Ground Forces Math



Walking. It is a basic way to move and can be a nice way for people to begin exercising. Is walking more "always" a great idea for increasing activity? No. Walking can actually increase pain and cause injury. How? It's just walking right? The amount of force created with walking is often underestimated, so let's not take it "lightly." Here's the math...

For example, let's use a person weighing 200 pounds. Each walking step produces 2-3 times your body weight in force. If you have a clean gait (walking mechanics), it will only be twice your weight. If you have a less than optimal gait (most people today in America), you will produce three times your body weight in force with each step. We are only talking "walking" right now, but running is 6-9X body weight per step and sprinting is 10-12X body weight per step in force production, so establishing proper structural integrity is critical for success.

- 200 pounds x 3=600 pounds per heel strike during walking gait
- 5,000 steps per day (somewhat sedentary or mildly active person)
- 600×5,000=3,000,000 (3 million) pounds per day
- 21,000,000 (21 million) pounds per week
- 84,000,000 (84 million) pounds per month
- 1,000,000,000 (1 BILLION) pounds+ per year!!!

Even just "walking" at a mildly active level produces exponential amounts of ground forces. If you can improve the efficiency of your gait from the ground up starting with feet then ankles, knees, hips, core, shoulder swing, postural line, etc., you will reduce the amount of force coming back off the ground through your body. Sometimes people "create" significant back pain or other problems by walking due to all these ground forces on top of poor structure. This is why *walking is not always the best medicine*—it depends upon the biomechanics of the person, walking surfaces, etc.

By improving gait, many problems up the kinetic chain of movement can be improved. Got a neck problem? Fix how you walk—and maybe your neck will feel better. Got a shoulder problem? Hip? Knee? Many times it relates back into how the feet hit the ground and what happens from there up. Sometimes there can be an upper body problem that travels back down into the feet too-but more often than not, the feet and ankles are a great place to begin—and don't forget proper "foot-friendly" shoes too!

So while walking more might help, **DO THE MATH** and become more foot-health literate, and make sure to walk BETTER...because *high-volume on poor structure* is not the best strategy for success.

