

Core Statics

Jim Smith, CSCS



The other day I had a weird thought. What would it feel like if I had an alien explode through my chest? Having my torso separate from my trunk, with both parts lying on the ground in a two bloody heaps! Once out into the world, hopefully my new alien offspring wouldn't get teased too much at school and then subsequently have a bad self image andwhat the hell am I talking about?

CORPORATE STRENGTH – CORE STATICS

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Oh well, maybe I can find another way to create the same feeling as giving birth to an alien spawn. Crazy pain generating from the torso and trunk; abdominals, hip complex and posterior chain – or the “core” as it is loosely defined.

Typically, to ensure we are properly preparing the all encompassing musculature of the “core” for sport; we include the following into our athlete’s strength programs:

- Side (Lateral) Flexion – Frontal Plane
- Rotation of the Torso (spine; cervical, thoracic) – Transverse Plane
- Flexion / Extension of the trunk – Sagittal Plane

The movements are all in the stationary Sagittal, Frontal and Transverse planes. But where is the Z component? The loading of movement across a distance? Does sport happen standing in place? For this discussion - By sport, I am not including the new up and coming sport of competitive eating.

Building the surrounding musculature with these movements is pointless, if the athlete still cannot use this training to create intra-abdominal pressure and therefore stabilization of the athlete. Stabilization will increase the athlete’s ability to absorb impact and sustain a foundation to generate power and movement from. Stabilization from the “inside out.” Remember, “*Power is generated from the ground up, from the core out and from the hands in.*” Segmental, (progressive) stabilization of the TA, RA, (internal/external) obliques, erectors and spine with each step. I want to force you to generate stabilization! The kind of stabilization that will have aliens popping out of your chest. This could be done with a supplemental series of exercises I call – ***Core Statics***.

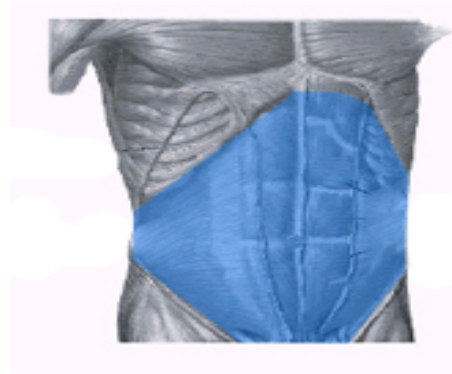
I am not going to go into depth trying to outline all the muscles, superficial and deep musculature, of the “core” because it has already been done exceptionally well.

Check Out These Articles:

1. Paul Chek – www.ChekInstitute.com – *Back Strong & Beltless – Part I*
2. Eric Cressey – www.RuggedMag.com - *Bogus Biomechanics, Asinine Anatomy*
3. Mike Robertson – www.T-mag.com – *21st Century Core Training*

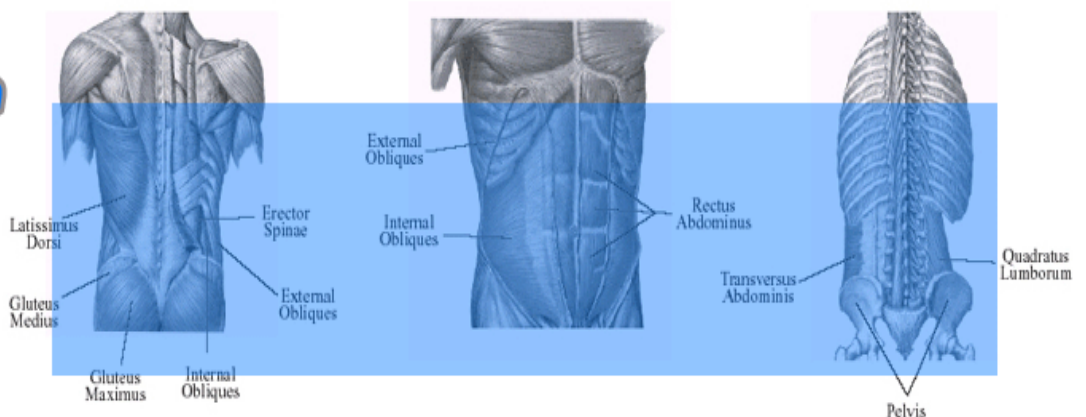
For a quick summary of the articles above:

CORE?
NO!



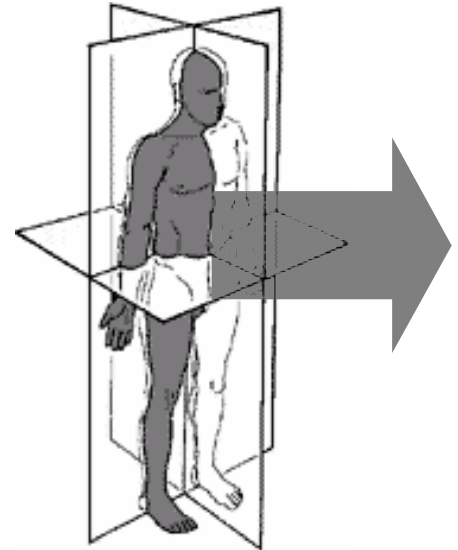
The abdominals are only a subset of the “core!”

CORE?
YES!



Core Statics

I am defining *Core Statics* as an exercise or movement that requires a progressive need for stabilization of the torso (anterior, posterior), hips, posterior chain, shoulders, knees and ankles – through a distance - the “Z” component.



Core Statics are:

- Multi-Planar – stabilization in all planes
- Multi-Directional
- Multi-Joint
- Multi-Musculature
- Multi-Benefit

Think about this:

Try preventing a functional rotational or linear movement pattern. What I mean is; put your body into a state of excitation where it is being forced into a rotation about the transverse plane or a hip extension in the sagittal plane.

If you resist one of these movements, you will see that your body mechanism will have to provide an equal and opposite contraction – to ensure that the rotation or extension does NOT occur. Now add movement where the load of the means increases as the distance from the starting point (origin) increases. This is *Core Statics*!

Your “core movement” routines should already include; swiss balls, bands, medicine balls, sandbags, kettlebells, sled, cable loaded exercises, etc... Intra-abdominal pressure is required in addition to the strength developed with all of these movements - to complete the chain. *Core Statics* will teach your athlete’s how to prepare their body to engage in these activities.

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Benefits of Core Statics:

Let's take a look at some of the benefits...

§ Stabilization – of the major joints; shoulders, hips, knees and ankles

§ Contraction of the major and minor (superficial and local) musculature of the body, including the spine (cervical, thoracic, lumbar) and opposing antagonists and synergists. Increased time under tension (TUT).

§ Irradiation – we use irradiation to stabilize the body in preparation to create power or absorb impact – instantly.

§ Forced regulation of breathing

§ Creating intra-abdominal pressure while in motion! Working within the stationary (frontal, sagittal, transverse) planes of motion and dynamic (functional) movement patterns - Movement Under Tension (**MUT**.)

§ Balance and Proprioception – re-centering of the COG of the athlete. For example - the required kinesthetic hip awareness of a grappler, or controlling and optimizing the mechanics of a baseball pitcher.

§ **Core Statics** are to be included **IN ADDITION TO**, your current “core strength” development, not instead of...



Think Wandy stabilized for this impact? Damn right!

Core Statics Exercises

We will use elastic resistance.

Take a pile of JumpStretch bands and loop them together – with the strongest (blue) bands first, progressing toward the weakest (mini) bands last. You can also use elastic tubing or ribbon for younger or novice athletes. You should now have one long band and you are ready to get started.

Anchor the strongest band end to a fixed object; power cage, tree, basketball pole or dead body. The bands can be anchored on the stationary object at different positions; high, midline and low – changing each workout or within the same workout.

Each step creates greater tension of the JS band and greater rotational load (torque) across the torso of the athlete.

Core Static Key Notes:

§ Lower Body Movements:

- Accelerated or Decelerated linear, lateral, zig zag, carioca or random movements of the **lower body**.

§ Upper Body Movements:

- Static / Fixed / Rigid Position of the **upper body**.

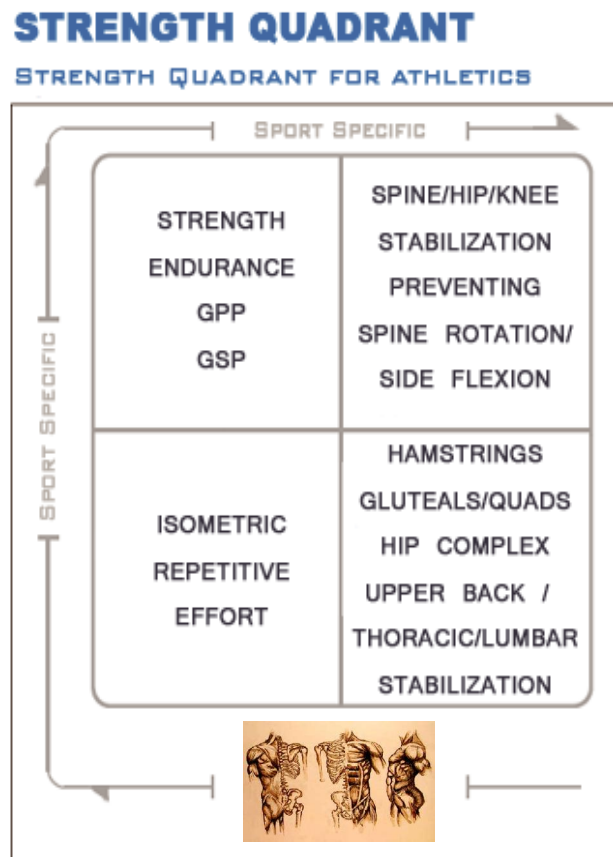
§ Can be done in bare foot in the gym (in a ring) – the gripping effect will provide greater stability, flexibility (ROM) and reaction of the foot and ankle – see all things Martin Rooney

§ Maintain an athletic position; head up, chest up, hands out, butt back, knees flexed 90-120 degrees, feet a little greater than shoulder width apart. The movement of the feet is initiated with a lateral step of the lead foot (foot on the side toward the direction of the movement) and the trail foot follows.

- § Attached to the band, can be a variety of implements:
- Nothing, just the band
 - Sport Specific – you can add your sports objects/implements to the movement – football, hockey stick, lacrosse stick, etc.
 - Increase Grip Component - towels, ropes or dead badger (Remember that the dead badgers teeth can be hooked to the band and your athlete’s can hold the tail, the tail has a greater potential to detach dependent upon the maturity of the carcass.) Preventing a functional movement! When all the band wants to do is move you into the pattern!
 - Weighted Implement: kettlebell, sandbag, dumbbell – increase the complexity and intensity.

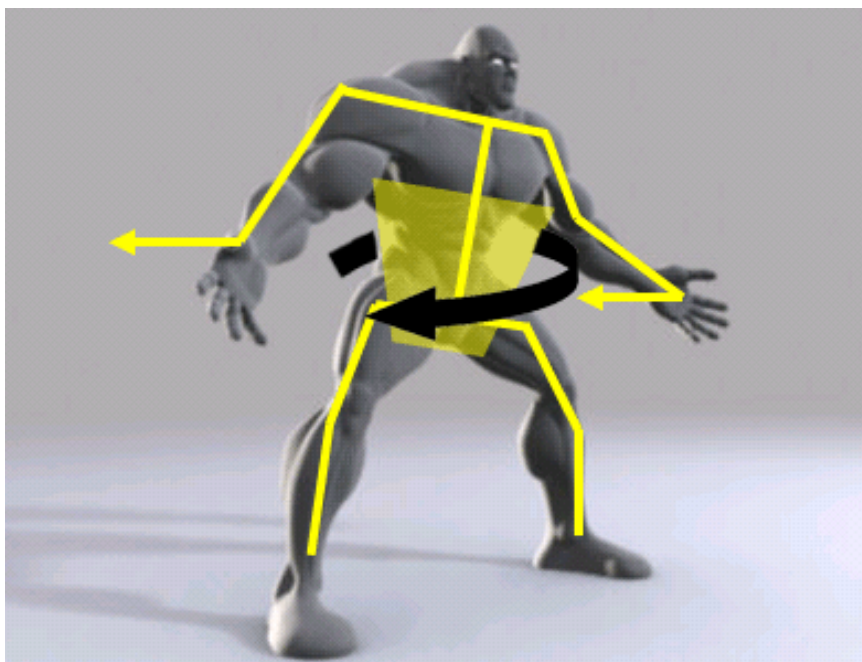
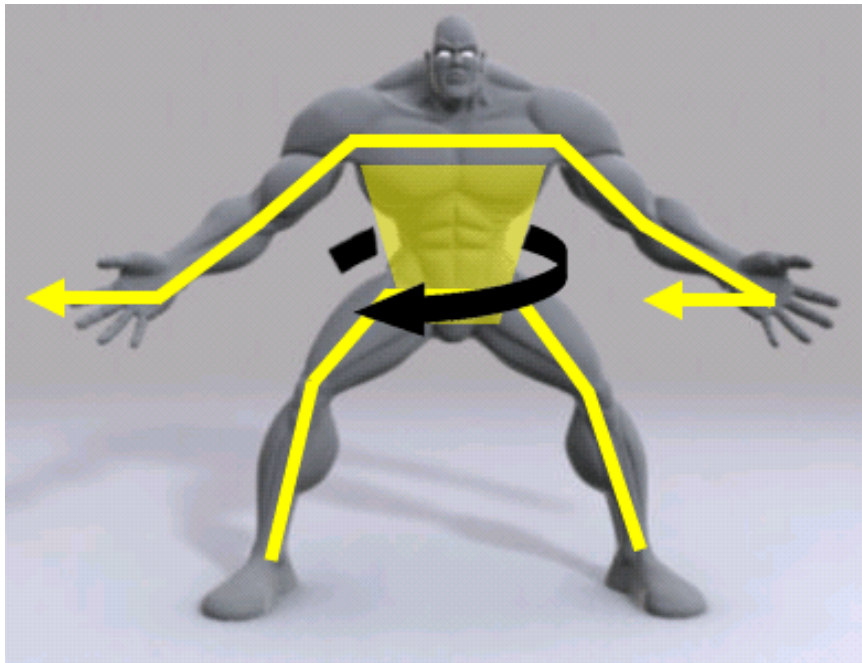
The Strength Quadrant

Let’s see how the Strength Quadrant looks:



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Huge torque around the midline. Hope you don't plan on breathing!



Core Statics –Side Shuffle

Key Points:

- Bands anchored at any level (midline in picture)
- Athletic Position / Movement – see above
- With each step, the goal is the keep the hands in the exact same position, perpendicular to the torso (90 degrees flexion)
- Reverse the lower body lateral movement to return back to the starting point, and go again.
- What you'll notice
 - o Your breathing will become labored with each step, as the stabilization requirement increases
 - o The dynamic stabilization of your shoulders, spine, hips, knees and ankles will be significant
 - o Preventing and statically controlling the rotational torque across the spine requires significant control and focus.
- Remember, this exercise (and the following exercises) will make your upper body feel like it is twisting OFF of your lower body! (notice the look on Eli's face in the last picture)





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The Side Shuffle can also be done with hands guarding low.



Or with a staggered guard position.



Core Statics –The Crab

Key Points:

- Bands anchored at any level (midline in picture)
- The movement of the feet is initiated with small backwards steps
- Athlete is in a hip / knee flexion (hunched) position; head up, chest down, hands pushed through the legs, feet a little greater than shoulder width apart
- With each step, the goal is to keep the hands in the exact same place, pushed back between the legs
- Reverse the movement to return back to the starting point, and go again.



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Core Statics – The Statue

Key Points:

- Bands anchored at any level (midline in picture)
- Athletic Position / Movement – see above
- Athlete is in standing position with arms wider than shoulder width and bands locked overhead.
 - o The Athlete should:
 - § Shrug Up
 - § Pull Band Apart
 - § Keep band directly overhead
 - § Similar locked position as an overhead squat or snatch lockout.
- Reverse the movement to return back to the starting point, and go again.
 - o Preventing Side Flexion (engaging obliques), promoting stabilization of shoulder and cervical/thoracic spine.





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Same movement as above, but uni-laterally loaded. High intensity engagement of EVERYTHING!



Core Statics –The Forward Lunge

Key Points:

- Bands anchored at any level (midline in picture)
- The movement of the feet is initiated with forward step into a lunge
- Athlete is in standing position with arms locked at 90 degree abduction and bands locked
- Reverse the movement to return back to the starting point, and go again.
- Balance and stabilization of the knees, ankles, shoulders and “core” with increasing engagement of gluteals, quads, hips and hamstrings
- Lower Body Movement patterns can be random; 45 degree diagonal, lateral, forward and backward
- Hands can be fixed at different positions:
 - o Bi-Lateral Overhead
 - § (180deg Shoulder Extension)
 - o Uni-Lateral Overhead
 - o Bi-Lateral at Sides
 - § (90 deg horizontal abduction)
 - o Uni-Lateral at Side
 - o Bi-Lateral Forward
 - § (90 deg Shoulder Extension)
 - o Uni-Lateral Forward

Uni-Lateral loading is intense and will cause the ugly cry faces.

Remember, sport happens unilaterally!

Forward Lunge with hand position - Bi-Lateral at Sides



Forward Lunge with hand position - Uni-Lateral at Side



Forward Lunge with Bi-Lateral Overhead position



Core Statics –Backward OH Squat

I thought that the other movements hurt (well they did), but this one put me into a state of shock.

Key Points:

- Bands anchored at any level (midline in picture)
- The movement of the feet is initiated with small backwards steps, and random intervals the athlete will perform an overhead squat. Stabilization of the posterior upper back (cervical, thoracic spine), will go a long way in the health of the shoulder complex.
- Athlete is in standing position with arms wider than shoulder width and bands locked overhead.
 - o The Athlete should:
 - § Shrugged up and locked in a “V” position
 - § Keep band directly overhead
 - § Similar locked position as an overhead squat or snatch.
 - § THUMBS POINTING BACKWARDS!
- Reverse the movement to return back to the starting point, and go again.



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Core Statics – Vibrations

This one is a little different. The same as the Side Shuffle above but with a little twist. Take the band out to an acceptable level of tension and start flexing the band up and down. Once again, keeping the hands locked in the same position, directly in front of the athlete. Create some massive wave patterns in the band – as hard as you can without moving the hands away from the midline.

Key Points:

- Bands anchored at any level (midline in picture)
- Athletic Position / Movement – see above
- With each step, the goal is to keep the hands in the exact same position, perpendicular to the torso (90 degrees flexion)
- Once the band tension is intense, start making waves!



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For some reason, when I go to write an article, it turns into a 3 part series. Hopefully, I will be able to get all the information into part II! Good news though, there will be lots of pictures for people like me - who like pictures.

Remember, *Core Statics* should be done **IN ADDITION TO** your core routine. Don't say I didn't warn you.

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