Conscious Weight Commitment — A ‘How-To’ Guide

By Michael Protzel

This document is primarily for people who have attended one of my workshops. It summarizes the essential theory of weight commitment and reviews the kinesthetic experiments conducted at the workshop. This document may also assist website visitors seeking practical instructions on how to gain a direct experience of what I am talking about. Please be advised, however, that it will not be easy to gain the experience through words and pictures alone, without direct person-to-person instruction.

Nothing in this document should be construed as medical advice. I am not a doctor. If you are concerned about a physical problem, you should consult a physician.

Part IV of IV — Weight Commitment & Walking

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Walking poses uprighting challenges not found in sitting or standing: (1) we must upright while moving rather than while stationary; and (2) we must upright atop *one* foot at a time, rather than having both a left-side and right-side, as we do in sitting and standing.

Pivot Point on the Heel

Committing weight directly into pivot point (yellow dot) as we first make ground contact slows us down optimally. Then, as we continue moving up to the talus, committing weight straight down rocks us medially on this point, keeping us on the strong part of the foot has we journey forwards.

Slowing Forward Momentum

Unlike in sitting and standing, where our weight commitment habit is to direct our weight backwards, in walking, since we have a forward destination, we tend to commit our weight too far forwards. (This is so even though the upper torso may be leaning backwards, a remnant of our sitting-back habit.)

Of course we need forward momentum. Without it, we could not walk at all. But too much momentum causes problems. We cannot simply build up speed and keep building it, like when a ball rolls down a hill. Anyone who has attempted to run down-hill knows that substantial braking is required. Although in flat-ground walking much less speed is built up, and thus much less braking is required, it is only a difference in degree.

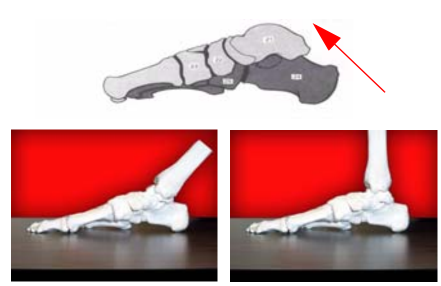
Slowing Forward Momentum

Left: committing weight straight down, using the heel to slow forward momentum.

Right: committing weight forward of the heel, with leg and torso muscles needed to do the slow-down work.

At each moment in the walking cycle, we are also acting to maintain uprightness. In other words, we are lifting ourselves vertically, while simultaneously moving horizontally. To lift ourselves effectively, the forward momentum we build up has to be slowed.

Human beings have evolved natural, and very effective, ways of doing this. To slow forward momentum optimally, we need to commit our weight straight down into the ground-contact-point that is directly underneath us at any particular moment in the walking cycle. It is from this contact that we lever ourselves into uprightness most effectively.



Up to the Talus

Having to lift our entire body weight *up* to the talus after initial touchdown is one of nature's devices to slow us down so that we can lift ourselves vertically as we move horizontally.

Sticking Our Landing on the Pivot Point on the Heel

When our ‘swinging foot’ first makes ground contact, it does so optimally at the pivot point on the heel. This is lowest part of the heel, located on the medial side. From my perspective, committing our weight squarely into this pivot point is the key to activating innate uprighting while walking. Doing this slows us most efficiently while, at the same time, putting us in the best position to control our imminent passage over the front of the foot — so that we pass directly over the arch. When we commit weight forward or lateral to the pivot point of the heel, it makes slowing down a lot more strenuous, requiring large leg, torso and neck muscles to do the slow-down work.

Up to the Talus

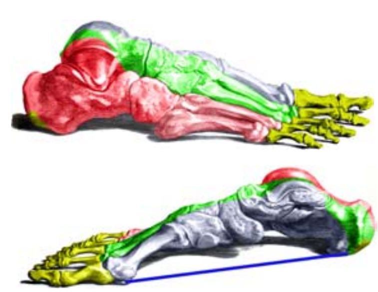
Upon making solid contact at the pivot point on the heel, we meet another of nature's devices that slow us down — in this case, an anatomical hill to climb. We must move *up* to the talus. This climb reduces the need for compensatory muscling. But to use it, we must commit our weight directly into the heel, not in front of it.

> To explore this, stand with one foot slightly in front of the other to simulate walking (as in the picture on the previous page). Have your weight on the back foot and *slowly* begin to move forward. As your weight comes more onto the ball of the back foot, allow the heel of that foot to gradually come off the ground. The point of this experiment is to notice how your weight makes initial contact with the *front* heel. The back foot need never come totally off the ground.
>
> Are you allowing your weight to fall straight down into the pivot point on the heel (the initial ground-contact point)? Or are you, to some degree, 'jumping over' the heel with your weight. Play with this. Direct your weight too far forward *intentionally*. Experience what that is like. Then work with directing the weight squarely into the pivot point on the heel. When you do this successfully, you will feel the muscle activity in the foot and ankle, and will experience the movement *up* to the talus. Remember, do this slowly. The faster you go, the more likely you will lapse into habit, and the harder it will be to notice what is happening.

Slowing Lateral Momentum

When the heel first touches down, we also have to deal with lateral momentum. Lateral momentum exists because we make initial heel contact having come from the big toe of the opposite foot. In other words, we approach heel contact on a diagonal. Recognizing this, and being able to commit our weight squarely into the pivot point on the heel, enables us to use the heel as a rudder — to steer us so that we move forwards atop the strong, medial edge of the foot, rather than drifting to the outside. As we stick our weight onto the pivot point of the heel, and continue to commit it straight down as we start to move up to the talus, we rock *medially* on the heel. This is because the center of the talus— our balance point through which our weight directly passes — is medial to the pivot point on the heel. This is yet another anatomical benefit that an accurate weight commitment enables us to take advantage of. The clear benefit of this medial rocking is that it helps us stay on the strong part of the foot, directly over the longitudinal arch that runs between the pivot point on the heel and the sesamoid bones under the big toe. Moreover, moving along the strong, inside edge leads us directly toward the spot on the ground where the heel of the other foot will be touching down in a moment.

The side-to-side rocking that the pivot point on the heel allows is an absolute necessity here on earth. As just discussed, medial rocking is optimal. Yet, we also need to be able to rock to the outside — when the unevenness of the ground 'forces' us in that direction. Otherwise we'd be in constant risk of fracturing an ankle bone. When we do rock to the outside, we literally *descend* onto the lateral side of the heel and toes. This descent signals the brain to recruit leg muscles to stop our lateral topple. This is a 'safety net' that serves to protect us. We do not, however, want to be utilizing this safety net *habitually.*



Safety Net

Ground contact at foot bones shown in yellow, green and red are for circumstances when uneven ground does not allow optimal foot planting. We do not want to rely upon these ground contact points habitually.

> Go back to the above exercise simulating walking, with one foot place in front of the other. Move from the back foot to the front foot. Notice the initial striking of the ground with the heel. Can you stick the landing on the pivot point? When you do, and you start to move *up* to the talus, does the heel rock medially or laterally?

We are very comfortable rocking laterally. We habitually tend toward this. To become more conscious of the experience, do it on purpose. Notice how the whole body descends in space as we rock laterally while moving forwards, bearing weight on the small/outside toes. Notice how the large, outside leg muscles come into play to brace against the lateral fall.

The Two Edges

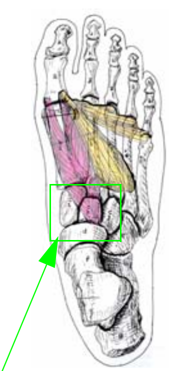
It is good to develop a clear visual image of the foot, as well as an understanding of how it is meant to work in walking. There is a big difference between the two length-wise edges — the inside being the strong side and the outside the weak. Noticing pressure start to build on the ball of the big toe helps to define the strong part of the foot, along the longitudinal arch. You want to fall into this part of the foot as much as you can. Noticing a light contact on the ball of the little toes will activate plantar muscles that run close to the outside edge of the foot. Their tensing will give you a little 'push' back towards center should you start to move laterally.

The Two Edges

Powerful plantar muscles underneath the longitudinal arch, on the medial side of the foot. This is the strong part of the foot. Muscles running along the lateral edge are smaller and weaker.

When too much of our weight falls upon this outside edge, however, these muscles cannot handle the load. We have already fallen too far laterally. Thus, we need to use large leg muscles to stop our lateral topple and to pull ourselves back towards center. We also need to use pelvic muscles to 'right' our torso.

Start walking. As you move up to the talus after initial heel contact, you will make contact with the balls of the foot. As you do, you want to see in your mind's eye, and to sense kinesthetically, both the medial and lateral length-wise edges of the foot. Do you bear weight mostly on the big toe or toward the outside of the foot?



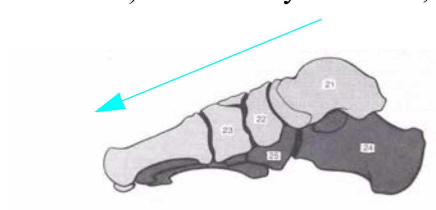
The Middle

Diagonal plantar muscles provide solidity where there is no ground contact underneath. They also help direct us back to center. But only when we fall straight down.

Contacting the Important 'Middle' of the Foot

When our weight is accurately committed, soon after making initial heel contact that slows both forward and lateral momentum, as we move up to the talus, our weight will pressure the small foot bones located just in front of the talus (the navicular, and the 3 cunieforms).

Getting weight into these bones activates the deep and powerful muscles that run diagonally on the central part of the bottom of the foot (flexor hallucis brevis and adductor hallucis). When fully activated, their tensing creates the skeletal solidity needed to support us as we are moving over this central part of the foot — a part that has *no ground contact underneath*; their tensing also lifts the second and third metatarsals a little bit, creating a little 'speed bump' that further slows lateral momentum and steers us back to the strong, medial side of the foot. Our habitual ways of mis-committing weight, however, has resulted in these muscles being drastically under-used.



Going Down the Slide

Start walking. Place your attention on the small bones on the top of the foot just in front of the talus. These bones form part of the top of the arch. They make no ground contact. Notice the adaptive 'tightening' among these bones as your weight falls directly into them. Notice the lack of it when your weight falls off to the side.

Going Down the Slide

As we move forward of the talus, we are at a crucial juncture. Our falling straight down has enabled us to use solid heel contact at the pivot point, as well as the trip *up* to the talus, to slow forward momentum effectively. But we are now about to head 'down hill' toward the tips of the toes. We will pick up speed on this descent. To regulate this speed optimally, we need to allow our body mass to fall squarely into the ball of the big toe. This will make our deepest foot and lower leg muscles do their job, minimizing the need to over-tense large leg, pelvic, torso and neck muscles. But because falling straight down is contrary to our habit, allowing the ball of the big toe to bear our weight is difficult to do. Our under-used plantar muscles are weak and will resist our weight. But we must persist in committing our weight straight down, thereby insisting that the these muscles bear the load and do their job.

Start walking. Notice the trip 'down the slide' — beginning when you are at your highest point, directly atop the talus. Do you allow your weight to penetrate the ball of the big toe or do you fall off to the side, activating your large leg muscles to slow you down and keep you centered?

The Other Foot

All of the above refers to what is happening on the 'support foot' after initial heel contact. As this support foot is just about to come off the ground — with weight only on the big toe — what was the 'swinging foot' is now touching down, making initial heel contact. While it is in the air, we have the opportunity to prepare ourselves to commit our weight directly into the pivot point as it lands. It is important that we do this. When the heel hits the ground, the above sequence begins anew.

Start walking. Notice the swinging leg. Notice that, as this leg is swinging, your body mass is about to fall onto it. It is your consciousness that determines at what trajectory your body mass will strike the foot. Play around with this. See what kind of influence you can have.

Theory, Sitting Walking

This Walking document is part of a four-part How-To Guide on weight commitment. The other parts are.

Part I — Weight Commitment Theory

Part II — Weight Commitment & Sitting

Part III — Weight Commitment & Standing

Michael Protzel came to the Alexander Technique at age 30 with chronic ankle, knee, hip, back and neck injuries that were getting progressively worse. The AT basically saved his life. After two years of private lessons, he trained to teach with Tom Lemens. He was certified to teach the Alexander Technique in 1987, but did not first notice himself mis-committing his body weight until 1992. He has been exploring his falling ever since. Michael maintains a private practice in NYC and northern New Jersey.

Michael was NASTAT News Editor from 1989-1995 and was recipient of NASTAT's first Distinguished Service Award in 1995. He is currently Chair of AmSAT's Professional Conduct Committee, a position he has held since 2001. Michael is involved with other long-term self-observation processes, including psychoanalysis, Tai Chi/Qigong, Carl Stough's Breathing Coordination, Peter Grunwald's vision work and the study of jazz guitar. Michael is also President and CEO of Gann Law Books, one of the few remaining small, independent law publishers in the United States. Gann specializes in state-of-the art legal analysis, both in print and online.

Michael gratefully acknowledges the contribution of ***Maggy Breuer,*** *who assists Michael at workshops and has helped in developing www.uprighting.com, and in writing papers on weight commitment. She too is a certified teacher of the Alexander Technique, a member of GLAT (the German society). She teaches privately and in small groups in and around Mainz, Germany, and is an avid tango Argentino dancer and teacher. Her website is* ***www.alexandertechnik-mainz.de****.*