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Stand Stronger

Be a Big Baby

Over the last five years, I have converted hundreds of physical therapy patients and fitness clients to a stand up desk work routine. In new converts to the stand up desk, it is not uncommon to hear about issues with leg discomfort, lower back fatigue, soreness in the bottom of the feet, and other assorted symptoms. Many people report they are unable to extend the period of time they spend standing beyond thirty minutes. For these folks, I have a simple exercise remedy. It has been helpful in all cases that have followed the directions and completed the program.

Human physiology was designed to function under the physical demands of standing and walking. The neuromuscular control of bipedal locomotion is one of the wonders of evolution. An extended period of your life spent in prolonged sitting turns off the neural software that holds us upright against gravity. The program you will perform reboots the already existing neural ambulation network you developed as an infant. You will be facing the same challenges a child faces when learning to stand and walk.

But first, you have to stop all the dumb stuff. No crunches, nix the sit ups, quit the leg lifts, and stop doing the leg curl machine. Drop any and all muscle "isolation exercises" and just do this program. Any other activity will only confuse your neural system and impair your progress. A baby learning to walk is going to be hindered, and not helped, by a trip through the ab circuit machinery at your gym. It is the equivalent of trying to learn mathematics by watching soap operas.

The routine takes less than ten minutes to complete. You have to perform this program every day of the week for three to six weeks. You must perform the program as written-- no modifications. If you are unable to dedicate ten minutes a day for the next three to six weeks, do not bother starting the program. It will not work. Re-establishing the control of neuromuscular coordination requires repeated trips through proper motor patterns. If you walked in the gym or clinic, then we know the brain software exists. You just need to devote the time and effort.

Three Exercises of Neurodevelopment:

I. Bridges, and as you get stronger, progress to hip lifts
II. Push up position planks (PUPP)
III. High carry

First, perform a total of 25 bridges. You can do all twenty five in a row, 2 sets of 10 and then a set of 5, or 5 sets of 5-- just do 25. When you get stronger, move up to the hip lifts and do 25. The second exercise is a push up position plank. You have to perform a total of sixty seconds of a push up position plank. You can perform 6 sets of 10 seconds, 3 sets of 20 seconds, 10 sets of 6 seconds or 1 set of 60 seconds. Just get sixty seconds. The third and final exercise is the high carry. Find a weight (sack of flour, dumbbell, medicine ball, bowling ball) and walk the chosen load for 300 feet. Use whatever rest interval you need, but travel the required 300 feet. The execution and progression of these exercises are listed below.

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Bridges, and as you get stronger, progress to Hip Lifts: 25 Repetitions

Chronic sitters often have gluteal muscles that are not functioning at optimal levels. The term physical therapists use is "gluteal amnesia." A sedentary lifestyle requires little in the way of glute recruiting sprinting, deep squatting, and climbing. We mistreat our gluteal muscles with hours of compressive sitting and little in the way of full range hip movement. Infants neurologically connect with their gluteal muscles by performing lots of leg kicking, rolling, and bridging. The bridge and the hip lift are simple exercises that resolve gluteal amnesia problems and reboot the "brain to backside" neurodevelopmental connections.

Find a sturdy surface and lay supine. Plant the feet on the ground with the knees bent. Brace the abdominal muscles and push the hips off the floor. Hold the top of the "bridge position" for two counts, lower slowly, and repeat. Complete 25 repetitions at every training session.

When you can perform 25 bridges without resting, progress to a hip lift. Position the shoulders at the edge of the exercise bench (16-18 inches high) or sturdy piece of furniture. Plant the feet on the ground with the knees bent 90 degrees. Lower the hips to the floor and then push back up with the gluteal muscles and hamstrings. Complete 25 repetitions.

Push Up Position Planks: 60 Seconds

The four point position of a crawl is the infant activity driving the development of software and hardware that permits a baby to stand. Push up position planks (PUPP) function as an intense rebooting of your crawl software. PUPPs neurologically link the hips to the shoulder to create "pillar strength" – the isometric strength endurance you need to stand up.

Place the hands under the shoulders with the elbows extended. Pull your shoulder blades down your back and keep your neck long. Lift your pelvis so that your body is supported on the feet and hands. The feet should be at least shoulder width apart. Your body is held in one long line from the ears to the ankles. Do not let your hips sink or rise up—check your position in a mirror. The critical part of the exercise is creating tension in the core stabilizers by tightening the gluteal muscles, bracing the abdominal muscles, and keeping the shoulder blades tight to the rib cage. When you start to sink in the middle or get some body tremors, stop the exercise and rest. You have to get a total of sixty seconds. Work on decreasing the number of sets required to get your aggregate of sixty seconds.

High Carry: 300 Feet

Babies perform an amazing feat of strength. They stand and walk with a head that is enormous for the size of their bodies. The neuromuscular effort it takes to carry around a huge head on a small and delicate spine drives the development of core stability, balance and coordination. Since we cannot make our heads bigger, we will carry an implement placed high on the chest to simulate the challenge faced by an infant. Most people can start with a five-pound load. You have to walk 300 feet. Rest as needed but get 300 feet. As you get stronger, increase the load. Complaints of discomfort with prolonged standing tend to dissipate when you are able to handle a 15 pound high carry for 300 feet.

Researchers on health and longevity have labeled prolonged sitting "the cigarette smoking of fitness." Prolonged sitting produces all sorts of spinal and joint restrictions that contribute to the postural flaws that are rampant in offices across America. The more worrisome issue is that those of us who spend more time sitting are statistically more likely to die earlier. All things equal, the people who stand more are healthier. They have better blood lipids, less hypertension, and fewer vascular problems. You cannot unravel the ill effects of eight hours of daily sitting with a non-specific, twice a week, gym fly by.

Watch the attached video for clarification on exercise performance. Perform the routine every day for the next three to six weeks. Most of the people who have been through this regimen find the results are so beneficial they keep performing the exercises as part of an ongoing fitness routine.

-Michael S. O'Hara, P.T., OCS, CSCS

Video demonstration of these exercises can be seen on our youtube channel at: https://youtu.be/Zg8ItxTvnOY

Osteoporosis Insight

Working Hard to Fight Falls at Fenton Fitness

"It's never too late to take charge of your body and your health," said Jan Pilar, Fenton Fitness member since 2002.

At age 50, Jan had her first bone density test and discovered she had borderline osteopenia, the precursor to osteoporosis. At age 60, Jan was tested again and the results were not good. Determined to take matters into her own hands and avoid medication, Jan began strength training and increased her calcium and D3 supplements. It was also the year that Fenton Fitness began its transition into a training facility and introduced its first high intensity interval training classes. Jan responded well to the classes and, two years later, there was a slight increase in her bone density. Hopeful, she continued her exercise regimen and maintained her diet and vitamin intake.

Today, at age 65, Jan is pleased to announce that all signs of osteopenia have disappeared. Her recent bone density test was perfect. This is just one more success story proving that osteopenia can be reversed and bone density can be increased through diet and strength training exercises.

In 2012, an international team of researchers and clinicians launched Too Fit to Fracture, an initiative aimed at synthesizing best evidence and developing recommendations for both exercise and physical activity for individuals with osteoporosis. In October of 2014, they released a booklet that is available through osteoporosis.ca on managing osteoporosis through exercise. Everyone should read this booklet and osteoporosis patients should use their suggestions on exercise. It brings clarity to an issue that is currently clouded with poor understanding and a lot of bad advice.

A valuable part of this book is the "do not do's." Any person with spinal changes secondary to osteoporosis needs to hear about avoiding the damaging effects of prolonged sitting. Many people consider yoga and pilates "gentle" fitness activities that are suitable for patients with osteoporosis. I have treated many osteoporosis patients with pain problems brought on by a well-intentioned adventure into an inappropriate exercise class.

The Too Fit to Fracture researchers recommended that individuals with osteoporosis (with or without vertebral fractures) should engage in a multicomponent exercise program that includes resistance training in combination with balance training. Balance train for ten to twenty minutes every day of the week and strength train for 30 to 45 minutes twice a week. Make sure your strength training teaches you how to move correctly and improves the endurance in your back muscles. If you have mild to moderate osteoporosis and you balance train and strength train first and foremost then spend the extra time on some cardio training. If you have been told you are at high risk for fracture, keep the cardio training at a lower intensity.

A lot of unproven and inappropriate fitness advice is published every day. We all need to consume good fitness information and not junk food. Take to the time to download the workbook and read it over. Twenty years from now your bones will thank me.

http://www.osteoporosis.ca/osteoporosis-and-you/too-fit-to-fracture/

-Michael S. O'Hara, P.T., OCS, CSCS
Amy Warner, Director of Sales and Marketing

Additional Resources

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The Biomechanics We All Need to Know

Men's Health on Dr. Stuart McGill

Many physical therapy patients arrive at the clinic with injuries and pain problems created by a well-intentioned foray into fitness. They down loaded a program from a website, took the training advice of a Hollywood celebrity, or followed a routine based on Navy Seal training. Very often my biggest treatment challenge will be convincing them that the bland fitness activities of simple bird dogs and mastering a proper bodyweight squat is going to do more for their health and fitness than the fifty burpees and barbell deadlifts that brought them to the clinic. Lou Schuler has brought me some help with his recent article on Dr. Stuart McGill in the January/February issue of *Men's Health* magazine. Please take the time to read this article and watch the video demonstration of Dr. McGill's four "spinal tune up" exercises.

I have heard Dr. McGill lecture on several occasions and have read most of his research. Following are the important findings the average fitness participant needs to know.

Spinal Support System Tune Up

Our body is held upright by a cylinder of neurally interconnected muscles and fascia bands. A helpful analogy is that of a cell tower and the supporting guy wires that hold the tower tall and stable. Each bracing guy wire has to be "tuned" to the appropriate tension level. One series of wires cannot be overly taught and another series set on slack or the tower will lean over and deform when subjected to gusts of wind. Your core stabilization muscles require regular exercise to keep them "tuned up" so they remain responsive to the rigors of daily living and athletic activities.

Posture Problems and Too Much Flexion

If you work in a seated position, your spine is held in sustained flexion for most of the day. The i-hunch posture has accelerated head, neck, and upper thoracic chronic pain into younger age groups. Recreational activities frequently involve a flexed spinal posture-- riding a bike, paddling a kayak, golf, and yoga are all flexion dominant. Most household chores involve bending forward-- emptying the dishwasher, vacuuming the carpet, making the bed. Degenerative spinal changes that occur as we age create a bent forward spinal posture. Most of the lower back patients that we treat in physical therapy walk into the clinic in a flexed spinal position. The training programs for these people must pull them out of flexion and improve the function of the slack series of muscle "guy wires" that support anti-rotation and anti-extension of the spine.

Choose Fitness Activities That Suit Your Structure

Not everyone will have a shoulder girdle with enough range of motion to perform resisted overhead activities and remain healthy. Structural variability in the hips will preclude some people from being able to safely perform a deadlift from the floor or squat below parallel. What is easy for one person may be physically impossible for another. Do not injure yourself with activities you are structurally ill prepared to perform.

Core Coordination

Using some sophisticated muscle listening devices hooked to athletes' core muscles, Dr. McGill has looked at what actually happens in the core muscles when we move. When a martial artist delivers a kick or a boxer a punch, a double pulse occurs in the core muscles. The muscles contract, relax and then contract again in a fairly rapid manner. When a sprinter accelerates, the same coordinated core muscle firing occurs. Elite athletes produce rapid and coordinated core muscle firing patterns. Pain-free and efficient spinal movement requires the ability to rapidly contract, and then relax, the muscles.

Spinal Injury Management

Dr. McGill has studied the outcomes of many different lower back pain treatment protocols. The bottom line is this: Back pain problems can take years to fully recover. Management with activity modification and exercise works much better than surgery, injections, and medications.

-Michael S. O'Hara, P.T., OCS, CSCS