Core Body Training –
Good Core Training Requires More Than Abdominal Exercises

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Building core muscle strength requires more than just performing abdominal exercises.

Core conditioning and abdominal conditioning have become synonymous in recent years, but the abdominal muscles alone are over-rated when it comes to real core strength or conditioning. In reality, the abdominal muscles have very limited and specific action.

The body's "core" actually consists of many different muscles that stabilize the spine and pelvis and run the entire length of the torso. These muscles stabilize the spine, pelvis and shoulder and provide a solid foundation for movement in the extremities.

Core conditioning exercise programs need to target all these muscle groups to be effective. The muscles of the core make it possible to stand upright and move on two feet.

These muscles help control movements, transfer energy, shift body weight and move in any direction. A strong core distributes the stresses of weight-bearing and protects the back.

What are the Core Muscles?
The list of "core" muscles somewhat arbitrary depending on what muscles the different experts include in their list.

In general, the muscles of the core run the length of the trunk and torso; and when they contract they stabilize the spine, pelvis and shoulder girdle and create a solid base of support.

The key consideration of what muscles are included as core muscles is their ability to allow us to be able to generate powerful movements of our extremities – feet/legs and hands/arms.

The goal of core stability is to maintain a solid, foundation and transfer energy from the center of the body out to the limbs.

The following list includes the most commonly identified core muscles as well as the lesser known groups:
- Rectus Abdominis - located along the front of the abdomen, this is the most well-known abdominal muscle and is often referred to as the "six-pack" due to it's appearance in fit and thin individuals.
- Erector Spinae- This group of three muscles runs along your neck to your lower back.
- Multifidus - located under the erector spinae along the vertebral column, these muscles extend and rotate the spine.
- External Obliques - located on the side and front of the abdomen.
- Internal Obliques - located under the external obliques, running in the opposite direction.
- Transverse Abdominis (TVA) - located under the obliques, it is the deepest of the abdominal muscles (muscles of your waist) and wraps around your spine for protection and stability.
- Hip Flexors - located in front of the pelvis and upper thigh. The muscles that make up the hip flexors include:
  o psoas major
  o illiacus
  o rectus femoris

- ○ pectineus
- ○ sartorius
- Gluteus medius and minimus - located at the side of the hip
- Gluteus maximus, hamstring group, piriformis - located in the back of the hip and upper thigh leg.
- Hip adductors - located at medial thigh.

Strengthening the Core Reduces Back Pain

Abdominals get all the credit for protecting the back and being the foundation of strength, but they are only a small part of what makes up the core. In fact, it is weak and unbalanced core muscles that are linked to low back pain.

Weak core muscles result in a loss of the appropriate lumbar curve and a swayback posture. Stronger, balanced core muscles help maintain appropriate posture and reduce strain on the spine.

Core Strength Training and Athletic Performance

Because the muscles of the trunk and torso stabilize the spine from the pelvis to the neck and shoulder, they allow the transfer of powerful movements of the arms and legs.

All powerful movements originate from the center of the body out, and never from the limbs alone. Before any powerful, rapid muscle contractions can occur in the limbs, the spine must be solid and stable and the more stable the core, the most powerful the extremities can contract.

Training the muscles of the core also corrects postural imbalances that can lead to injuries. The biggest benefit of core training is to develop functional fitness - that is, fitness that is essential to both daily living and regular activities.

Core strengthening exercises are most effective when the torso works as a solid unit and both front and back muscles contract at the same time, multi joint movements are performed and stabilization of the spine is monitored.

Strengthening the Core Muscles

There are many exercises that will strengthen the core, as well as exercise equipment that will aid this training. Some of the best products for developing core strength include:
- Medicine Balls
- Kettlebells
- Stability Balls
- Balance Products – i.e. Bosu Ball, balance boards, wobble boards, etc.
- Dumbbells

No Equipment Core Strength Exercises

Body weight exercises are very effective for developing core strength. They are also the type of exercises many athletes and coaches rely on for regular core training. They include:

Abdominal Bracing

This is the main technique used during core exercise training. It refers to the contraction of the of the abdominal muscles.

To correctly brace, you should attempt to pull your navel back in toward your spine. This action primarily recruits transverse abdominus.

You should be able to breathe evenly while bracing. Be careful not to hold your breath while performing the following exercises:
- Plank Exercise: Start Position | Finish Position
- Side Plank Exercise: Start Position | Finish Position
- The Basic Push Up
- V-sits
- Push Ups
- Squats

- Back Bridge
- Hip Lift
- Russian Twists
- Lunges
- Side Lunges
- Back Extensions

Other exercises that develop core strength include exercises on a stability ball, work with medicine balls, wobble boards, and Pilate's exercise programs. Yoga is also an excellent way for athletes to build core strength.

For a simple core strength program you can begin with push-ups and crunches, but work with a trainer to find the exercises that work best for you.