Ask the Faculty

About Feet

Q: *Looking at our theme on the feet from the viewpoint of Rolfing® Structural Integration (SI), what can you share with us about any of these: 1) assessment (e.g., is there a foot typology or model you use in assessment?); 2) hands-on work (e.g., how much do you find that foot issues require foot work, versus tracking problems into the lower and upper leg and pelvis – and elsewhere?; 3) movement (e.g., what foot movement exercises do you like to teach your clients?); 4) psychobiological issues (e.g., the meaning of different morphologies and function to clients and the process of transformation).*

A: For me, the foot is one of the very important places in the body to address. By function of its many small bones and joints, ligaments and muscles, both intrinsic and extrinsic, it can and does adapt to any imbalances in the body above it and irregularities in the ground below it. The 'principle of support' states that for the client to be able to reach a higher level of order in the body there must first be support for that higher level of order, and the feet are one of the big go-to places from which we can obtain that support.

When I look at feet I am very curious about the relationship of the arches of the feet. Well-functioning arches with a harmonious relationship to each other and the rest of the body are the basis for an alive and springy diaphragm system, for transmission of the impulse of the walk throughout the rest of the body and transmission of the weight of the body to the ground, and for a healthy spine. Here are some of the questions I ask myself when I look at the arches.

Longitudinal Arches

- Are the longitudinal arches dynamic, being able to lengthen and flatten and spring back throughout the cycle of movement of the foot?
- Is the medial arch well supported on the lateral arch and able to become soft and long at push-off and high and stable in the stance phase?
  - Does it show a preference for one phase more than the other? (i.e. high and fixed or low and flat?)
  - Does it collapse when the client goes into weight bearing or does a shallow knee bend?
- Is the lateral arch able to stay in contact with the ground through all phases of the gait cycle (desirable), or does it get pulled up by a collapsing medial arch?
- Does the lateral arch have elasticity and the capacity to lengthen and spring back?

Transverse Arches

- What do you see in the midfoot (subtalar and mid-tarsal joints) when the client does a shallow knee bend or is in the stance phase of the gait cycle? A shallow knee bend gives you an idea of how the feet act when they are weight-bearing, with the advantage of happening a little more slowly so that you have time to see it.
  - Can the midfoot widen as the weight comes through it?
  - Does the midfoot maintain its stability or does the medial arch 'fall' off the lateral arch?
  - Does the midfoot have flexibility or is it rigid with no give?
- What do you see in the metatarsal arch?
  - Is it able to maintain its arch-like structure or does it collapse? Does it collapse medially? Does it collapse in the middle?
  - Do you see a bunion joint? (Bunion joints emerge when the healthy relationships of the transverse arches break down, both at Chopart's joint and in the metatarsal arch.)

When I work with the feet, I think both in terms of coordinative techniques and tissue techniques.

If the foot tends towards being a high, fixated structure, I will do mobilization work with the joints of the foot; help to soften the plantar fascia, retinacula, and interosseous membrane; and work with the client in terms of feeling how the foot can yield to the floor and to the weight that comes through from above.

If the foot tends towards valgus and the medial and transverse arches tend to collapse, I will work to help organize the plantar fascia (since the pattern of collapse will be present there); work with the interosseous membrane to help get differentiation and aliveness in the long muscles that have their superior insertions in the interosseous membrane and on the tibia and fibula; and I will do a lot of work with coordination.

When the transverse metatarsal arch collapses, a large part of the work of restoring it is perceptive and coordinative (functional).

[In my article "The Arches of the Feet in Standing and Walking, Part 1," published in the June 2011 (Vol. 39, No. 1) edition of this journal, I give instructions for three different coordinative interventions for clients who have a tendency to collapse in the arches of the feet.]

As with anywhere in the body, feet are never just feet – they are part of a global relationship that must always be taken into consideration, be it in the alignment of the major joints of the leg, the spine, up into the head and eyes, or down into the arms. And since body/mind/psyche/spirit is an inseparable unit, the psychobiological aspect will always be present in working with the feet, or anywhere else in the body. Although generalizations are invariably too limited to encompass the mystery that is a human being, often what we find in the feet has something to do with the way we relate to issues of support and grounding. The feet are also highly responsive to compensations coming from the upper body (descending issues) where we make adaptions having to do with our relationship to other people and to our environment.

In short, the feet are adaptable and responsive structures that have a potent effect on the rest of the body and are always worth the time and effort of further study.

Lael Katharine Keen
Basic & Advanced Rolfing Instructor
Rolf Movement® Instructor

A: Over the years I have seen patterns repeat themselves in our structures that led me to create my workshop on Structural Aging. The feet were a crucial part of this.

I remember a quote from Ida Rolf about how the feet should feel like a bag of bones or a bag of marbles. Many clients walk as if their feet are blocks of cement, and this translates into a shuffle, a loss of ankle movement that transmits as a loss of full range of hip movement and onward up the body.

Feet should be 'juicy paws' that sense the earth and our place on it no matter the terrain. So yes, I assess the 'juiciness' of the foot. Can I literally wring it out and feel the bones, the tarsals, the metatarsals, and the calcaneus, move in various directions? Can the navicular and the cuboid move and translate the foot into pronation and supination in order to respond to uneven terrain? Can each joint of the toes flex and extend to use the full range of the toe hinge? Without the toe hinge, full leg extension is going to be near impossible, thus locking up the anterior/posterior tilting of the pelvis.

Another Rolf quote is "the foot is in the lower leg and vice versa." However, unless we can get the foot to rock and roll through all its bones, ligaments, and joints, the lower leg, the interosseous membrane, and the fibula can't translate the spiraling movement we need up to the inner and outer hip joint.

Ida's "toes up, ankle up, knee up" is still the best movement and tracking exercise we can teach our clients. From the very beginning, I like to teach clients the awareness that feet, knees, and ankles need to talk to each other. I also like teaching abduction of the big toe to help resolve bunions. (A tango-dancer client showed me how she cured her bunion by constantly abducting her big toe.) Also, it seems many people don't let the big toe land as they walk and push off. I call this "let the nose of the plane land." This translates into opening the front of the pelvis, getting a longer stride, and creating the necessary spiral for the spinal rotations we need. Fluid youthful movement starts or ends in the feet.

With all the padded and athletic performance shoes on the market, many people have lost their sensing of the earth below us. I always mention support to clients as a big psychobiological issue – What is the support in their bodies? What supports their life? Can they 'let down' for support? But mostly I find that with juicy paws the entire body takes on a new youthful feel and walk that transforms the whole structure.

Valerie Berg
Rolfing Instructor

A: My answer to this quesion is a look at sprained ankles and the possible implications for the structural organization of the lower limb. Trauma in the ankle – in most cases, a sprain is in the area of the lateral ligaments – very often goes along with instability of the joint, particularly if there are multiple traumas. This manifests in physical instability, and/or in a subjective feeling of insecurity. Both lead to a kind of specific compensation pattern, as follows.

- The weight of the body tends to be distributed into the lateral arch, which increases the possibility of repetitive trauma and ongoing destabilization of the lateral ligament and retinacula.
- The medial arch is inactive regarding weightbearing and push off. The weight 'remains' on the lateral side of the foot.
- Over time, this mechanism can lead into arthrosis of the ankle joint, knee, and/or hip.

Some observations are that the instability of the ankle joint seems to be accompanied by a structural limitation of flexibility and adaptability 1) in the tarsus itself, 2) in the transition from tarsus to metatarsus and, 3) in the relationship of the metatarsals. In detail, from heel strike to push off, proper transition of forces through the tarsus towards the medial arch requires a certain flexibility regarding tibial-talar glide *and* a balanced relationship of the navicular and cuboid bones. Limited flexibility of the tarsus can disturb the navicular-cuboid balance and is the first step for the lateralization of weight. Subsequently, the balance of the cuneiforms and the metatarsals can be disturbed as described above. As already mentioned, limited tibial-talar glide accompanied by limited dorsiflexion can be part of what 'forces' the foot into its lateral components.

The cause of limited dorsiflexion very often is based in 'cranialization' of the fibula. Let me explain what I mean by this. The fibula is like a 'connnecting rod', meaning that it moves caudally in dorsiflexion of the foot and cranially in plantar flexion. Particularly when the fibula is pulled cranially by high tonus of the biceps femoris, the lateral ligament is elongated and limits dorsiflexion. I assume that it's not just limited due to mechanical restrictions, but also to proprioceptive ones.

Now let's look at my suggestions for work and the implications at different levels. First, the **physical structure**. For the proper transition of forces through all participating parts of the foot and lower leg, we need to carefully analyze how the individual parts are working together and allow a safe transition from heel strike to weight bearing to push-off phase. In my clinical experience with clients with traumatized ankles and ligamentous instability (mainly lateral), I often observe restrictions of flexibility and adaptability in the tarsus-metatarsus relationship, which I would interpret as a compensation for instability in the ankle joint.

Hands-on work to mobilize this relationship involves opening the fascial beds of all participating bones and joints, particularly the tarsus and the five metatarsals. This opens space for ankle pronation and reestablishes the appropriate participation of fibular muscles and a balanced and differentiated relationship of agonists and antagonists for pronation-supination.

Change in the physical structure has implications for **coordinative structure** – coordination and balance in walking and a regulatory effect on the tonicity of the whole lower leg. The work I have described leads to a 'medialization' of force distribution and very often – in my observations with clients – proper inward rotation and extension in the hip. This is reflected in improved push-off and balanced support of the whole foot. There is also an effect on **perception** – clients report improved resiliency in their daily activities and security and support from below – and a **psychobiological impact** as feelings like insecurity or fear of repeated trauma are reduced and the joint feels increasingly reliable.

Jörg Ahrend-Lönns
Rolfing Instructor

A: I'd like to offer a perspective on the foot from the viewpoint of yielding[1] work, using a case study. A person may lose trust in his or her sense of ground through the feet – for example through an injury, such as stepping on a nail, or through experiencing a big earthquake. In such cases, the person's body may not allow yielding through the foot into the ground, even when the scar tissue is completely healed or when there is no more shaking, because the foot or feet may still feel that the ground or a downward orientation is insecure. This might decrease the capacity of support – one of the Rolfing principles of intervention – even if there is no structural problem.

My case study is a typical one about a problem of the foot's 'perception' in relation to the ground. In this case, a male client undergoing a five-session series of Rolf Movement work stepped on a nail with his left foot after his fourth session, so he favored that foot over the other for a while. As he over time began to notice tension in his right hamstrings while walking, he came back in six months later for a follow-up session. Remembering the nail incident, I felt that we had to enhance his capacity to yield to the ground through the left foot.

Further, he told me of another factor that may be related – that in childhood he had suffered from asthma and was in and out of the hospital. While we don't know if it was the case with this individual, sometimes in the medical treatment of babies and infants, blood samples are taken from the bottom of the foot around the calcaneal arterial network (CAN) and plantar venous network (PVN), meaning that the area (see Figure 1) could have been subject to needling. (This was the case for my friend's son when he was in an intensive care unit being treated for heart disease.) My speculation is that such medical intervention to the foot at an early developmental stage could impact not only the local area, but the whole body.

I could have tried to release the client's right hamstrings in a direct intervention, but I judged that it would have only a temporary effect. As the nail injury seemed to be the causal restriction, my assessment was that the left foot needed more support. I thus decided to use a 'yielding' approach, also incorporating '*ma*'. (I will discuss this method further below.) I focused on the left foot – the area that had been punctured by the nail, and around the calcaneus for the possible needling in childhood. I then worked with the right foot briefly for integration. My hypothesis was that the foot would derive more capacity to yield to the 'scaffoldings', and then recognize the ground as a safe matrix, allowing the body's system to settle. Although the process sounds rather simple, the results can be profound: as seen in Figure 2, working with yield through the foot created more balance side to side for my client, and his body also organized around the midline. Further, he reported that he felt safe and had no tension in his right hamstrings.

Figure 1: Target area for needling for blood draws in infants on the plantar surface of the foot (shaded area in drawing on left) and related vascularization (drawing on right).

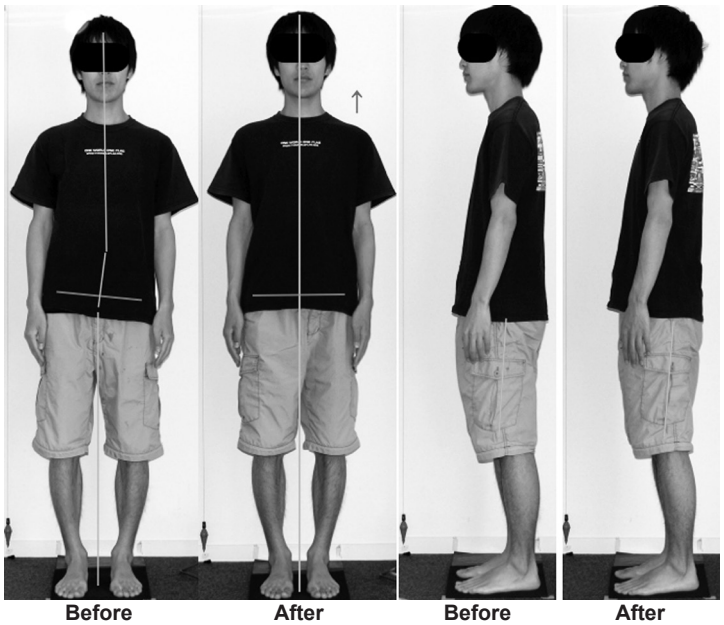

Figure 2: Client after one session of yield work, primarily to the left foot, with some integrating work to the right. Working with the foot can affect the whole structure.

I will now describe the yielding intervention that I used, which draws on a refinement to that technique that is based in the Japanese concept of ma. Ma relates to space and time, and particularly to negative space and to intervals. When I talk about 'good ma', you could in some sense draw a comparison to 'good feng shui'. (The concept of ma and its application in Rolfing SI is discussed in my article "Working with *Ma*" on page 44. There you will find greater discussion of terms used in yielding such as 'conditioning', 'scaffolding', and 'comfort' or 'good ma'.)

While my client had a particular injury to his foot, I believe that working with the sole of the foot in this application of yielding could also be generally effective to enhance support, which for some clients might allow the body to let go of compensatory holding in the upper body. Thus, I will discuss this intervention in general terms, so that you can apply it with your own clients. The work is done with the client supine on the table.

- After conditioning (the settling process of yielding), wait until the client's body invites you with a sense of 'comfort' ('good ma').
- Ask the client to draw his/her knees up, and place a sheet of slip-resistant material such as Dycem®[2] underneath the feet.
- Provide touch as 'anchorage' underneath the foot.
  - The foot will start yielding into your hand.
  - You may observe decompression of the hip joint.
- Consider the overall quality of yielding to the ground through the whole sole.
- Ask the client to find the optimal placement for his feet, to have a sense of ground. (The joint decompression and core expansion that tends to come with the yielding process means that the client can find a new, more stable, relationship to the ground. With the client supine on the table with knees up, it is usually a wider and more matched stance of the feet into the Dycem sheet. Although this is a very simple intervention, it sometimes has dramatic effects.)

Notes

1. For more on yielding, see the following articles, both in *Structural Integration: The Journal of the Rolf Institute®*: "Yielding" by H. Tahata and C. Agneesens, June 2012 [40(1):10-16]; "Rolf Movement® Faculty Perspectives: The Art of Yield – An Interview with Hiroyoshi Tahata" by K. McConnell and H. Tahata, November 2015 [43(3):3-4]

2. More on Dycem nonslip material: I want to thank Jonathan Martin, who introduced this material in his Neural Mobilization class in Japan. Used in yielding, it is quite a useful tool for the client to feel safe as its tacky surface provides traction under the feet that prevents any sense of slippage. After decompressing joints, the body needs safe scaffolding to find a new relationship with the ground and how to stand. Putting a Dycem sheet underneath the feet may also stimulate blood vessels around the plantar area through tactile contact with the tacky surface. I find this particularly powerful working with clients who experienced the earthquake in Fukushima, and always use this material in my workshops there. It seems that, with the Dycem 'ground', people regain a sense of stability in nature. You can order Dycem nonslip material on Amazon by searching for "Dycem." It comes in rolls that can be cut into sheets of the desired size, as well as in mats and other forms. When the material loses its tacky quality, rinse it in soapy water, allow it to air dry, and reuse.

Hiroyoshi Tahata
Rolf Movement Instructor

A: The multiple levels of the question reflect the richness of both Rolfing SI and Rolf Movement Integration as well as the feet. Many of us have had the opportunity to reflect on the mechanical relationships of the feet and lower legs via the question from our current curriculum about the feet and the structures that support the various arches (this was formerly part of the written questions required for enrollment in Unit 2 of the Rolfing training). From that exploration of the basic anatomy, we begin to explore relationships in the lower leg and beyond.

In my Rolf Movement training, I was encouraged to consider the reflection of the movement through the arches and the pelvic floor (and vice versa). I find both of these helpful in beginning to expand my way of thinking about the feet. When I begin to include a perceptual/coordination model of working with the feet, my way of considering their importance to the human system in gravity develops yet further, bringing the foot firmly into the orientating mechanism of the person, not just a base on which the rest of the structure is placed.

A good example of this occurred in my office recently. I'll report the session as a case study of what can happen when we approach the feet from a place of radical inclusion of the whole system, rather than a limited construct of anatomy or a model of the body, one in which the power of Rolfing SI and Rolf Movement can show up.

I was working with a young woman who experiences depression and anxiety. She is very active in her body, in theater and dance, and also on a moment-to-moment basis. As we talked, she continually shifted her thoracic spine, shoulders and arms, looking for a way to find support and ease. She found lying on the table – and even sitting – made her feel "vulnerable" across the top of her thighs, her pelvis, and her belly. We worked to find a way for her to feel safe by using a stuffed animal to cover her inguinal area and keeping at least one foot in contact with the table while she was supine. Working very slowly, within her capacity to adapt to the hands on-work by continually orienting visually, through her feet, and through the safe contact with her pelvis, she was able to notice some length through her low back, pelvis, and leg. Along the way, she experienced sadness as well as a series of memories about her feet, including some lovely ones about having her feet in contact with various surfaces (the earth, her mother) that she found pleasing. We included those memories to help anchor her as the uncomfortable feelings of vulnerability and sadness passed through her. I worked with traditional, 'grippy' contact in the structures of her feet and lower legs only.

We then moved to sitting. The only input I gave her was to notice the texture of the mat under her feet. From that, she was spontaneously able to organize herself in a new way. She found that by using her feet to explore the floor, she was able to actively use her legs to support herself and found that not only was she more comfortable, not needing to constantly shift, looking for support for her thoracic area and should girdle and arms, but that she also felt she was "not trapped," and had "choices" about where she was and what she could do. She found that in walking, the notion of the "center of her foot" being the place from which her core ignited left her feeling delighted and energized. She left her session with a huge smile, and at least something of that uniform brilliance we look for in the tenth hour of the Ten Series.

I made a number of choices in this session to restrain my physical contact to her feet and lower legs, but also to include her whole being – the rest of her physical structure, emotional range, perceptual and coordinative structures – in the session. What happened, by honoring the meta principle of holism, is that she found a new relationship with gravity as well as with herself. This, I think, is a way to potentiate my understanding of the anatomical relationships into a transformative session.

Duffy Allen
Rolfing Instructor

A: Feet: our 'bipedal' paws, transporting earthlings over and through the surfaces and spaces of our lives. Feet are shaped by the shoes and paths we tread in and upon as well as the attention and care we give them. In my 'auditing' phase of Rolfing training, *Jim Asher spoke of feet as a reflection of the aging process*. I remember the elegant stride of my grandfather slowly devolving into a slow shuffle.

Feet: a complex relationship of bones, ligaments, joint functions, and essential articulations. Anatomically the toe hinge, lisfranc (the joint at which the metatarsal bones/cuniform bones connect), and ankle joint are necessary participants in cultivating the movement from foot to knee, femur through hip joint, sacroiliac joint, pelvis, with the essential transmission via the push-off carried by the psoas and lift through to the heart/ thorax. Without good articulation of these joints, the transmission needed for contralateral flow is unlikely to occur naturally.

Guiding a client into his/her feet during manipulative work

When the client is supine, try these cues:

- -"Breathe into your legs /feet as if they are lungs."
- -"Flex your feet toward your nose – lengthening through the underside of your foot and toes."
- -"Sense the back of your legs. Allow your heel to drop into the table, lengthen through the back of your knee and through the heel."