

Totally Vertical Core for Prevention and Performance

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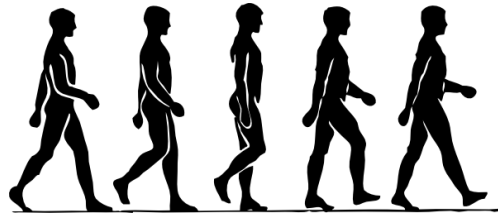
Outline

- A. Current research on back exercises.
- B. Modified exercises for an industrial/office setting and pre-work warm-up/work-station stretching.
- C. Pelvic Stabilization
- D. Strength/Endurance of the back.
- E. Strength/Endurance of the ab's.
- F. Strength/Endurance of the oblique muscles.
- G. Exercises for sports and advanced fitness.

Research

- A. Exercise to improve the endurance of the muscles that support the spine is important (McGill, 1997). Why endurance?
- B. Neutral spine loading, avoiding end range of motion, encouraging abdominal contraction and bracing in a functional way. (McGill, 2001).
- C. The back needs stability, not mobility (McGill, 2002, 2001).
- D. Functional range of motion rather than flexibility of the muscles supporting the spine is important (McGill, 2002, 2001).
- E. Modifications to “traditional” back exercises can be included in the workplace (Bracko, 2004).
The spine is like a tent pole. If the tent is placed on the pole without guy wires, it will collapse. But when guy wires are anchored on the ground and attached to the pole, it can support the weight of the tent. The same concept is true of the spine. The stronger the muscles that support the spine (rectus abdominus, internal and external obliques, and erector spinea group – front plank, side planks, bird dog), the more stable the spine will be, and theoretically, less susceptible to injury (McGill, 2002 & Bracko, 2004).
- F. What is core stability? “your ability to maintain your posture and balance while moving your extremities.” McGill (2001, 2002).
- G. “Increasing stiffness of the muscles increases stability and increases ability to support larger loads without failing.” (McGill, 2001, 2002).
- H. “True spine stability is achieved with a “balanced” stiffening from the entire musculature including the rectus abdominis and the abdominal wall, quadratus lumborum, latissimus dorsi and the back extensors of longissimus, iliocostalis and multifidus.” (McGill, 2007).
- I. “...muscles of the core are designed to facilitate this multi-planar action to make it smooth and efficient.” (McCall, 2012).
- J. “the actual purpose of our core muscles is to work effectively and efficiently while the body is in an upright, vertical position.” (McCall, 2012).
- K. “Some believe that repeated spine flexion is a good method to train the trunk flexors”
“ . . . these muscles are rarely used in this way . . . more often used to brace while stopping motion.” “. . . more often act as stabilizers than flexors.” (McGill, 2010).
- L. “Quadratus lumborum assisted in pelvis elevation to allow the swing leg to make a step.”
“...first evidence ... a strong core allows strength to radiate out ... to distant regions of the body.”
Partner Drill . . . Watch someone walk . . . Walk and feel your QL . . . “ ... laying bench press governed by the chest and shoulder musculature . . . standing press performance governed by core strength . . .”

“Thus, the limiting factor in standing press ability was core strength.”



Vertical Core Training – With & Without Resistance

Modified Exercises - industrial/office setting and pre-work warm-up/work-station stretching.

1. Standing Cat-Camel – leaning on knees or desk.
2. Standing Bird Dog – leaning on wall or desk.
3. Standing Front Plank – leaning on wall or desk.
4. Standing Side Planks - leaning on wall or desk.

Pelvic Stabilization – Vertical Training

1. Pelvic stabilization exercises
2. Cat-Camel Thoracic/Lumbar Spine
3. Cat-Camel Pelvic Tilt
4. Standing Pelvic Tilt
5. Standing Pelvic Tilt w/Ab Contraction
6. Standing Pelvic Tilt w/Ab Contraction & Kegel exercise (contracting and relaxing the muscles that form part of the pelvic floor, improve the tone and function of the pelvic floor muscles).
7. Inverted Flyers

Body Leverage No Equipment

1. Lateral flexion for disc hydration: “Increased risk of disc injury in the morning because of well hydrated disc’s. Exercise before work helps “pump” fluid out of disc’s.” (Dolan,Benjamin,& Adams, 1993).
2. “Wood Chops,” Up & Down Chops: Flexion – Extension of the shoulders to engage the core.
3. Lateral Chops: Right to Left and Left to Right.
4. Rotation Left & Right.
5. Front Star with and without med ball.
6. Side Star with and without med ball.
7. Single Leg Stationary Running – L & R. Toe on floor for balance then toe off for advanced.
8. Single Leg Stationary Running – Pushing rubber resistance – L & R
9. Scapula Adduction
 - Arms Cross
 - Scap Squeeze
10. Standing Back Extension – McKenzie Reversal Exercises
11. Partner Push – Pull – Chest Press & Standing Pulling.
12. Standing Partner Push-up.
13. Stand Like a Stone . . . 2 people, 4, 8, 16 . . . entire class.

Movement Patterns

1. Glute Activation Lunges
2. Walking Lunges with Twists
3. Lunge with arm movements . . . 1-arm up L & R, both arms up, both arms to the side.

Medicine Balls

1. 2-hand over-head press w/ab bracing.
2. 2-hand over-head press alternate shoulders, w/rotation & ab bracing.
3. 1-hand over-head press w/ab bracing
4. 2-hand “Dead Lift” w/over-head press & ab bracing.
5. 2-hand rotation over shoulders.
6. Lunges with ball in front – 2-hands
7. Lunges with ball in front – 1-hand, L & R.
8. Lunges with ball to side, L & R.
9. Lunge with ball in front, rotation, L & R.
10. Med Ball Chops – Acceleration & Deceleration
 - Up & Down
 - Shoulder to Hip
 - Rotation

Rubber Resistance

1. 2-hand over-head press w/ab bracing.
2. 2-hand over-head press alternate shoulders, w/rotation & ab bracing.
3. 1-hand over-head press w/ab bracing
4. 2-hand “Dead Lift” w/over-head press & ab bracing.
5. 2-hand rotation over shoulders.
6. Repeat all exercises, but balance on one foot – L & R.
7. Partner Core Rotation L & R
8. Single Leg Balance – Shoulder Ab/Add L & R
9. Single Leg Balance – Chest Press L & R
10. Single Leg Balance – Pull L & R

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www.drbrackosfitness.com

www.hockeyinstitute.org

<https://twitter.com/drbrackofitness>

DVD's

<http://drbrackosfitness.com/fitness-workouts-dvds-calgary.htm>

<https://www.healthylearning.com/m-1804-mike-bracko.aspx>

Articles: <http://www.ptonthenet.com/searchcontent.aspx>

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