs.

A critical element of trust is reliability: doing what you say you're going to do. This may seem simple, but the impact of following through on promises is what establishes lifelong clients. This includes avoiding making promises regarding outcomes.

Now that we've looked at some research, I would like to speak to issues of trust from my own experiences as a Rolfer. When I believe, based on prior success with others, that I can help the client, I let the person know that I feel good about the likelihood of our work succeeding and I explain why I feel this way. If your work exceeds clients' expectations, this may inspire their loyalty; they may further regard you as an expert and be inclined to praise your name to others.

Some ways that this might play out in our practices are as follows. 'Joe' comes in because he has lower back pain. He heard from 'Ken' that you can make the pain go away. In your intake process, you learn Joe has stenosis in his low back and cervical spine, had anterior cruciate ligament surgery on his right knee years ago, and he ruptured his left Achilles tendon last year. Could you minimize the pain? Very likely. Will it go away completely with the work you do together? Suggesting that you would be able to eradicate the pain would be unwise; the combination of these injuries makes a pain-free existence unlikely. Do you want Joe's Rolfing SI experience to be great? Yes, we want him to feel great because of the work done together and because his quality of life will be better.

The other side of our work in trust-building requires acknowledging limitations. None of us can predict how a client will respond to this type of work. Under-promising and over-producing is a great guideline when deciding on how to work with people and facilitate expectations. Some people respond to Rolfing SI as if they've found

In the service of trust, it is necessary to proceed cautiously, adapting to and accommodating clients who are anxious about any aspect of the work we do together.

the one thing for which they've been waiting their whole lives; others find the work intense and uncomfortable, yet feel the benefits outweigh the cost; some recognize this type of work is not for them at this time in their lives. It must be said that, regardless of your skill as a Rolfer, some people will trust you but reject the work. Most important is the integrity with which you convey information and follow through with your end of the client-Rolfer contract.

In the service of trust, it is necessary to proceed cautiously, adapting to and accommodating clients who are anxious about any aspect of the work we do together. I'm currently working with a client who I'll call 'Candice'. Candice has somaticized tension in her anterior neck and throat likely caused by several factors. This neck tension is extreme and has caused insomnia, anxiety, difficulty breathing, nerve impingement, and difficulty traveling, and any stress compounds the tension. Candice and I have been working together for weeks. I'm not her only wellness practitioner, I'm one of a team including a psychologist, an acupuncturist, a craniosacral therapist, and a psychiatrist.

When she and I spoke at our first session, the very idea of anyone touching her neck caused her to become agitated. I noticed this and asked if my observation was accurate. She relaxed a bit as she acknowledged she was nervous about the work we were going to do, mostly because she did *not* want me to touch her neck. I told her that I was not going to work on her neck that day and would check in with her when the time came that I did want to work on her neck directly. We were able to significantly create support and ease in her body without any direct work on her neck.

At the time of this writing, we are about to embark on session seven of the Ten Series, and it is planned that I will – for the first time – work on her anterior neck. I will suggest that she have her hands on mine in order to empower and give her agency. I've also taken photos on her phone before the Ten Series and after every session so that she can see her progress and doesn't have to take my word for it (a clear way to create a visual evolution for the client and avoid any problems with handling of photos). These interactions build trust that has allowed us to work together towards her goals. (An update: during the process of publishing this article: Candice has completed her Ten Series and now has built up the trust to allow me to touch her neck whenever I feel the work would be helpful. In the spirit of the trust we've created, I always ask permission.)

Trust does have many barriers, and a big one is fear. Fear can be a strong motivator and inhibitor to our work – for both client and practitioner – and can foil trust. According to the Anxiety and Depression Association of America, one in four people in the United States has an anxiety disorder. (Anxiety can be defined as fear of something occurring in the future.) Some anxiety is normal for all people. Management of high or diagnosable anxiety can include medication, exercise, 'talk therapy', and manual therapy like Rolfing SI to facilitate ease in the body.

With an anxiety disorder, the nervous system is on high alert at all times; this requires the practitioner to move at a pace that the client can tolerate and that allows integration of the work. When medications are inhibiting the nervous system, it is necessary to tune into your own body/nervous system to sense whether the client's sympathetic nervous system has been triggered. Called 'scaffolding', this is an approach to helping your client using your own nervous system to regulate your client's. If the client's intake form notes medications that are prescribed for anxiety or depression, this will alert you to the fact that this client requires continual and sensitive monitoring because his/her body is charged for fight/flight/freeze. If you're not sure what a medication is for, always ask. As prescriptions are sometimes given to address an atypical diagnosis, asking the client about medications is imperative, even if you think you know what a medication is for. Simply being cognizant of this information as a practitioner can help you support your client in growing resources and awareness through your work together. Though fear can be challenging, letting clients know that some anxiety disorders require a slower pace of work acknowledges that you are listening and adjusting your approach for the individual.

Honesty is critical. If you, as practitioner, are aware of something happening in the room but avoid talking about it, this is a red flag. Perhaps you feel unconfident, or the interaction has triggered a memory that you want to avoid (countertransference), or something stirs embarrassment or shame within you, or perhaps you are wary of causing embarrassment or shame in your client. Self-awareness is essential for dealing with such moments. "To err is human," but to take responsibility for our mistakes requires courage and integrity.

As a newer practitioner, each time I tried to avoid a sticky situation with a client, it backfired. One example: I had scheduled a Rolfing session with 'Pam' at 9:00 a.m. on a day that I usually began work at 11:00 a.m. Because of a setting in my booking system, Pam's appointment didn't show up on my personal calendar, even though she was booked to see me. I was in another part of town when she called asking if I was in the studio. A moment of panic set in. This type of situation is rare in my practice, but Pam wouldn't have known that, and this was only her second session with me. I took a deep breath and told her the truth. Then I gave her options, which included a free session another day, or half price if she waited the less-than-twenty minutes it would take me to get to the studio. Pam chose to wait, and we worked that day. Since I was recommended to her by another healthcare professional, she had confidence that my claim that these situations were not usual for me was neither exaggeration nor a sloughing of responsibility.

A stickier situation occurred when I was still earning my PhD in clinical psychology with a somatic concentration. I was playing with the idea of incorporating 'somatic psychology coaching' with Rolfing clients – without supervision. My justification was my education; I felt I had a robust intake process that would help identify only high-functioning clients. One of my first and only clients who participated in this type of work was 'Justin' who had a history of severe physical trauma and sexual abuse. As we were working, he had a cathartic moment that easily could have retraumatized him. I had too little experience around managing such a moment.

With my regular Rolfing clients I would have made decisions that allowed more titration within a regulated state (Pat Ogden's 'window of tolerance'), but I was eager to move my client into 'health' without letting his pace be the leader. As you can imagine, the big emotions began. With as much grace as I could muster, I focused on calming my nervous system for him to attune to. I began naming everything that I felt was happening in the room to help him stay present and check in with his experience, knowing he

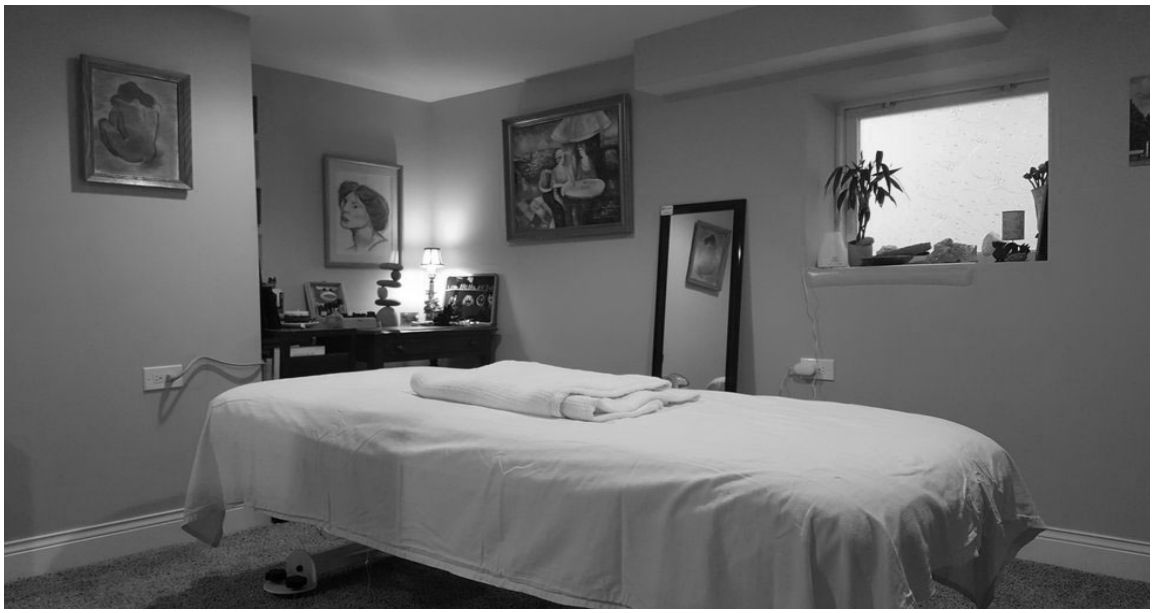


Figure 1: The author's studio, an environment set up to support clients feeling safe and comfortable.

would likely dissociate. When he began to dissociate, the prompts did work to bring him back. Once we were able to regulate his system, we took some time to just 'be'. I felt like I had avoided a car crash. In this instance, letting my client know about my error in judgement would *not* have been helpful or fostered trust. I did, however, admit that the session we shared was filled with things to unpack with his therapist (yes, he did have one). After he left and went into the world regulated, I sat with myself. I had no business trying to help people in ways I was not fully equipped. I removed 'somatic psychology coaching' from my menu. Knowing personal limits and abiding by your own policies can and does foster trust.

Empathy is a clear way to build trust. When you're able to recognize and internally feel the emotions of others, you can connect with the person on more than a superficial level. This connection reverberates in both people to help understanding of the other grow. Connecting empathetically lets the other person know his/her feelings are okay, and validates the right to have those feelings. This is critical when we work with clients. People innately know when they are engaged with a person who is authentic and present (the hallmarks of a caring therapist). When we ignore or try to stifle the feelings we have because of shame or fear (or whatever), we are stopping the flow of who we are.

This stifling of emotions over time can manifest in the body, somatically. 'Candice', mentioned above, is an example of this; to oversimplify, her somaticized anterior neck pain resulted from stifling feelings. She came into our therapeutic relationship fully aware that she was somaticizing her feelings in her neck. She was ready and willing to address the patterns and pain, which allowed her to make great strides in our work together, including outcomes like lateral shoulders and a plumb head, which she wasn't sure *could* happen. Allowing our clients to fully express who they are is another element of how we can support our clients through the Rolfing evolution into a healthier physical way of being, which is mirrored in the spirit. This expression builds trust.

Healthy relationships have clear boundaries that clarify the consequences of intolerable behavior. Honoring these boundaries helps to foster trust. The #MeToo movement is one that brings to light the gradations of violations and abuse of trust most often through power inequity. In our Rolfing studios, we have the power. Among other reasons, we are clothed, while we (usually) ask that our clients be in their underwear. This element alone can be a trigger. (A 'trigger' is a term used in psychology and best defined as a visceral reaction that alerts the nervous system of a threat. It can often be accompanied by a disproportionate emotional reaction. Some triggers are smaller and are simply actions that irritate the client.)

In service of fostering trust (and avoiding potential triggers), we can give our clients options for clothing. I've met some male Rolfers who only work with people fully clothed. They recognize that some women feel uncomfortable being partially undressed with a male practitioner. I have a client who does not feel safe without sufficient clothes on. She wears clothes that I can easily work through, and she no longer has a high level of anxiety when she enters my studio because she knows what to expect. Regardless of the client's state of dress, if you are going to touch or move any clothing, asking the client is imperative. I also ask permission to work on areas of the body that are close to the genitals and the anus. Several clients have told me that they felt me working in areas that I was not, which I attribute to a strong

Healthy relationships have clear boundaries that clarify the consequences of intolerable behavior. Honoring these boundaries helps to foster trust.

referral sensation. These sensations, if not talked about, can be problematic and misleading. It is best to be explicit regarding the territory to be worked. Explaining the session's goals can help the client understand why I work in a certain area. In truth, I tend to do this for most areas of the body because the client can then visualize the goal as we work, which helps the work we do together be more effective. Being exact with your clients about where, why, and how you work helps avoid misunderstandings.

Looking to another practice element related to trust, your studio location and atmosphere communicates something about you as a practitioner (see Figure 1). Some of us have studios in our homes, some nestled in another practice (chiropractor, health club, etc.), and some have a storefront or office. Though this could be expanded into an article in itself, the essence of my point is that your space helps others understand what's important to you in your business. I've been practicing bodywork since 1993. During that time I've worked in many environments – sometimes simultaneously. My personal preference is to have a studio at home. When in California, I was lucky enough to be able to renovate my garage into a studio with a private bathroom, separate from my house. In my present location, I have a built-in studio in the basement of my home with a separate entrance and bath. Because a home studio can conjure images of messiness, dogs and cats running around, and kids screaming around the treatment area, my website home page (www.bodybyheather.com) has a video of my treatment area, how to enter, and what to expect. Many clients have commented that this helped them understand what to expect; it helped them to imagine a tranquil and dedicated space for their Rolfing sessions. Others, clients and practitioners, prefer the clear boundaries of an office that is not inside a home. Regardless of the environment, cleanliness and a warm, welcome vibe lets clients know that you are going to take care of them.

In conclusion, someone once said, "Trust takes years to build, seconds to break, and forever to repair." In our line of work, we help people evolve into who they want to become. Collaboration with our clients requires courage, stamina, and constant vigilance to practice integrity. None of us succeeds with everyone, and those instances that don't work well present an opportunity to learn more about ourselves. Relationships require adapting and reconfiguring. As Rolfing practitioners, we can foster trust with our clients at every step of the relationship: how we advertise, conduct our intakes, contract with our clients, communicate empathy, set boundaries, assume responsibility, ask permission, configure our office space, and orient clients to our practices. If you have a successful practice, you likely already consider many of these things. Being conscious of all the elements that build trust can grow your business, and – more importantly – grow your satisfaction when working with people who will surely appreciate your efforts.

Heather L. Corwin holds a PhD in clinical psychology with a somatic concentration from The Chicago School of Professional Psychology and an MFA in acting from Florida State University/Asolo Conservatory. Currently, Heather runs her wellness studio in Oak Park, Illinois. As an actor for over twenty years and theatre arts professor at Roosevelt University, Heather's research and work examines behavior through the lens of psychology, allowing the flaws of being human to unite us through creative expression. Heather is a Certified Rolfer, a belly laugher, married to the love of her life, a mother to an energetic eight-year-old, and a fan of historical romance. To read more publications and learn more about her, please visit BodybyHeather.com or HeatherC.com.

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Reviews

Books by Mary Bond, Peter Schwind, and Bob Alonzi

Your Body Mandala: Posture as a Path to Presence by Mary Bond

Reviewed by Suzanne Picard, Rolfing® and Rolf Movement® Instructor

Mary Bond's latest book is an absolute gem! Rolfing Structural Integration creates possibilities for ourselves and our clients. *Your Body Mandala* (MCP Books, 2018) is a doorway, with practices that lead to an integrated, functional, and lived expression of those possibilities. It outlines with beauty and sophistication ways for both client and practitioner alike to cultivate conscious awareness in their lives.

This book displays a wonderful clarity and is accessible to the pedestrian while remaining refined and relevant for the experienced professional. The word choices ignite awareness and the rhythm supports exploration and curiosity. Concurrently, the science is rock solid, reflecting and referencing current fascial and neural research. Professionals can cultivate their own conscious awareness of their soma and also utilize this work as a resource in how to assist clients in integration and personal agency. There is much to be learned here and the added resources of access to audio and video guided practices offered through the text enrich this learning opportunity further. I encourage you to read this book and to breathe this material into your life.

Part One introduces the concepts and intellectual material pertinent to our work, including lucid explanations of weight and spatial orientation. Take time to savor the way Bond presents the underpinnings of our work! She speaks to the body and the mind. I often find myself utilizing the images and metaphors she presents. Her words are extremely useful if you have struggled with communicating this information to your clients in a way that they can experience and that has impact in their lives. From a first session forward, you can use this connection and understanding to build upon.

Part Two focuses on embodiment experientials. These are balanced between sensing weight and space and include a plethora of tools your clients can cultivate to map their inner and outer worlds. Bond is a Certified Advanced Rolfer and former Rolf Movement faculty; her life work is intertwined with Dr. Rolf's, and it is easy to fold these explorations into Ten-Series work with your clients.

I have incorporated a variety of the material from this book into my work. I utilize mapping in every session. It happens with my words, touch, presence, and the way I facilitate client explorations. To begin with, the more presence and embodiment I have the better. I personally use many of the practices. Once I have experienced an awareness or coordinative piece in my system I can effectively teach it to others. For me, cultivating a sense of midline from the perineal point through bregma is a daily ritual. Bond's instructions are simple. Recently I have been exploring the vectoring exercises. These along with the eye pieces facilitated a speedy recovery from a bout of vertigo. One of the most impactful explorations that I share with clients are the 'Oscillations'. Adapting these in a sidelying position, they are an outstanding way to practically teach about arm use and the true core stability that arises from the sequenced use of hands, arms, ribs, and spine!

Part Three deals with life in our modern world, with practical ways to interface with the sedentary and media culture we live in. One piece from this section can have a large impact for your client. Small changes with frequent use can be profound.

Finally, I am inspired by Bond's exploration into the world of movement. From these forays she has brought more variety and richness back into our world as Rolfers. I hope this encourages other seekers to do the same.

The Croissant inside the Brain: The Legendary Manual Therapy of Jean-Pierre Barral, DO, MRO(F), RPT by Peter Schwind

Reviewed by Allan Kaplan, Certified Advanced Rolfer™

The first time I heard of Jean-Pierre Barral, DO was in the late 1980s, midway through my Rolfing® Structural Integration training, when a mentor presented me with a copy of the book Visceral Manipulation, hot off the press. A handful of years later, Barral's close associate, Didier Prat, DO, regaled me and my visceral-manipulation cohorts with stories of this larger-than-life "monster who never sleeps, who studies anatomy at all hours of the night!" Little did I suspect that I would in future fax (yes, fax) Barral's office a schedule inquiry, only to have a very awake Barral answer his office phone on the first ring even though it was 2:30 AM. Based on the myth, he was presumably studying.

The Croissant inside the Brain (Barral Productions, 2019) is Rolfing instructor Peter Schwind's effort to present Barral and his work to us. The book revolves around the case of Bruno, a friend of Schwind's, who suffered a stroke and seeks treatment for its most persistant remnant: his loss of speech. Schwind arranges for a treatment with Barral, and in the course of the session Barral senses and describes a tiny feature deep within Bruno's brain as a "croissant" of restricted vessels. He releases the lesion and restores Bruno's speech. This sets the stage for book, which traces Barral's life's work with history and descriptions, and chronicles Bruno's progress over time.

As I read *The Croissant inside the Brain*, I found it no mistake that Schwind quickly recounted the work of two-time Nobel Prize winner Gerald Edelman, who compared the mechanism of the human organism to an orchestra, with all the different sections working together to create something greater than the sum of their parts. I realized that Schwind has intricately composed the book in much the same fashion – appropriate, as he himself is a musician. First, we are introduced to the players and the theme, then we journey into background, history, and theory; a revisiting of themes, and conclusion; all the while Schwind is speaking from his own experience as a student, practitioner, teacher, and follower of Barral's work, giving insight into his mentor/colleague/friend. For readers of *The New Yorker*, it is reminiscent of longer pieces by Gladwell, McPhee, or Gawande.

Schwind sets the stage with a presentation of the basic ideas of visceral motion and relationship, outlining the concepts of mobility and motility, and how aberrations in proper visceral movement can lead to problems far removed from their sources. In doing so, he touches in with descriptions of the characteristic motions of a number of the body's organs. He then continues with updates of Bruno's

evolving healing process, introducing descriptions of Barral's assessment and treatment methods of "listening" and manual thermal evaluation, illustrating his points by recounting reminiscences of his own learning of visceral manipulation over his many years of study with Barral, as well as client treatment anecdotes. Bruno's progress with his stroke symptoms leads to a discussion of brain plasticity, The Feldenkrais Method® of somatic education, and Norman Doidge. Schwind is careful not to create a story to explain the results of the treatments, but rather only muses aloud about possible mechanisms. I found it all engaging and informative.

In speaking of Barral's own process, it is clear that he is resolutely devoted to the scientific method and not fancy, despite how unconventional his concepts may be. Once he has an idea, and develops and explores an avenue of inquiry, he puts the method to the test for years, pitting himself against diagnostic machines and empirical data to hone these new concepts or modes of treatment before revealing them to his students. Barral has spent untold hours in hospitals, research labs, and laboratories with still and motion imaging devices (including ultrasound, MRI, SPECT) and diagnostic instrumentation to scrupulously document his methods. Schwind relates how he witnessed glimmers of his teacher's use of manual thermal evaluation, but that Barral did not explain or teach it until he had refined and mastered it himself. Similarly, Barral has devised protocols for releasing emotional content that is "stuck" with particular organs. More recently, he has developed treatment systems for pain and dysfunction associated with impinged nerves and blood vessels, which he has been teaching for numerous years.

Throughout the book, little nuggets within Schwind's descriptions of theory, method, and his experiences with Barral served as reminders, illuminations, or nudges for me within my own practice. One thing driven home to me [once again], just days ago, was one of Barral's tenets, that the root of a symptom may be a distance away from its presentation, traveling through the body's fascial system. This reminder came when a client arrived for his appointment and immediately, strongly shook my hand in profuse thanks: two weeks before, I had released a restriction in his chest and rib cage, and this subsequently eliminated profound indigestion that he'd been treating pharmaceutically, since an umbilical hernia repair an entire year before.

The Croissant inside the Brain is a valuable book, being both a primer on visceral manipulation and an insight into its progenitor, Jean-Pierre Barral, and his work. My only disappointment was that more care was not taken with the publisher's adaptation from the original German edition. While I became used to what I would characterize as a certain quirkiness or eccentricity in the translation and editing, having a native English speaker prepare the manuscript would have improved the end product. But without too much effort, a determined reader can make way through this illuminating book.

I-Stretch & Strengthen: The Take-Everywhere Exercise System
by Bob Alonzi

Reviewed by John Schewe, Certified Advanced Rolfer™, Rolf Movement® Practitioner

In *I-Stretch & Strengthen* (Green Tara Press, 2018), Bob Alonzi has created a manual for anyone interested in maintaining strength and flexibility or wishing to begin an exercise/stretching program after a period of inactivity. As a Certified Advanced Rolfer, Alonzi has worked with his clients over the years to develop healthy habits that they can take home with them once they leave his Rolfing® Structural Integration office. His simple system is easy to follow and practice in a variety of environments (the office, travelling, etc.). Don't let the word "simple" mislead you. These exercises and stretches are very effective. One of the great aspects of the material in I-Stretch & Strengthen is that you don't need a gym or any exercise equipment whatsoever to incorporate this routine into your daily life.

In his introduction, Alonzi lists four basic concepts that are essential for physical health: mobility, flexibility, strength, and proprioception. He writes, "Mobility is the proficiency to move the body. Flexibility is the capacity to bend and adapt to positions. Strength is physical power and degrees of intensity. Proprioception is the facility to sense the position and location of the body in time and space."

The book is divided into three sections: I-Warmup, I-Stretch, and I-Strengthen. They are designed to be done sequentially to provide maximum benefit. The entire three-part series can be done in under a half hour, and all you need is an open space in which to perform the various exercises. Each exercise is accompanied by a diagram of a person performing the action along with a written description so that each exercise will be perfectly clear.

Anyone who has ever practiced yoga will quickly see that many of the warmups, stretches, and strengthening exercises are traditional yoga asanas. In not naming them as such, Alonzi has opened up this exercise regimen to people who may be put off by the idea of 'practicing yoga'. (As surprising as it may seem in this day and age, there are still some people who feel this way about yoga.) One of the great aspects of Alonzi's series is that almost anyone can do these exercises – although a couple may have to be omitted if certain individuals feel that they may be a strain on their bodies (the various plank exercises in particular). Even if these few omissions are necessary, this program will still be effective.

In looking at the individual sections, there are five exercises in the I-Warmup series that are designed to get the big muscles of the body ready for activity. They include hip rolls, hip bridge, bicycle crunch, abdominal crunch, and 90° arm lifts. The I-Stretch series loosens the muscles, allowing for easier joint movement; it has eight exercises including the Z-position quad stretch, hamstring stretch, butterfly stretch, figure-4 stretch, side stretch, abdominal stretch, spinal rotation, deltoid stretch, and trapezius stretch. The I-Strengthen series is designed to build strength and endurance by using one's body weight as the resistance. It is the most comprehensive of the series with thirteen exercises including inch worm (or hand walk), lateral lunge, hip bridge (one leg), squat jump and pulse combination, full plank and pushup combination, side plank, side plank lifts, T-lifts, opposing arm and leg lifts, bent knee crunch, opposing knee crunch, reverse plank and triceps dip combination, and one-leg squat.

In summary, Alonzi's book presents an effective exercise routine that is easy to follow and can be done by almost any relatively healthy individual. My wife and I are planning on retiring in the not-too-distant future and travelling full-time in a recreational vehicle, and we will be bringing Alonzi's book with us to be part of our daily wellness regimen.

Institute News

Upcoming ConnectMembership Meetings for DIRI Alumni & Faculty

Below is a list of our next four events. DIRI members can find a full list of scheduled monthly events in the ConnectMembership section of the website when they are logged in. Additionally, reminder newsletters and emails will be sent to members ahead of each meeting. We look forward to connecting and empowering Rolfers™ globally.

Thursday, March 19th 2020 6:00 PM MST

ConnectMembership - Trademark Valuation: Why the marks are valuable and worth protecting

Presenters: Rich Ennis, Cosper Scafidi, and Kathleen Ryan, Trademark Attorney

Over ten years ago the Institute commissioned a trademark valuation. What is the value of the Trademark? Why is a trademark worth protecting? How do the marks help you grow your business? Come learn more about trademark valuation, protection and growth.

Thursday, April 16th 2020 6:00 PM MST

ConnectMembership- Open Forum

Presenters: Rich Ennis, BOD Chair, and Christina Howe, Executive Director

Not hearing about topics that interest you. Now is your chance. Send in your questions and topics and we will be sure to address them during this open forum.

Thursday, May 21st, 2020 6:00 PM MST

ConnectMembership - Legacy Perspectives from Advanced Faculty of the Institute

Presenters: Advanced Faculty Chair, Tessy Brungardt

The Institute has amazing Advanced faculty with legacies that originated with Ida P Rolf. This session will focus on their stories.

Thursday, June 25th, 2020 6:00 PM MST

ConnectMembership- 21st c. Technology and the Modern SI class: Canvas Learning Management System

Presenters: Neal Anderson, EEC Chair, Christina Howe, Executive Director, Larry Koliha, and Valerie Berg

Technology is integral to new education, but also has risks in loosing the power of face to face human interaction. How is the Institute integrating technology into the classroom, while managing these risks?

Upcoming CE Courses

The Dr. Ida Rolf Institute® is committed to cultivating academic growth and therapeutic skills in all of its graduates. Continuing Education studies can cover a broad range of relevant subjects. Certified Rolfers™ may take workshops in specific manipulative techniques or may explore other related subjects such as craniosacral therapy or visceral manipulation. Classes are continually being added - please visit www.rolf.org/courses for the most recent updates, or to register.

CE Courses & RIOs

CE4.20 Connecting to Essence: Deepening the Rolfing Ten Series, Part 2 of 3

3/8/2020 - 3/11/2020

CE3.20 Biomechanics of the Axial Complex: Spiraling Spine

4/1/2020 - 4/5/2020

CE6.20 A Salon with Jan Sultan- Asheville, NC

5/07/2020 – 5/09/2020

RMW1.20 Normal Stability: Evoking Inherent Adaptability to Meet Demand

4/6/2020 – 4/12/2020

RMI1.20 Rolf Movement Integration - Intensive (module 1 of 3)

7/27/2020 - 8/7/2020

RMI2.20 Rolf Movement Integration - Intensive (module 2 of 3)

10/12/2020 - 10/23/2020

Institute News

RMW2.20 Embodying Rolf's Structural Integration Recipe
8/24/2020 – 8/30/2020

CE5.20 Being Yourself in the World- The Integrative Sessions: A Deepening of the Rolfing Structural Integration Ten Series
8/28/2020 – 8/31/2020

RMW4.20 Tonic Function Model of Rolf Movement: Study Group
9/10/2020 – 9/16/2020

RMW3.20 Breathing and Walking: Movement Education to Support the SI series
10/01/2020 - 10/04/2020

RMI3.20 Rolf Movement Integration - Intensive (module 3 of 3)
1/18/2021 - 1/29/2021

RMI1.21 Rolf Movement Integration - Intensive (module 1 of 3)
4/12/2021 - 4/23/2021

RMI2.21 Rolf Movement Integration - Intensive (module 2 of 3)
7/12/2021 - 7/23/2021

RMI3.21 Rolf Movement Integration - Intensive (module 3 of 3)
9/20/2021 - 10/1/2021

RMI1.22 Rolf Movement Integration - Intensive (module 1 of 3)
4/25/2022 - 5/6/2022

RMI2.22 Rolf Movement Integration - Intensive (module 2 of 3)
7/11/2022 - 7/22/2022

RMI3.22 Rolf Movement Integration - Intensive (module 3 of 3)
9/19/2022 - 9/30/2022

Other Upcoming Continuing Education Workshops

The Intersubjective Field of Healing - Going Beyond Technique
04/24/2020 - 04/26/2020 - Santa Fe, NM

The Volumetric Pelvis
04/30/2020 - 05/03/2020 - Toronto, ON Canada

The Gesture of Traumatic Response: Envisioning Trauma with a Rolfer's Eye
05/08/2020 - 05/10/2020 - Santa Fe, NM

Rolf Movement Training 2020-2021, ERA
05/29/2020 - 06/06/2021 - Munich, Germany

SourcePoint Therapy Module One - Working with the Blueprint: Principles and Practices
08/28/2020 - 08/30/2020 - Seattle, WA

Interacting Systems: Post Advanced Workshop with Peter Schwind and Christoph Sommer (only for the Advanced Rolfer)
10/19/2020 - 10/27/2020 - Vienna, Austria

Other Upcoming Basic Training (International)

ERA Basic Rolfing Intensive Training 2020-21: Phase
07/27/2020 - 08/15/2020 - Munich, Germany

RAC Basic Training - Phase 1 (Regular & Accelerated)
08/17/2020 - 10/03/2020 - Toronto, Ontario- Canada

ERA Basic Rolfing Intensive Training 2020-21: Phase II
10/19/2020 - 12/09/2020 - Munich, Germany

ERA Basic Rolfing Intensive Training 2020-21: Phase III
02/08/2021 - 03/31/2021 - Munich, Germany

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