



Fenton Physical Therapy

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Hannah as a Lifter



Hannah had been out of the exercise habit for the last four years. She was busy raising two young children

and working full time as an accountant at a financial firm. After some bad triglyceride blood test numbers and the warning that her blood pressure and scale weight were both going the wrong way, Hannah realized it was time for a change. Hannah decided to return to exercise and get her body and health back in order. She joined a local gym--lifted, burpeed, rowed, and jumped four days a week. Hannah arrived at our physical therapy clinic four weeks later.

Hannah had pain in her lower back and right hip. She stated the pain would go away with rest but returned with her attempts at exercise. The pain prevented her from lifting and carrying, and when most severe, it woke her from sleep. Imaging tests of her lower back and hips showed no anatomical injury. In an effort to resolve the pain, Hannah had tried flatter training shoes, stretching, medications, a lifting belt, and foam rolling but nothing helped. Five minutes into the evaluation of her movement capacity, Hannah's problem was obvious. She had no control of her LumboPelvic-Hip-Complex (LPHC).

Basic biomechanics of the LPHC: You have to be able to squat (knees and hips move the same amount) and hip hinge (hip movement with minimal knee movement) and maintain a stable spine posi-

tion. Many people are unable to separate hip and spinal motion. When they perform a hip hinge as in a jump, swing, dead lift, or Olympic lift, their spine bends forward. When they squat, the pelvis tilts posteriorly flexing the lumbar spine into what is affectionately called a "butt wink." They do not possess the motor control to stabilize the spine while moving at the hip joint.

Lifting with poor LPHC biomechanics is a big problem. The compressive forces of a barbell, kettlebell, medicine ball, or sandbag can more readily damage a spine that is traveling from an extended to a flexed position while under load. As fatigue accumulates, motor control usually gets worse and the team of muscles that support the torso are unable to stabilize the pelvic girdle and spinal segments. Hannah had to learn how to move better before she started loading her spine and pelvic girdle.

Hannah's problem is not a unique one. In the clinic and at the gym, we work on improving LPHC control with patients and fitness clients. Just like any other motor control skill, you restore proper LPHC movement by practicing progressively more challenging drills. The following exercises represent some of the more "user friendly" beginner LPHC movement drills. Hannah did very well with these drills and after mastering better control of the hip hinge and squat movement patterns, she was pain-free. Hannah returned to fitness activities as a more efficient athlete.

Michael S. O'Hara, P.T., OCS, CSCS
(continued on next page)



Video demonstration of the exercises shown on the next page can be seen on our youtube channel at:

<https://youtu.be/6uXSTojzLMo>

SHORTSTOP SQUAT



This drill teaches you how to create a stable spine while hinging at the hips. Concentrate on the feeling of the sustained isometric bracing of the back and abdominal muscles while holding the hip hinge position. Stand upright with the heels shoulder width apart. Place your

hands on your thighs. The thumb and index finger are spread in an open grip of the thigh. Keep your spine straight, and bending at the hips, slide your hands down your thighs, directing your pelvis back behind you until you have lowered yourself to a point where the hands reach the top of the kneecaps. Brace the abdominal muscles and push down into the legs with the arms by tightening the latissimus dorsi and pectoral muscles. Do not lose the position of the spine and hold the braced baseball player “shortstop” position for ten seconds. Return to the standing position by sliding the hands back up the thighs while keeping the muscles braced. Rest briefly and then repeat. Perform five repetitions.

PVC PIPE HIP HINGE



The PVC pipe hip hinge provides visual and tactile feedback to teach movement of the hips while maintaining a stable spinal position. You need a mirror and a PVC pipe, golf club, or yardstick. Stand sideways to the mirror

and place the stick along the length of your spine. The stick should touch your glutes, thoracic spine, and head. A space between the stick and your body should be present at the lumbar spine and neck. Maintain those spaces as you hinge at the hip and tilt forward. Practice creating a hinging motion at the hips and try to maintain a stable spine. The stick acts as a guide to help you monitor unwanted alterations in spinal alignment during the exercise. Perform two sets of ten repetitions. Progress the exercise by taking the stick away and using only the mirror for visual feedback.

FORWARD BALL ROLL OUTS



This drill will help train away the dreaded “butt wink” that compromises a stable spine during a squat. Kneel on a padded surface such as a mat or Airex pad. Place the wrists on the front part of a physioball.

The hips are bent to 60-80 degrees and the spine is held in neutral position. Take a deep breath and brace the abdominal muscles. Initiate a forward roll of the ball by extending at the hips and shoulders simultaneously. Stop just short of the point where you begin to have difficulty holding good spinal alignment. It helps if you can monitor your spine and pelvis position in mirror. Hold this challenging position for 3 seconds before returning to the start position. Rest for three seconds between repetitions. Perform two sets of ten repetitions. Progress the exercise by rolling farther forward, holding the challenging position for five seconds or use an Ab Wheel instead of a ball.

ROMANIAN DEADLIFT-ROW



The Romanian Deadlift-Row activates the posterior chain of muscles that are anesthetized by a life spent seated in a car or chair. It enables loading of the hip hinge pattern with minimal compression of the spine. It is

the exercise that will develop the control necessary for the athlete or patient to progress to a barbell or kettlebell hip hinge exercise.

Anchor resistance tubing at chest level. Stand facing the tubing with the back of the heels shoulder width apart and the handles of the tubing held so the thumbs are adjacent to the armpits. Brace the abdominal muscles and initiate the movement by pushing the hips back and reaching the hands forward. The hips bend a lot and the knees just a little. We always use a mirror for visual feedback in the clinic. Keep a stable spine and return to standing as you row the handles back. Hold the chest proud and squeeze the glutes and scapula muscles tight for three counts. Repeat for three sets of five repetitions.

Fenton Fitness & Athletic Center Fenton Sports Performance

Saturday,
April 30

A Hands-on Learning Clinic for Athletes 13 and Over

10:30am-3:30pm



The **Becoming Unstoppable** clinic is ideal for both athletes who have experience lifting weights and those entering the weight room for the first time. Through lecture and participation, athletes will learn about common athletic injuries and their prevention, proper technique for common weight room lifts (squat, bench, and deadlift), guidance on optimal sports nutrition, and discussion/practice of the top exercises that most athletes neglect in their training programs.

Becoming Unstoppable Instructors: Mike O'Hara: Physical Therapist and Certified Strength and Conditioning Specialist with over 30 years of experience treating and training athletes.

Jeff Tirrell: Certified Strength and Conditioning Specialist, Nutrition Coach, and two time USA Powerlifting State Champion with 17 years of experience.



Cost: \$40 per athlete (Current Fenton Sports Performance athletes attend for free and receive one free training session for each friend brought to the clinic.)

Agenda—April 30, 2016 10:30 am—3:30 pm

Hands-On Session 1: Squat, Bench, Deadlift, Mike O'Hara, Jeff Tirrell,

Lecture 1: Common Athletic Injuries, Mike O'Hara

Hands-On Session 2: Injury Prevention, Mike O'Hara

Lecture 2: Optimal Sports Performance Programming and Nutrition, Jeff Tirrell

Hands-On Session 3: The Four Exercises You Should Be Doing But Probably Aren't, Jeff Tirrell

Fenton
FITNESS & ATHLETIC CENTER



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For more information: 810-750-0351

Pushing Unstable



Most press exercises are performed with fairly stable objects: a

barbell bench press, a dumbbell incline press, or kettlebell overhead press. Very often, the push movement pattern is further stabilized by the mechanical guidance of a machine which the participant is strapped into. Stabilized pressing is unlike the pushing activities we are asked to perform in real life or on the field of play. Unstable pressing exercises carry over to real life function, improve joint health, and should be part of your training program.

Unstable pressing improves centration of the shoulder. Injury, weakness, improper training, and postural flaws can all cause the large humeral head to travel off its fairly small articulation on the scapula. This loss of stability leads to the labral cartilage tear, the biceps tendonosis, and the rotator cuff rips we treat all day in physical therapy.

Pressing against unstable loads will improve your posture. In the age of *tech neck* and the *i-hunch*, we all need to pay more attention to the alignment of our shoulder and spine when we exercise. You can push up, bench press, and seated machine press but remain incredibly slumped over. Pressing against an unstable surface or object neurologically reboots the signals that hold us upright and healthy.

Unstable pressing improves motor control and promotes symmetry. The neural balance challenge of the exercise makes your brain better at controlling your body. One arm is often less skilled during unstable pressing exercises and this gives you the opportunity to train away that restriction. The ring training performed by male gymnasts is the best example of this motor control and symmetry.

Performing push ups with a suspension system or gymnastic rings is a horizontal pressing modification that will wake up the scapula stabilizers, fire up the core muscle, and keep the shoulder joint healthy. If you are able, set the system up so the handles are greater than 48 inches apart. You will get the added challenge of having to pull the hands together and resist a horizontal abduction force. Brace the abdominals, tighten the gluteals, and try to keep the elbows from flaring out to the side as you perform the push up. Advance the exercise by raising the feet up on a box.

Bottoms Up Kettlebell Overhead Press

This exercise is useful in the rehab programs of overhead athletes—volleyball, basketball, tennis, etc.... If you regularly train the overhead press with a dumbbell or a barbell, the loads you use should be at least 50% less. Hold the kettlebell upside down with a solid grip. The palm of the hand should be under the base of the handle. Position the kettlebell by the shoulder and keep the forearm perpendicular to the floor—directly under the kettlebell. Brace the abdominals, tighten the gluteals, and press the kettlebell overhead. Balancing the inverted kettlebell forces you to move slowly and focus on firing all of the shoulder girdle muscles in a coordinated fashion. The grip demands of the exercise neurologically turn on your shoulder stabilizer muscles. Train well short of failure for sets of three to five repetitions on each side. Concentrate on improving the quality of the repetitions—smoother and steadier—before you increase the load. In rehab, we have patients accentuate the lowering phase—five counts down—and this helps with improving neural control

Michael S. O'Hara, PT, OCS, CSCS

Video for the exercises described in this article can be seen on our youtube channel at:
<https://youtu.be/qy-WsbLDEvQ>

