

Integrated Functional Movement

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In my previous article, “Addressing Chronic Pain from Suboptimal Biomechanics,” I discussed how our body’s biomechanics and movement patterns (the way we hold ourselves and move), can be altered by old injuries or bad habits, which results in an imbalance of muscle tension. Some muscles become overused and painful; others become weak and often “silent.” The fascia (our three-dimensional web of connective tissue) adapts to the imbalance and contributes to abnormal forces on joints. All this can lead to arthritis. Any component can contribute to chronic pain, and this is often difficult to sort out and treat successfully.

The meanings of the two terms, **biomechanics** and **movement patterns** are very similar. Good biomechanics result in good movement patterns. Good functional movement patterns have nerves, muscles, joints and fascia that are working together optimally. With optimal biomechanics and integrated movement patterns, there is the potential to be pain-free, because of less joint compression and better-balanced soft tissue tension.

Are optimal integrated functional movement patterns easy to acquire? For most of us, myself included, the answer is **no**. The main reason why this seems difficult or tedious is that we all have compensatory quirks in our movement-pattern “hard drives,” and for everyday movement we operate on “autopilot.” We can walk and carry on a conversation with a friend and not have to think about walking.

We just walk the way we always do. Skiing is an example of integrating movements.

Having a coach to improve technique or basic functional movements usually ends up being somewhere between helpful and necessary. That’s where a \$6 door mirror and I come in, for visual feedback and a little cuing with a nudge here and there.

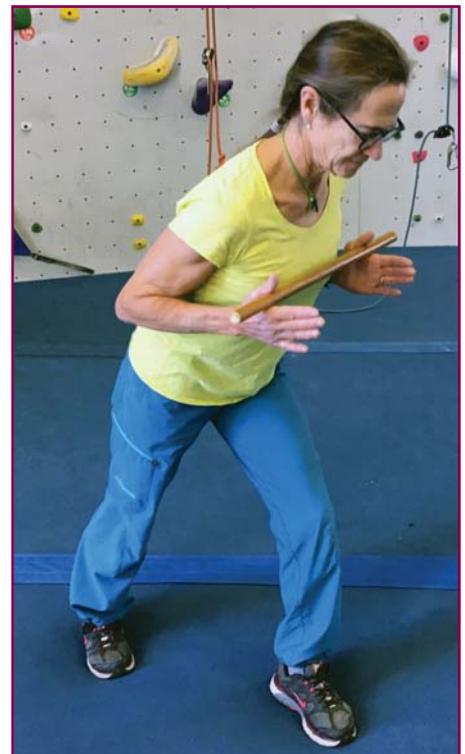
To improve suboptimal biomechanics and function with a more optimal movement pattern, we need to slow the desired movements down, so that we can consciously override the compensatory components and incorporate improved movement patterns, bringing **them** into autopilot. Two key words to emphasize are **slowly** and with **practice**.

In the September/October 2018 issue of *Natural Life*, I wrote the first of this series of three articles: “Chairs and Stairs for Integrated Movement.” These articles are based on the principle that the biggest muscles should do the most work for essentially every task, from reaching, to lifting and walking. The *gluteus maximus* (and the six other muscles of the buttocks) or gluteals, represent the “core of the core.” The “glut max” is designed to provide power and stability, and the ball-and-socket hip joints allow varied positioning, which have a lot to do with controlling the knee and foot, as well as the spine. The gluteals are the **do-everything** muscles, and the hips can take forces of more than your body weight in multiple directions.

Many of us walk with the low back locked in extension, or sway-backed (lordosis), which doesn’t necessitate that the gluteals maintain the pelvis “level” or the spine “straight”—**but we need to!** Without the glut max performing as it is designed to do, the pelvis tips forward and the low back becomes swayed,

placing too much unbalanced force or compression on the joints of the spine. As time goes on, the fascia adapts to this position and things get worse.

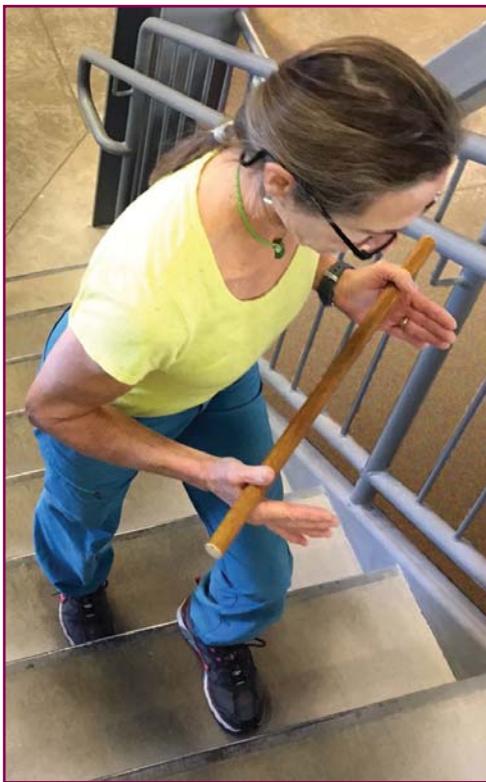
The key is to use the glut max effectively. The “Diagonal Stick Bowing” exercise shown here is an excellent exercise to get control of



Diagonal Stick Bowing

the pelvis, shifting body weight from back foot to front foot without taking a step. This is a basic pattern for many activities such as downhill skiing, shoveling snow, vacuuming, getting groceries out of the car, placing the groceries on the countertop, and the list goes on.

DIAGONAL STICK BOWING. Take a medium step forward. Each knee must remain in line with the second toe. This allows the glut max and company to stabilize the knee and control foot



Slow Stair Climbing

pronation. Pull a dowel toward your sternum, keep the elbows back, or use a long dowel to self monitor a straight spine. Turn your pelvis and trunk toward the front foot by straightening the hip of the rear leg using the gluteals, shifting most of your weight to the front foot. Keep your feet straight ahead in "ski tracks." Only the ball-and-socket joints of the hips move. Bow over the front foot without moving anything but your hip joints. This will likely feel awkward at first, but it won't as you acquire the pattern. Return to standing in stride. Repeat. Switch legs.

Mastery of this first exercise is important. As this begins to occur, the more complexed dynamic movements of locomotion, with all of its variations, can become the physical-therapy focus. The biggest muscles do the most work, and the hip joints allow most of the motion. This is optimal integrated functional movement.

As a physical therapist, I might be going out on a limb to show a few dynamic movement exercises. These take practice to perform with optimal biomechanics. A coach, at first, and eventually, just a mirror are necessary. But every repetition improves functional movement strength, taking you closer to the enchanted land of pain-free!

SLOW STAIR CLIMBING. Place one foot on the floor, the other one on a step. This is the same as Diagonal Stick Bowing, except you push off of the back leg with the hip, knee, foot and toes at the same time. For a moment you are single-leg standing as you move upward. The longer the moment, the more the weak parts of the pattern have to perform.

End at the same step or swing the leg all the way through to the next step and climb. Or, you can reverse the single step back down to the starting position on the floor. Then switch legs and do repeats.

The slower you go, the more the weakness is engaged. If you can't hold the form, you are compensating. If so, you must make the exercise easier. You may have to start with some-

thing similar to a four-inch high aerobics step and increase the height as you are able to hold the form. It is always better to make the movement too easy than too hard in therapeutic exercise. If you have to compensate, you aren't addressing the

weakness, but instead making an already-strong muscle combination work harder and allowing the imbalance to continue.

WALKING-ON-STONES-ACROSS-A-STREAM. Place non-slip targets, like tape, on the floor for imaginary slippery stones. Think of your own casual-walk footprints and place your "stones" there...at first. Use the same positioning as Slow Stair Climbing. Rotate the pelvis over the lead foot. Remain single-legged as you find the next stone with the ball of the other foot. Don't fall in! If you do, shorten your steps and make them narrower.



Walking-on-Stones-Across-a-Stream

The more one can acquire optimal biomechanics and functional movement patterns, the closer one gets to the goal. The more practice you do, the more long-term, pain-free improvement you can expect. This is a journey. ■

Special thanks to Nancy Neiley, PT, for demonstrating the exercises. Read all of Terry Kennedy's articles at NaturalLifeNews.com/magazine.

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