

From the Ground Up

Getting to know the mechanics of your feet and the pivotal role they play in yoga is the first step to establishing a solid foundation in your practice.

BY TIAS LITTLE



In the yoga tradition, the lowly foot paradoxically has an almost transcendent status. Students touch or kiss the feet of beloved teachers as an act of reverence. Similarly, the first phrase of the Ashtanga Vinyasa Yoga invocation, *vande gurunam charanaravinde* ("I honor the lotus-flower feet of all the gurus"), acknowledges that yoga teachings have stepped down through time on the feet of the learned ones.

This veneration of the foot reflects its importance as the foundation of the temple of the body. Just as the foundation of a temple must be level to support all the structures above, so the feet must be balanced and sturdy to support the legs, spine, arms, and head. If our base is tilted or collapsed, it will be reflected up through the body as distortion or misalignment. As Ida Rolf, the renowned bodyworker and founder of Structural Integration (aka Rolfing), pointed out, "A man's tracks tell quite a true story. They inform quietly about ankles and knees, but they shout the news about hips and pelvis. If one foot is consistently everted [tilted onto its inner edge], the ankle, the knee, or, perhaps more likely, the entire pelvic basin is rotated."

But our feet aren't just foundations. Unlike the stones that underlie a temple site, our feet are not static. Our bodies are mobile temples, and our feet are required to be flexible and adjustable. At the same time that they must be firm stabilizers, the feet are also wheels for the vehicle of the body. Like tires on a car, when balanced and true, the feet provide a smooth ride, one without disturbance or jarring. But when the foot collapses or distorts, the strain travels up into the hip joints or lower back, and a strong pull or torque may develop, side to side or back to front.

Many people end up standing and walking for a lifetime on feet that have fallen or weakened arches. This is akin to driving on semi-flat tires. Walking on "flat tire" feet leads to compression in the axle joints (ankles), strain on the drive shaft (the spine), a collapsed and painful posture—and low gas mileage!

The best way to check whether the "tires" of your body are true and balanced is to check your treads. Look at the soles of your shoes. Does the inside or the outside of your heel wear down? If there is excessive wear on one side, the foot is shifted off its central axis, likely putting strain on the knee, hip, or lower back. When students consult with me about knee or sacroiliac pain, I often look to their feet for the origins of the distortion.

The balanced wheel as a metaphor for proper posture and pleasant experience dates back to ancient Sanskrit. In the *Yoga Sutra*, one of the two qualities Patanjali directs practitioners to

develop in asana is *sukha*. Usually translated as "ease," the word literally means "good space" and once referred to the hub of a chariot wheel that was perfectly tuned and rolled smoothly. *Duhkha* ("bad space" and, by extension, "suffering") is when the wheel hub is lopsided and the wheel has a hitch each time it turns. In hatha yoga, when the body is light and spacious, there is *sukha*; when the body is distorted and hurting, there is *duhkha*. I often encourage students to "pump up" the arches of their feet, creating inner arches that have "good space" between the bones and the floor.

Stand Like a Mountain

In hatha yoga, standing poses are the primary tools for building this "good space" and stability in the feet, thereby energizing the legs to support proper posture. So it's no surprise that the best known approaches to hatha yoga—including Iyengar Yoga, Ashtanga Vinyasa Yoga, and Bikram Yoga—use standing poses as their starting place. Standing with equilibrium is the first posture in all these systems. Whether it's referred to as Tadasana (Mountain Pose) or Samastithi (Equal Standing), this pose is the foundation for all the postures because the neutral standing position teaches us to be fully upright, connected to the ground yet reaching out and up toward the sky.

The ease of our upright posture is determined mainly by alignment of the feet and, more specifically, by "equal standing" through the inner and outer side of each ankle joint. In people who have fallen arches or, as they are commonly called, flat feet, the lack of arch support causes the inner ankle bone (the base of the tibia) to collapse in and down. Once the inner ankle drops, the inner groin at the top of the inner leg often also collapses. In turn, the weakness of the inner thighs leaves the lower back vulnerable to compression.

Students who tend toward flat feet may at first experience a great deal of difficulty in waking up the feet and lifting the arches in standing poses. I know how difficult it can be to learn to do this, so to help my students I often give them both guided imagery and anatomical information.

For students familiar with Mula Bandha (Root Lock), I suggest they think of the lift of the arch as a "Pada Bandha" (*pada* means "foot" in Sanskrit). Although bandha is usually translated as "lock," it also implies a "binding" or "harness" that can be used to draw energy upward. In Mula Bandha, this is done by engaging the muscles of the pelvic floor and contracting them up, much like Kegel exercises practiced during pregnancy to create strength and elasticity prior to labor. But although a lifted arch feels similar to the lift of the pelvic floor in Mula Bandha, the mechanism of the lift is different.

The complex design of the foot does not allow us to accomplish Pada Bandha simply with a voluntary muscular lift. Instead, the key to creating strong arches is to extend the foot, stretching and making space in the skin and in the muscles and connective tissues that join the 26 bones of each foot. To create malleability in the foot, we begin by stretching it lengthwise and extending it out laterally. By making the foot more elastic, we build an effective trampoline that springs the weight of the body upward.

To build this trampoline-like resiliency in the foot, we need to fully release and press our weight into the bones that strike the ground when we stand and walk. The heel bone is designed to root

downward. By plugging down the front of the heel, the root of the little toe, and the root of the big toe, we create a triangular base that vaults the inner arch of the foot upward. In all standing postures in yoga, these complementary forces of descending weight and rebound are at work.

Wake Up Your Legs

With all this information in mind, let's explore lifting the arches in Samastithi. Balancing the weight evenly through the feet in this pose demands the subtlety of a watchmaker and the rootedness of a redwood tree. Stand with your feet parallel to each other and hip width apart. To make sure that you are on the center of your heel bones and not riding your inner or outer heels, lift one heel at a time and carefully reset it. Try not to rest your weight back on your heels; instead, pitch it slightly forward to the front of the heel bone, aligning the center of your pelvis and the center of your cranium over the heel bones.

As you press down into the anterior heel, elongate your toes by grounding forward into the ball of the foot, especially at the base of the big toe and the base of the little toe. This action forms a triangular base for the foot and stretches the sole, much like stretching a skin to make the head of a drum. As a drumhead must be stretched equally and with full extension in all directions to create good resonance, the sole must also be fully stretched.

To fully "pump up" your arches, you also need to lift the muscles of the lower leg that attach to the arch. Probably the most important of these is the tibialis anterior, which runs along the outer edge of the shinbone, crosses to the inner front shin above the ankle, and attaches near the base of the big toe. Combined with the lift of the other lower leg muscles, activating the tibialis anterior is like pulling on a tightly fitted riding boot. This sensation of lift travels from your inner arch along your outer shin up to the knee and then up the inner thigh, all the way up into the pelvic floor. With all this muscular activity, you need to take care to keep your toes lightly extended, instead of clenching them against the floor or flexing them up toward the ceiling.

Discover Your Foot Foes

Don't be surprised if lifting the arches doesn't come easily. It takes time to retrain the body, and along with building new strength, you may need to undo many years of physical and psychological tension. For one thing, confining footwear can lead to tense and foreshortened feet. Living in New Mexico, I encounter students who torture their feet with cowboy boots all day and then compound the crime with high heels at night. Other common foot foes are ski boots, cleats, ballet point shoes, and rock-climbing shoes. Constrictive footwear limits the blood flowing in and out of the foot and cramps the bones of the feet together, resulting in compacted and clenched musculature not just in the foot but also on up the body.

In earlier times people usually walked barefoot or in footwear less reinforcing to the foot than modern shoes. They also had to walk on much more uneven surfaces than concrete. These conditions demanded that the foot be responsive: agile, adjustable, and articulate. In addition, the microadjustments required of the foot when walking on uneven terrain promoted small movements in the pelvis and spine that led to a pliability throughout the body.

Today, as people spend much more time sitting than walking and urban walking subjects us to unvaried, hard surfaces, the small bones and ligaments in the foot are limited in their range of motion. Walking on predictable, hard surfaces typically results in a clumping effect: The feet, ankles, and lower back become solid and fixed instead of sensitive and minutely adjustable. This rigidity and often painful foreshortening, especially in the back of our bodies, leave the feet, pelvis, and lower back immobile and vulnerable to displacement.

Along with these physical challenges, emotional pain and psychological tension can become embedded in our feet. These patterns of distortion that lead to instability often start when we are very young. For instance, if we feel early in our lives that our environment does not support us fully or that it is too burdensome, our feet may literally give in and collapse. Or if we resist our early environment, feeling driven to run and escape, our foot and leg muscles can become hypertonic, constantly full of tension.

Warm Up Your Feet

To counteract years of tension, some preliminary exercises can help your feet come alive and respond more readily to the demands of standing poses. One good way to restore proper tone to the sole of the foot is to step onto a tennis ball. After waking up your feet with the tennis ball, it's a good idea to stretch both the sole and the top of the foot. A simple way to stretch the underside of the foot is to kneel with the toes turned under. To stretch the top of the foot, Virasana (Hero Pose) is invaluable.

After these warm-ups, it can be interesting to return to Samastithi to see how your pose has changed. Can you feel the distribution of your weight with more sensitivity now? Do you find it any easier to lift your arches and create Pada Bandha? Are you more able to sense how this action reflects up through your body?

From Samastithi, you can begin to explore other standing poses. In yoga practice, much time is devoted to releasing the back of our bodies, from the feet up through the calves, hamstrings, buttocks, and along the spine to the base of the skull. In the first years of practice, the focus is primarily on forward bends, both standing and seated, that free up the muscular, emotional, and psychological blocks that become embedded in the back body.

In Ashtanga Vinyasa Yoga, for example, the Primary Series is called *yoga chikitsa* (yoga therapy) and consists mostly of forward bends to release the back body. Commonly, the back body holds much of the charge of our personal history; literally, we store past stress and anxiety behind us. Falsely assuming that what is out of sight is out of mind, we end up with a back body full of tension: tight, unresponsive lower calves, hamstrings, lower back, shoulder blade area, and neck.

A forward bend like Prasarita Padottanasana (Widespread Standing Forward Bend) elongates and gradually breaks apart the accumulated tension in the back body, making available an abundance of previously "shorted-out" energy. If the sole of the foot is elastic and open in forward bends like this one, it can initiate a free flow of energy up the back of the legs, down the spine, and out the back of the head.

In fact, though we may seldom think of them in this way, the soles of the feet are the beginning of the back of the body. In four-legged animals—the dog, for instance—the anatomical equivalent of our heel sits well up the hind portion of the leg. The equivalent of our sole faces back, and the weight of its body is pitched up onto its toes. This arrangement allows tremendous spring in a dog's limbs. If we were to imitate the dog, we would have to lurch up onto the base of our toes and elevate our heels. Other four-legged beings, such as the horse or the deer, are similarly pitched up onto their toes (hooves), with their "heels" elevated off the ground. Through the years of evolutionary change leading up to bipedalism, the heel descended and the rear lower limb became a planted foot.

We can apply this insight in all standing forward bends. Consider the position of the legs in Adho Mukha Svanasana (Downward-Facing Dog), for instance. Students frequently moan that their heels will never lower in Downward Dog and wish fervently for longer Achilles tendons and calf muscles. But they often don't recognize that this stretch begins on the plantar surface (sole) of the foot. Since the plantar fascia (connective tissue) connects with the Achilles through fibrous bands that run under the heel, lengthening the plantar muscles and fascia is crucial to downward extension of the heel.

Chakras in Your Feet

Every so often, it's a good idea to make your feet your primary focus through a whole yoga practice. Almost every yoga pose engages the feet and reflects their actions up through the body in a slightly different way. In Trikonasana (Triangle Pose, for example, the work of the foot needs to be slightly different than in either Uttanasana (Standing Forward Bend) or Adho Mukha Svanasana: The top of the forward foot must stretch much as in Virasana, while you also need to be careful to distribute your weight evenly on that foot, instead of having all the weight bear on the back of the heel.

But, in general, once you cultivate mobility and support in your foot—that is, once Pada Bandha is active—you engage the foot this way throughout almost all postures. In forward bends, twists, and backbends—even in inversions when the feet are both extending into space—you sustain the same lifting action to pull life force in through the feet. Without Pada Bandha, the thighs, hips, and low back lose the intelligence they need to stay active.

As Pada Bandha supports elevation in the ankles, knees, and inner groins, it also supports the lift of the pelvic floor known as Mula Bandha. Although the first chakra of the torso, located at the perineum in the pelvic floor, is traditionally called Muladhara (Root) Chakra, our feet provide even deeper stabilizing root support for the upward moving trunks of our legs. In a sense, we have two root supports, one located in the center of each foot, like a healthy tree in which the root system bifurcates as it descends.

I often teach that the soles of the feet and the pelvic floor mirror each other. Elasticity and postural tone in the feet help determine tone in the pelvic floor. Especially as we age and the weight of the internal organs draws them down inside the abdominal compartment, building good tone and lift in the feet helps tone the perineal muscles and prevent gravity from getting the best of us.

Along with asana practice, we can take many simple lifestyle steps to improve the mobility and strength of our feet. Inside our homes, it is valuable to walk barefoot whenever possible. Both for the sake of a clean house and to develop a greater feel for the surfaces under our feet, it is a good practice to leave shoes at the door. This Indian custom also draws an important boundary between the impersonal traffic of the street and the intimacy of home life. When barefoot at home, we can incorporate all sorts of foot yoga into our daily routines. I often encourage students to practice lifting their arches and spreading their toes in the kitchen while waiting for their morning toast to pop or their tea water to boil.

When people begin yoga, it is common for them to discover they have lost connection with their feet. When I teach mechanics of the foot in class and have students stand so we can observe their feet, they often become skittish and embarrassed. And I've frequently heard someone say, "I hate the way my feet look." For many, their feet seem at the opposite end of their universe; no wonder they feel foreign!

The practice of yoga postures can transform our relationship with our feet. Practicing barefoot, we develop greater feel for the ground below. As we become more intimate with our feet, they also become stronger and more mobile. Most yoga students can testify that their feet grow in length over the course of a sustained practice. When we begin yoga, we have little idea how confined and restrained our feet have been over the years. Distorted feet can have a negative emotional impact on the body; as Ida Rolf observed, "The psychological effect of foot problems of all kinds is remarkably consistent: a deep, unconscious feeling of insecurity." But healthy feet have just the opposite effect. Enhanced poise through the feet leads to a sense of stability and rootedness, so important in the unforgiving pace of today's culture.

As we free up our feet, we tap into a reservoir of potential energy. It is as if we are standing on wellsprings of life force that have been blocked by years of constrictive footwear, lack of use, and inhibition. We may be required to do a fair amount of "mining," breaking through the calcified crystals that can form in impacted connective tissues in our feet. But this mining pays off eventually by uncovering sources of energy that can keep us vital and fluid through years of practice.

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