

Spinal Rotation & Core Strength

EXERCISE
ETC. INC.



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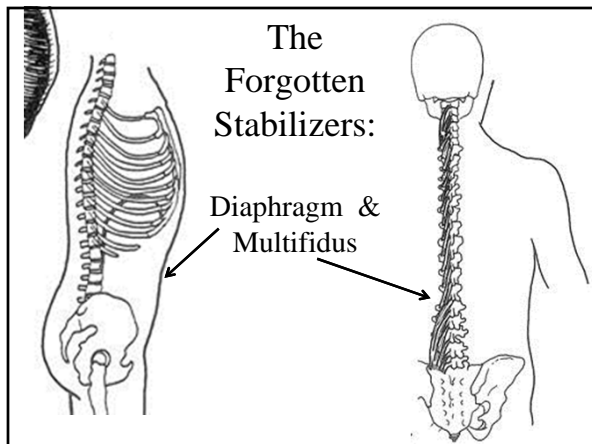
Core Stability

- The ability to create movement in the legs and arms without movement of the spine or pelvis.
 - Anti-Rotation
 - Anti-Extension
- The goal is to allow force to move from the ground through the hips, spine, or scapulo-thoracic joints without energy leaks.



What Is The Core?

- Muscles Involved:
 - Rectus Abdominus, Transverse Abdominus, Multifidus, Diaphragm, Internal/External Oblique, Quadratus Lumborum, Spinal Erectors, Gluteals, Hamstrings, & Hip Rotators.
- Functional core training is NOT cosmetic



Core Training, 101



- The goal should be PREVENTING motion, not CREATING it.
- Prevent spinal extension.
- Should only observe movement at limbs and not in core.

Training Techniques

- Functional Approach
 - It is not functional to lie on the floor and use individual muscles/muscle groups
 - Initially we start on the floor as a teaching tool but the goal is to progress to standing
- Prioritize your core training.
 - Placing core training at the beginning of the workout stresses its importance.
 - Should not be viewed as extra or unnecessary by performing at the end.

Why Train This Way?

- Perform after the warm up, but first in the workout.
- Progress from kneeling, standing, standing with step, and finally single leg.
- Core training should be taught as well as or better than any other facet of the program.
- A proper core program aids in injury reduction, strength improvement, and speed improvement.

Basic Functions of The Core

1. Stabilization
2. Lateral Flexion
3. Rotation
4. Flexion



1) Stability

"Don't let the perfect become the enemy of the good."



- Isometric exercises in "core"-neutral position precede dynamic exercises designed to stress the "core"
- Hold static contractions for ~7 seconds
- Repeat up to 5 times

Stabilization Techniques

- Drawing In/Hollowing
 - The action of bringing the rectus abdominals towards the spine
- Bracing
 - Simultaneously co-contracting all three walls of the abdominals



Stabilization Progressions

- Stabilization is the primary function of the core and should be addressed first:
 - Stability on floor
 - Mobility on floor
 - Upright Stability
 - Upright Mobility



Back Bridging

- Butt Squeeze
- Single Leg
 - Alternating
- Swiss Ball



Supine Bridge Challenges



Planks



Oblique or Side Plank

- Progressions:
 - Kneeling
 - Legs Staggered
 - Feet Together
 - Top Leg Abducted
- Tips
 - Retract and depress scapula



Side Plank Challenge



Plank Variations



Quadruped Exercises



Dead Bugs



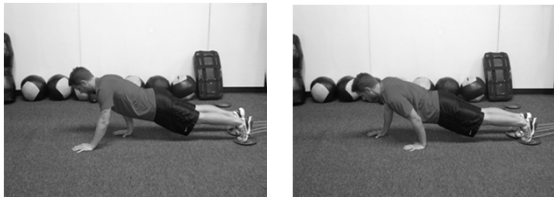
Body Saw



3 Point Row



Sliding Plank Arm Crawl



- With feet on the disc, move forward using only your arms for propulsion.
- Don't let your legs fish-tail side to side

Glute Activation And The Core



- Poor Glute Activation May Lead To:
 1. Low Back Pain
 2. Hamstring Strains
 3. Anterior Hip Pain
 4. Anterior Knee Pain

Cook Hip Lift



Single Leg Supine Bridge



Good Mornings



Gluteus Medius & Minimus Activation

- Target Areas
 - Monster Walks



Stability During Exertion Drill

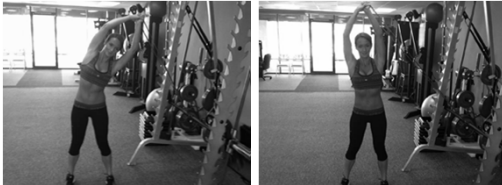
- Have client perform high intensity cardio work for 30 seconds
- Immediately hold side plank for 30 seconds
- Repeat sequence with plank on other side



Resisted Mountain Climbers



2) Lateral Flexion Monster Band Lateral Pull



3) Rotation & Dynamic Balance

- Preventing rotation
- Emphasize acceleration through hips and shoulders
- Focus on speed of movement not load
- Teach proper weight shifting and pivoting



Anti-Rotation Press (variations)

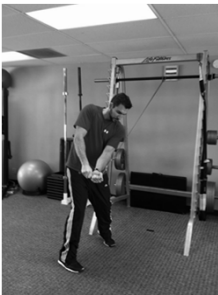


Do NOT let your torso twist! This is a stability drill.

Half -Standing Rotational Exercise: High to low; Low to high



Standing Rotational Exercise: High to low; Low to high



Front Rotation & Toss



Single Leg Rotation & Toss



Side Facing Rotation & Toss Rear Facing Rotation & Toss



1 Arm Shot Put



Farmer's Walk



Rotation & Slam



4) Flexion



- Rarely, if ever used in sports.
- Flexion exercises can be included in the program, but use sparingly.

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