

Slow Motion Walking and Balance

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Almost every class I teach at ATRI Conferences includes Slow Motion Walking (SMW). Many of you have tried it with me and felt the challenge. It's functional, it has great carryover for gait improvements, it's excellent for balance, and it makes us all laugh at ourselves (or maybe you're just laughing at me) as we lose our balance with SMW. We become 'shufflers'.

We often identify 'balance deficits' when we see short stride lengths, shuffling feet and low velocities. Did you know that these usually have no mechanical cause? In fact, research has found that gait disorders of this kind—in healthy seniors with no disease, no history of falls and no more muscle weakness than their counterparts—are largely a response to fear alone.

Fear can actually cause people to fall. Researchers wondering whether the fall begets the fear, or vice versa, found that those who had not fallen, but who had reported a fear of falling, were more likely to fall in the future—despite a significant decrease in their activity levels.

Is balance important? We all know it is. One in 40 falls results in hospitalization and, of those hospitalized, only half will be alive one year later. Falls begin the propagation of events starting downward decline so teaching balance is all-important.

Gait and Balance

When we walk, each step ends with the weight of the body on a single leg. The abductors generate a motion opposite to abduction—that is, moving the body relative to a leg that is planted, or weight-bearing. Lateral hip contraction while walking results in pulling one side of the pelvis downward while slightly lifting the other. This gives the other leg room to swing through without the knee needing to bend excessively. This action results in a very high load, handled by these muscles and by the head and neck of the femur. When the hip muscles work in this way, not only is motion controlled throughout the gait cycle (i.e. balance), but the *density* of these bones is better maintained, making them less susceptible to fracture in a fall.

Balance Deficiencies

Balance, going back to basics, is the process by which we control the body's center of mass (CoM) with respect to the Base of Support (BoS), whether it is stationary or moving.

A whole lot of people can ride a bike without it falling over, yet only a very few can sit on an unmoving or slow moving bike and say the same. Why? Because continuous forward movement can mask a myriad of balance deficiencies. Just as cycling involves superfast corrections to a thousand invisible almost-falls, walking with a body weakened by modern living results in one controlled fall after another. How do we find these controlled falls?

Try SMW

You can help your clients identify any muscles that are “helping” when they shouldn’t be and others that aren’t doing their job. Have them walk as slowly as possible. Slightly bending the knees, gripping the toes and tensing the neck and shoulders are common reflexes when we feel unstable, yet chronic practice of these motions eventually interferes with a healthy gait cycle.

The muscle patterns we develop to cope with a balance exercise reappear when we actually need to balance. If a client grips his/her toes during SMW, there is great probability that he/she will grip during the balance phase of a gait cycle as well.

Contracted toes (gripping) reduce the foot’s ability to deal with new information, and this tension leads to an inability to respond to new environments and results in poorer balance. If a client has stiffness in the toes, as seniors often do, you’ll often see that the habit is being reinforced during every step.

How to Do It?

Here’s a possible script to modify for use:

Begin walking. Use a normal stride with the heel barely clearing the pool bottom during the swing phase. Use a heel strike and roll heel-to-toe. Eyes focused ahead. Neck is long, and shoulder blades pressed lightly down. (Reciprocal arms shouldn’t have to be cued but do so if necessary).

Continue walking and notice your step length, and again, that your heel is barely clearing the pool bottom. Slow down a bit and maintain the same step length while letting your shoulder blades relax down. Keep your eyes forward.

Now slow down a bit more and check on your long neck, easy armswing and tall torso. If you can slow down even more you’ll start to notice that you’re challenging your balance. If you don’t notice the challenge, move even slower.

Try to keep your arms relaxed and eyes forward. These will be harder now but you can do it. You’ll want to keep you step length the same as before and that’s harder too.

Continue walking and move as slowly as possible. When you’re ready, go even slower.

Give it a try – I think you’ll like the outcomes. You have complete permission to copy this script and modify it for yourself. If you need any help, I’m available at ruthsova@ruthsova.com.

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