



## Fenton Physical Therapy

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# Timing Is Everything

## *Control Training Tempo and Achieve Greater Results*



Most of the lifting you see in the gym is performed at rapid training tempos. Completion of a repetition occurs in less than three seconds. A five-repetition set of presses, rows, squats, or lunges happens in less than fifteen seconds. Very often the goal of the training session is to complete as many repetitions

as possible (AMRAP) in a specified period of time. The load stays the same and the focus is on a quick training tempo. Olympic lifts, medicine ball throws, and plyometric jumps all require that we move fast to complete the exercise. While faster exercise performance will help increase power production, there is also tremendous value in slowing down exercise tempos.

### **Move Better**

Slower repetition tempos develop technique free of abnormal movement compensations. It is the neurodevelopmental equivalent of learning how to walk before you run. Physical Therapist Gray Cook advocates slower training tempos to “own the movement.” Neuroscience research has found that isometric holds create stronger brain to muscle connections.

### **Happy Tendons**

Many of the joint pain problems we treat in physical

therapy respond well to a healthy dose of eccentric loading. The gradual lengthening (eccentric contraction) of tendon and muscle produces a training stimulus that reduces pain and kick starts the healing process. Tendon pain problems are not all inflammatory. Most of the tendon injuries that become chronic involve the development of abnormal non-elastic cellular changes in the tendon. Recovery requires eccentric loading to restore proper tendon tissue cell structure. Older athletes and fitness clients (40 + years) can prevent tendon problems with training tempos that slow down the eccentric portion of a lift.

### **You Can't Flex Bone**

Time Under Tension (TUT) is the total time it takes to complete a set of a given exercise. Longer duration sets have been shown to create bigger muscles (hypertrophy). Using slower repetition tempos is a good way to combat the loss of muscle that occurs with age (sarcopenia). More muscle mass speeds up the metabolism, creates a protective armor against injury, and is a prerequisite for developing greater strength skills.

### **Improve Flexibility**

You improve flexibility by developing neural control. If your brain is receiving good signals from all the sensory systems, it will allow you to travel in and out of a movement pattern with coordination and grace. Any sensation of instability and your protective compensations kick in causing you to lose proper posture and control. Slower training tempos and pauses at either end of a repetition will “groove” the sensory stimulus you need to develop “neuro-flexibility.”

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### It Prevents Adaptation

The longer you have been training and the stronger you become, the more rapidly your body adapts to any training stimulus and then progress stalls. When progress plateaus, try altering repetition TUT instead of increasing training volume (more sets and reps). The weight or resistance you use will generally be lighter but the quality of your training will improve.

### You Will Be Sore

Gradually introduce slower training tempos. A greater volume of eccentric loading tends to create more delayed onset muscle soreness (DOMS). Do not switch all of your training to slow eccentric training. Pick one or two multi-joint exercises—squats, RDLs, bench press-- and evaluate how you feel the next day.

### Time Under Tension Nomenclature

Repetition tempos are documented using a numerical system. The first number is the time it takes to lower the load, or the eccentric phase (muscles lengthen under load) of the repetition. The second number is the stop, or lack of it, at the bottom. The third number is the lifting of the weight, or the concentric phase (muscles shorten against resistance). The fourth number is the duration of the pause at the top of the lift. The letter "X" is used as an intent to lift

the load explosively.

A front squat set of ten repetitions at a 31X2 tempo will be performed in this fashion:

3 seconds to lower the weight

1 second pause at the bottom of the squat

X drive back up to standing as explosively as possible

2 second pause at the top

Total Time Under Tension is 60 seconds or greater per set.

Training tempos used in the treatment of tendon pain problems are at slower eccentric speeds with little or no concentric phase. Training away a shoulder tendonopathy with a horizontal press would involve sets of five repetitions using this tempo:

5 seconds to lower the weight

2 second pause at the bottom

1 second return to the starting position

2 second pause at the top of the press

Total Time Under Tension is 50 seconds per set.

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

## To Give Is To Receive

Dear Fenton Fitness Members,

Thank you for your enthusiasm and support this holiday season. Your \$10 donations to the Society of St. Vincent de Paul for the Burn the Bird workout on Thanksgiving proved two things: You're never too busy for a workout (even on Thanksgiving Day!) and you truly understand the gift of giving. We are also grateful for the tremendous response for Fenton Rotary's Angel Tree Project again this year! Some of you save all year to provide for these families in need in our local area. Your selfless act of kindness made the magic of Christmas come true for children who would have otherwise gone without. You are the true angels!



With Gratitude—*The Fenton Fitness Staff*

## Additional Resources

[www.fentonphysicaltherapy.com](http://www.fentonphysicaltherapy.com)

[www.fentonfitness.com](http://www.fentonfitness.com)

Join our email list



barb@

[fentonphysicaltherapy.com](mailto:barb@fentonphysicaltherapy.com)

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

**BLOG**

[www.mikeoharapt.com](http://www.mikeoharapt.com)

Like us!



[facebook.com/FentonFitness](https://facebook.com/FentonFitness)

Watch us



[youtube.com/user/FentonPT](https://youtube.com/user/FentonPT)

## The Final Countdown

This year we created the Fight the Fat Support Group to help you get through the holidays without excessive weight gain. We offered useful nutrition tips and quick and effective workouts to keep your metabolism ticking.

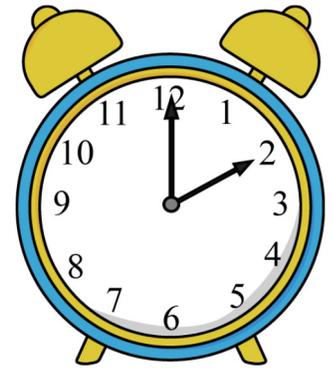
**75% of annual weight gain typically occurs during the six week holiday season (Thanksgiving through New Years).** During this time, we tend to be less active and are surrounded by a multitude of calorie dense foods.

There's still time to make a difference! With a new year right around the corner, it's never too late to make good choices.

If you're struggling with your weight, want to be more consistent with your workouts, or just want to know where to begin, we can help.

Schedule your assessment today and Program Director Jeff Tirrell will guide you expertly into the programs you need to see results.

Stay tuned to our email, blog, and social media posts for nutrition tips and fat burning exercises to help you through New Years and beyond.



## Up for the Challenge?

### *Motivation through Competition*



There's a competitive spirit in the air at Fenton Fitness that's hard to miss.

We see it in the ever growing list

of Monthly Challenge participants, the friendly sled push relays in our classes, the pull up counts and weight comparisons in our Sports Performance sessions, and the small groups of you who meet up at the gym at the same time to out-perform one another on the turf. Competition is not just a contest or rivalry against others though. It is sometimes deeply personal. We applaud those members who work independently, competing against only themselves, and winning the race as they reach goal after goal.

We also can't ignore the growing number of women who have followed our Program Director, Jeff Tirrell, to local powerlifting meets. As their coach, Jeff competed in and led five members (3 of whom were first time competitors) to the USAPL State Championship in November. All participants placed top 3 in the state in their respective divisions with Christine McDunnough setting several state records for her

age/weight. All of these members proudly wear their medals as a testament to their hard work and determination and are excited to compete and exceed their records in the future. Fueled by this event and the enthusiasm of our members, we are excited to announce the creation of the FFAC Barbell Club.

Fitness should be more than a workout— more than random exercises thrown together based on our mood or the most recent issue of Men's Health. Fitness should be about training to get better in a measurable and objective way. Training should be consistent with goals of improving or maintaining strength, mobility, stability, and conditioning (both aerobic and anaerobic). These goals, accompanied by a well thought out annual training plan should lead us to make better nutritional choices that fuel our bodies to grow and maintain lean tissue and recover from our workouts. When we train consistently, with an emphasis on consistent improvement and eating to support these goals, everything else just falls into place. That is what makes fitness fun and satisfying.

*-Amy Warner and Jeff Tirrell*



For more information on the FFAC Barbell Club, contact Jeff Tirrell at 810.750.0351 or visit our website:

[www.fentonfitness.com](http://www.fentonfitness.com)

## A Plan for Dan

### *Resolving a Common Fitness Problem*



Daniel came to the clinic with a complaint of long standing lower back pain. Despite an active lifestyle

that included running and a consistent exercise habit, he had daily lower back soreness and intermittent debilitating pain. He had tried non-steroidal, anti-inflammatory medications and spinal manipulation but neither produced relief. At 34 years of age, he was concerned he was going to have the problem for the rest of his life.

The most glaring deficit in Daniel's physical therapy evaluation was a lack of hip extension range of motion. He was unable to move his femur backward without compensatory movement at the lumbar spine. Postural evaluation revealed an anteriorly tilted pelvis with a pronounced lumbar lordosis (inward curve of the spine).

Dan had a job that kept him a chair, or car seat, for eight hours a day. His fitness activities involved a lot of sit ups and leg lifts. He avoided hip extension exercise activities because he found them difficult and many of them created lower back soreness.

The prescription was simple: Stop all the sit ups and leg lifts that facilitate the hip flexors. Initiate a daily program of exercise to improve hip extension and reduce the excessive anterior pelvic tilt. Get up out of the chair, or car seat, as often as possible.

Dan, however, was not impressed. He felt the treatment was too simplistic-- no massage, no manipulation, no electrical stimulation or voodoo incantations. He loved sit ups and was really good at those knee to elbow exercises. I convinced him to try it for three weeks.

Two weeks into the program he was pain-free. He was able to demonstrate better hip extension movement, and he had less anterior pelvic tilt. He no longer missed his prior, ill-advised exercise activities and had moved on to new challenges.

Fitness clients with lower back pain often present with significant limitations in hip extension movement. A recent study in the February 2015 International Journal of Sports Physical Therapy revealed that the limitations are not subtle. This problem is readily remedied with some dedication to hip extension restoration and avoidance of activities that over activate the hip flexors. Unfortunately, the environment for developing limited hip extension is all around us. We sit all day, exercise in a seated position, perform sit ups, and never sprint.

If you have lower back pain, make sure you ease into hip mobility drills slowly. Try the half-kneeling hip flexor stretches I demonstrate in the video. If getting down to the floor is a problem, try the chair version. Perform the exercise two or three times a day. Your hip flexors are interwoven with many sensitive structures so do not get too aggressive with the stretches. You will not be scored on your stretches.

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



YouTube

To view Mike's demonstration of hip flexor stretching, visit our youtube channel at:  
<https://youtu.be/NtiSK5japHw>