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Tenderfoot Training

Four Simple Steps to Better Foot Function

The pain started in the ball of her right foot, and over the course of three months, it spread to the mid-foot and then the heel. Sarah tried massage, new orthotics, anti-inflammatory medications, and rest, but the pain did not change. Imaging tests of her foot were normal. An injection into the foot and three weeks in a night splint did not alter her pain. Sarah stopped by our clinic and this is what we found.

For her entire life, Sarah had been a very active person. She slowed down for a few years with the arrival of her twins, but otherwise, she consistently played volleyball, ran 5K races, and had participated in several triathlons. She was good at distance running and this was her primary form of exercise. Sarah wore orthotics in her running shoes, and she had a pair of stiff biking shoes. She wore a clog type shoe when she worked as a nurse. Sarah was flexible, strong, and athletic in every area but her feet.

Sarah had limited ankle dorsiflexion range of motion (the movement of the ankle upward) and restricted toe extension. She was unable to keep her foot on the ground and lift her big toe more than a few degrees off the floor. In standing, her ankle eversion (turning out) was absent. She could not actively flex her toes more than a few degrees. These range of motion and mobility deficits limited her capacity to decelerate forces when she was running. Runners who do not decelerate efficiently end up with pain.

For most of her day and during all of her athletic activities, Sarah had her feet braced up and tied down in restricted footwear. She had lost much of the normal mobility in her feet. We started Sarah on a daily program of foot/ankle mobility and strengthening exercises (four of her exercises are listed below). As the pain resolved, she began drills to improve deceleration mechanics when running. At work, she successfully moved out of firm clogs and wore a low profile walking shoe. After five weeks of daily exercise, her ankle and foot function was dramatically better and the pain in her foot was gone.

The foot and ankle are made up of twenty-six bones that are controlled by an elaborate combination of intrinsic and extrinsic foot muscles. A web of fascia, interconnected to the muscles, creates a dynamic sling that gives our foot form and acts as a spring to propel the body through space. Our feet evolved to guide us over an ever-changing environment of varying surfaces with minimal support from footwear. Modern footwear, deconditioning, and prior injuries can all take their toll on the functional mobility and strength of the foot and ankle. Preventative exercise activities can go a long way to prevent painful injuries in the lower leg and foot. Watch the video (link on page 2)and give these drills a try.

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

YouTube

Video demonstration of the exercises on the next page can be seen on our youtube channel at:
http://youtu.be/WW2dJvTdjSU

Toetal Training

Take the time to remove your shoes and do your feet a favor. Simple foot and ankle exercises can go a long way to ward off pain and restore function in the ankles, feet, and toes. These are some of the basic drills we use in physical therapy.

Foot Wave

You can perform this exercise throughout the day, and it will help keep your feet healthy and strong. Point the foot (plantarflex the ankle) and flex all of the toes. Draw the foot up (dorsiflex the ankle) and keep the toes flexed. Extend the toes while keeping the foot pulled upward. Point the foot downward while keeping the toes extended. Keep the foot pointed and flex the toes. Move through this exercise in a steady and deliberate fashion. Take time to feel the muscles activate and stretch in the foot and lower leg. Repeat the "foot wave" for five to ten repetitions.

Half Roll Barefoot Toe Raise

Take off your shoes and stand with the toes draped over the top of a half foam roll. Spread the toes and grip the foam roll as you raise the heels off the floor. Make a conscious effort to grip the foam roll with the toes and tighten the calf muscles. Hold for three seconds and then lower slowly. If you do this exercise properly your toes should leave a visible dent in the foam roll. Perform ten to twenty repetitions. Progress to perform this exercise with a BOSU ball, one leg at a time.

Big Toe Lifts

Your big toe plays a big roll in balance and propulsion. Many people have lost the ability to activate the muscle that lifts the big toe. You can sit or stand for this exercise. Keep the second, third, fourth, and fifth toe firmly on the ground and lift the big toe up. Hold the big toe up for five seconds and then lower back down. Perform ten big toe lifts on each foot.

Retro Steps

A mirror provides visual feedback that can be helpful in improving ankle and foot control during this exercise. Perform the retro step exercise barefoot on a level surface. You will be walking backward so clear a path to prevent a fall. Reach a foot back and progress through landing on the forefoot and rolling over the mid-foot until you actively flex the toes upward and push off the heel. Emphasize contracting the muscles that extend the toes upward and dorsiflex the ankle. Work on mastering a graceful and smooth retro step gait pattern. Perform twenty retro steps with each leg.

Additional Resources

www.fentonphysicaltherapy.com **www.fentonfitness.com**

Join our email list

barb@
fentonphysicaltherapy.com

Articles, videos, health info, and more...

BLOG

www.mikeoharapt.com

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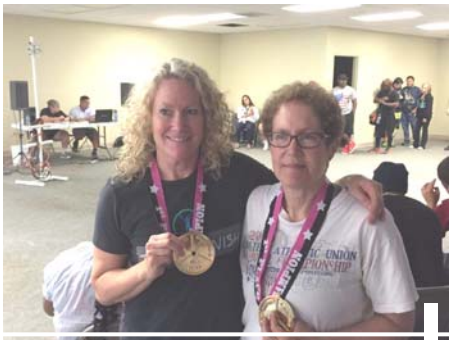
youtube.com/user/FentonPT

Women on Weights

Why It Works



Ten weeks of training with Jeff led FFAC members Sue Anderson and Robin Forstat to 1st place finishes at the Ironman Competition held in Flint in May.

Most people agree that some form of conditioning work and attention to a healthy diet are necessary to lose weight and get lean. Women, however, tend to shy away from adding lean muscle mass which is the most effective component in improving metabolic function. Metabolic conditioning assists in burning extra calories and good nutrition allows you to create the required caloric deficit to decrease body fat, but neither will increase your resting metabolic rate permanently. The only way to do this is to increase your lean mass.

More than age or gender, lean body weight is the biggest predictor of resting metabolic rate. Muscle burns approx. 6 calories/lb while fat burns 2 calories/lb; therefore, a decrease in body fat leads to a decreased metabolic rate over time. Adding muscle is the only way to combat this, and in the end, improves your body composition, allowing you to eat more as opposed to chronically eating less which is the case if you only decrease body fat.

So, how do you build more muscle mass? The single biggest influence based on all of the available data is training volume, and the options are limitless. Schedule an appointment with Jeff to discuss which training methods work best for you.

-Jeff Tirrell, B.S., CSCS, Pn1

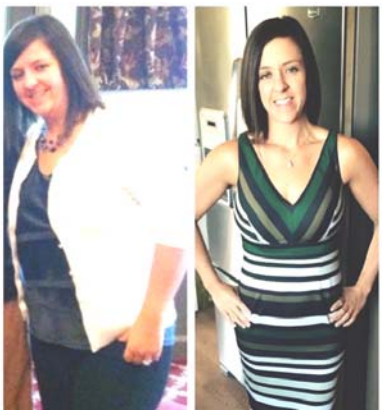
Fenton Fitness Success Stories

In the past, **Tonya Armour**'s main fitness goal was to lose weight, but cardio and counting calories left her unhappy with her overall appearance. Once she joined Fenton Fitness, her workouts became more consistent and she added a new element: weights.

"When I joined the gym, my main goal was to get fit and strong. Through Program Design and Nutrition Coaching, I have been able to make continual strength gains safely and consistently."

Tonya comes to the gym 4-5 days a week. Lifting heavy weights has resulted in more strength and muscle tone than she has ever had, and she feels great!

"I no longer limit myself with preconceived ideas of what I *can't* do because, nine times out of ten, I have found that I *can* do it. I no longer focus on my weight but on my strength gains and body fat percentage. My goal has shifted to be as strong as I can be, so I can be as active as possible for as long as possible."



About six months ago, **Jessica Delegarde** tried her first Power Hour class and realized how much she liked the challenge of weightlifting. Since then, she has shifted her exercise focus more toward strength training.

"What I love most is the ability to see and track my progress and feel proud of my accomplishments. I also like that, with additional strength, I can do things I never thought possible, like a pull up!"

Jessica is competitive and thrives on challenges. She can be found in the gym 4-5 days a week and spends 2 of those days focused on heavy lifting. Results are evident in her overall performance as well as continued weight loss and improved body composition.

"Feeling healthy and strong is amazing! I no longer feel like I *have* to go to the gym… I *get* to go to the gym. Whether it is with nutrition or training, you need to make the effort to see the results. If you remain consistent and give 100% when you are in the gym, you will reach whatever goal you are working toward."

-Amy Warner, Director of Sales and Marketing

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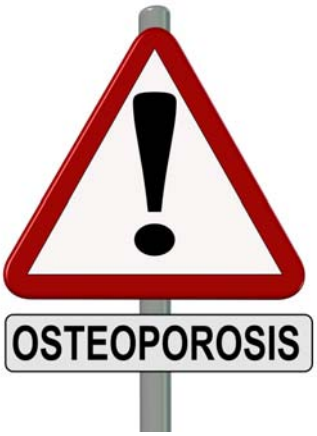
Fenton FITNESS & ATHLETIC CENTER

www.fentonfitness.com
blog:www.mikeoharapt.com

Fracture Facts

Please take the time to look over these statistics and then get more information from my friends at *Too Fit to Fracture* (osteoporosis.ca).

Worldwide, 1 in 3 women and 1 in 5 men over age 50 will experience osteoporotic fractures.



A 10% loss of bone in the vertebrae can double the risk of vertebral fractures and, similarly, a 10% loss of bone in the hip can result in a 2.5 times greater risk of hip fracture.

In the USA, the 52 million people with either osteoporosis or low bone mass represent 55% of the people age 50 and older.

About 25% of hip fractures occur in men. Twenty percent of the men who suffer a hip fracture die within 12 months. Men have a much higher mortality rate after a hip fracture than women.

Hip fractures cause the greatest loss of function. Fully 40% are unable to walk independently and 60% require assistance for activities of daily living a year after the hip fracture. Because of these functional mobility deficits, 33% are totally dependent or in a nursing home in the year following a hip fracture.

Vertebral fractures can lead to back pain, loss of height, deformity, immobility, and reduced pulmonary function. Statistically a vertebral fracture is the biggest predictor of another osteoporotic fracture in the next two years.

In the USA, the combined lifetime risk for a forearm, hip, or vertebral fracture is around 40%. That is equivalent to heart disease.

The adjusted mean, first-year costs of a fracture from a comprehensive study by Jefferson University: hip $26,545, vertebral $14,977, and non-hip, non-vertebral $9,183. The statistics start at age fifty. Predictably costs go higher as the age of the patient gets older. These numbers are now five years old--nothing medical has become less expensive.

Bone Building Preventative Training

We know that individuals who participate in consistent resistance training exercises are more likely to have better bone density. Just like muscle, bone is a living thing that grows stronger in response to the force that is placed upon it. The best bone building exercise activities produce a growth-promoting stimulus through your skeleton. Bone building exercises are easy to understand, but they do require more effort than swallowing a pill or having an injection. Carry a kettlebell, push a loaded sled fifty yards, or perform a few sets of box jumps--jump up and step down. Your bones will stay well mineralized, but you will miss meeting all those nice people in the emergency room.

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

Looking Ahead....

October 20th is World Osteoporosis Day
Fenton Fitness will be celebrating this event with special classes,
information, and exercises to increase awareness and promote good bone health.

World Osteoporosis Day October 20 — LOVE YOUR BONES