



Fenton Physical Therapy

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Linden Physical Therapy

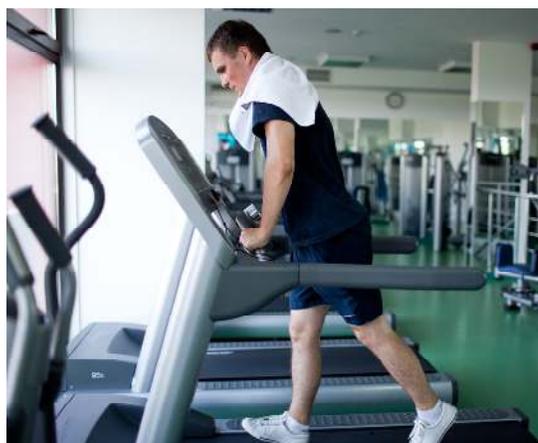
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Retreadmill

Six Treadmill Facts You Need to Know



The most popular method of exercise at most commercial gyms is treadmill training. Several studies have

shown that treadmill training produces a cardiovascular challenge with a low rating of perceived discomfort. You work hard, but it feels easy. The modern treadmill allows us to walk and run, free of the dangers of inclement weather, angry dogs, and poor pavement. Just like any other training tool, the treadmill has some drawbacks that we need to be aware of. In an effort to keep you injury free and productive in your fitness endeavors, I have some recommendations on the safe and effective use of a treadmill.

Strengthen the Hamstring and Gluteal Muscles

Most treadmill users have weak and unresponsive hamstring and gluteal muscles. The treadmill does nothing to make this better because the movement of the belt carries the leg into extension and reduces the demand on the posterior chain muscles of the lower extremity. Walking and running on a treadmill with a weak set of backside muscles creates an environment that invites injury to the feet, knee, and pelvis—all the way up the anatomical chain. If you are going to use a treadmill, devote some training time to getting better at bridges, hip lifts, mini band monster walks, TRX SHELCS, lunges, and the glute-ham developer.

Pay Attention

The fitness trend is to pop on the headphones and mentally zone out while training. I suggest you do the exact opposite and focus on how you move while on the treadmill. Your posture should be tall. Hold the head back and look straight ahead. The arms should swing by your sides and the pelvis should rotate with each stride. The faster the treadmill moves, the more your feet should land on the midline of the tread. Studies demonstrate that reading while walking or running on a treadmill shortens the stride, inhibits rotation, and alters posture. Listening to music increases lateral sway and widens foot placement in treadmill walkers. Pay attention for no other reason than falling off the treadmill is a painful and embarrassing experience that will dramatically reduce your chances of achieving any fitness goal.

Develop Better Strength / Endurance in the Core Muscles

For many gym goers, the thirty minutes they spend on the treadmill is the longest duration they will stay upright all week. You can see their gait pattern deteriorate as they fatigue. They simply do not possess the isometric strength / endurance in the muscles that support the spine and pelvis. Many rehab professionals, myself included, believe that walking with these strength deficits leads to early degenerative changes in the feet, knees, hips, and lower back. If you are going to use a treadmill, then spend some time getting better at planks, roll outs, stir the pot, Pallof presses, and some loaded carries.

No Holds

Holding on to the rails, control console, or heart rate monitor handles on your treadmill significantly alters the reactive forces that travel through your body. It inhibits the neural reflexes that make walking auto-

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matic and alters your gait pattern. It rounds the shoulders forward and accelerates the development of the slouched-over, or kyphotic, posture that gravity and father time are all too happy to send our way. Holding on exerts greater compressive forces on the lumbar and cervical spine. I have treated numerous patients with neck and lower back pain that abolished when they stopped holding on while using the treadmill. When you hold on to the treadmill, it reduces the amount of work necessary to walk-- a 45% to 60% decrease depending on the study. You negate any challenge and significantly increase the compression forces on your spine when you incline the treadmill and hold onto the machine. If you cannot walk on the treadmill without holding on, you should not use the treadmill.

Adaptation

Physiological adaptation to treadmill training limits its effectiveness as a method of fat loss. Your 30 minutes of treadmill training burns 420 calories in January but that number plummets to 270 calories by June. You can increase the speed and ramp up the incline but you will feel more discomfort and elevate the risk of injury. Adaptation to an exercise stimulus is one of the reasons so many gym goers are not successful in improving body composition.

Total Impact

Modern treadmills have suspended decks that reduce impact when walking and running. Anyone who runs on a treadmill and creates a lot of impact noise does not possess an efficient gait and is much more susceptible to overuse injuries. When you run, you subject the body to 600 to 700 foot strikes per mile at loads of two to three times your body-weight. You can learn to land softer by limiting the vertical component of your gait pattern. Reducing body mass and improving hip extension mobility/strength, core stability, and stride length often help the heavy striker to become a more efficient runner. If none of these things make you lighter on your feet, I suggest you find another training modality.

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



Full Circle with FPT and FFAC

One Member's Active Management of Lower Back Pain



Back in 1999, Judy Brushaber was a patient of Mike's at Fenton Physical Therapy. She was being treated for chronic lower back pain when he suggested she start an exercise program at his new gym, Fenton Fitness and Athletic Center.

"I have exercised most of my adult life: aerobics, treadmill, weight training, home gym, walking, etc. When I joined Fenton Fitness, I was working, so I took advantage of the 5:45 am classes which I did for many, many years. I later transitioned into the new training programs and classes offered, Semi-Private Training and Team Training, which I still do today."

Judy admits that what she does now in Total Body Training is much better for her body than her past exercise ever was. She appreciates the fact that Fenton Fitness updates its programs and classes as fitness evolves so members know they are getting a quality workout.

"The classes are good for all fitness levels and abilities and can be adjusted to personal needs. And I love walking into the gym and seeing all shapes and sizes. Fenton Fitness is more than a 'body beautiful' gym. It's a 'body healthy' gym. I appreciate the family atmosphere with my classmates and the knowledgeable staff who make everyone feel welcome."

Judy spent several months last spring/summer in PT with Mike again managing her back pain. "Although my lower back pain is there, it is better. I can be careful and adjust exercises in class to suit me. I am very thankful!"

-Amy Warner, Director of Sales and Marketing

Why TRX?

Introducing the TRX Super 7



An elegantly simple and extremely versatile training device is a suspension trainer. It is a heavy duty strap with handles and foot holds.

Over the last four years, I have become very familiar with this functional exercise tool and have incorporated it into most of our classes and programs here at Fenton Fitness.

Following are the Super 7 TRX movements found to be the main course in Suspension Shred, FFAC's exclusive TRX suspension training class. Use these exercises to supplement your current program or as a stand-alone, full body workout.

#1 TRX Row: This exercise works the upper back, biceps, and anterior tibialis (shin splint muscle). The glutes and spinal erectors play a stabilizing role. It can be made very easy or very hard, and unlike many TRX movements, can actually have an external load added to it. This is a staple in the vast majority of our programs since these muscle groups are often neglected.

#2 TRX Hugs: TRX Hugs also work the glutes and spinal erectors in a stabilizing role along with the anterior tibialis muscle, but it more importantly trains the internal rotators and the adductors of the arms. These include the anterior deltoid, pecs, and the subscapularis muscles.

#3 TRX Fallouts: This is a great anti-extension exercise for the core musculature. People often get very proficient at things like crunches and sit ups, but do not focus nearly enough on the core musculature's primary role of bracing the spine. TRX Fallouts will more than address this shortcoming, and the exercise is much easier to learn than kneeling ab rollouts with the ab wheel.

#4 TRX Hamstring Curl: This exercise is a great way to eccentrically load the hamstrings which has

been shown in research to reduce hamstring strains and ACL injuries. It is a simple yet very challenging movement that can be made even more difficult by performing the exercise with only one leg.

#5 TRX Facepull: The TRX Facepull is a great movement used to facilitate upward rotation of the scapulas, and it works the musculature of the upper back in a way that often gets neglected. You also get the biceps involved more than you might think.

#6 TRX Tricep Extensions: If done properly, this is one of the best tricep exercises you will ever need. Performed with the suspension trainer, these tricep extensions offer the added benefit of strengthening the anterior core and allow a good stretch in the triceps not found in other exercises.

#7 TRX Squat Jumps: If the TRX has a limitation, it



is in leg training; however, the ability to implement jumping into the programs of individuals who need to avoid impact is one great perk. The TRX Squat Jump is a great way to work power production of the legs, practice landing, and reduce

the impact normally found with jumping activities.

Simple training tools often produce the best results. TRX Suspension Trainers are efficient and versatile and yield increased endurance and strength. The only limit they have is in maximal strength development for those beyond novice status in the fitness realm. Check out Suspension Shred at Fenton Fitness and experience a full body workout which can be scaled to all fitness levels.

-Jeff Tirrell, CSCS, Pn1

To view video demonstration of these exercises, view our youtube channel at <https://youtu.be/mrrxcb1xmmc>.

The One Minute Workout

Dr. Martin Gibala Exercise Prescription

In 2001, I heard a strength coach give a lecture on an innovative method of training cardiorespiratory fitness. The athletes at their facility performed repeated intense bouts of exercise. They rested for a short period of time and repeated the intense effort, six to eight times. Their conditioning sessions lasted no more than fifteen minutes and they were producing much better VO₂ max scores than traditional long duration steady state cardio training. This training was based on research performed by Tabata in 1996. I did some more reading, laced up the Nikes, and got hooked on high intensity interval training (HIIT).

Dr. Martin Gibala is a professor in the kinesiology department at McMaster University in Hamilton, Ontario. He has been researching the health benefits of HIIT since 2003. He has recently released an excellent book, *The One Minute Workout*. Dr. Gibala explains the science behind HIIT and how it is safe and effective for use with the general fitness population. You get a detailed prescription of twelve different HIIT training sessions. These HIIT sessions have been used in research studies and shown to be very effective at improving fitness.

As a physical therapist advising patients with pain and mobility issues, I like HIIT training for a number of reasons. The first is that you decrease orthopedic stress and spinal compression forces with HIIT. A HIIT treadmill program of twelve minutes three times a week is going to create less joint stress than forty minutes three times a week. Most HIIT training sessions can be performed on machines that negate orthopedic irritation. The second is time efficiency. You no longer need to spend 30 minutes on the elliptical, treadmill, spin bike, etc... It permits the fitness client to devote training time to developing the much more important areas of mobility and strength. The third is that HIIT makes it easier to maintain muscle mass.

Long, slow distance cardio training creates many of the catabolic hormonal responses that tend to strip muscle off the body. In their book, *Biomarkers*, Dr. Evans and Dr. Rosenberg have shown the number one and number two indicators for successful aging are muscle mass and strength. *The One Minute Workout*, makes a good argument that HIIT will improve all ten biomarkers.

Getting Started With HIIT



Pick a training modality that is well tolerated. If you have a history of lower back pain, the Rower is probably not a good choice. Individuals with post-surgical knees or prior plantar fasciitis events should steer clear of HIIT

running. In my experience, incline treadmill walking and the Air Assault bike are well tolerated by most fitness clients. To my surprise, many fitness clients enjoy interval training with a sled. Pushing, pulling, and dragging a sled create the added benefits of strengthening the core stabilization muscles and enhancing balance. HIIT on a Jacobs Ladder can be scaled to all fitness levels and will reboot the neural signals necessary to gracefully get up and down off the ground. Do not get "outside the box" with HIIT. Fatigue combined with Olympic Lifting, Keg Carrying, and Tire Flipping have only been beneficial for physical therapy clinics.

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

Additional Resources

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