A Practical Approach to Torso Training Part II

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In Part I of this series, I discussed the different muscles that make up the core or torso region and highlighted those most important to proper function, health and peak performance. As mentioned in Part I, all movement is initiated with the core musculature. The deep (local) abdominals are recruited first to help stabilize the spine and make the subsequent movements – those with your limbs - more efficient (no wasted energy).

The Problem with Traditional Abdominal Training

You must first consider what an athlete needs in the mid-section. Your core/torso is your power center through which power is transferred from the ground or other fixed point of leverage, up and down the body. Without a strong core, strong arms and legs cannot apply their power on the playing field. If you want athletic power, train your body from the inside out: core first, then torso, then arms and legs.

Most abdominal routines focus on developing a six-pack, the rectus abdominus, as it's the most visually noticeable abdominal muscle. Countless reps of crunches will only result in a minor increase in abdominal strength and a minimal decrease in the girth of the waistline. Most athletes do not understand that the six-pack has nothing to do with a flat stomach or tight gut. The function of the six-pack is to flex the trunk so that your rib cage moves toward your pelvis. In doing so, it causes the stomach to bulge, never become flatter. There's no mechanism by which the six-pack can flatten your gut: its fibers run the wrong way! Remember a strong core has nothing to do with low body fat levels. Abdominal definition is the result of diet, not torso work.

Another key issue when training the same movements over and over is that you can cause shortening and tightening of certain muscles, which lead to kinetic chain disorders caused by muscular imbalances. A classic example of this is when athletes perform hundreds of sit-ups and develop lower back pain over time. The problem with sit-ups is that the rectus abdominus is only active for the first 10-30 degrees of the exercise; the rest of the movement is aided by the hip flexors. Excessive shortening of the hip flexors causes the pelvis to have an anterior (forward) tilt. This tilt over-exaggerates the curve in the lumbar spine (lower back), and also shuts down your glutes (butt) due to the phenomenon of *reciprocal inhibition*. Reciprocal inhibition is essentially when a muscle on one side of a joint (agonist) is active; the opposing muscle on the other side of the joint (antagonist) must relax to allow the agonist to perform the movement. In our case, since our hip flexors are so tight and overactive, the glutes are relaxed and shut down. So when you need to fire your butt to run, jump, or walk, the body will call upon the muscles of the lower back to perform the movement because of the inactive glutes. There are a host of other issues that go along with tight hip flexors that are beyond the scope of this article.

Ok, let's get back on track with how to train the torso. We must first go back and reevaluate how we are training the abdominal region:

- Are we doing countless repetitions of the same movement?
- Are we stimulating all of the different muscles of the core?

- Are we performing movements with appropriate set and rep schemes?
- Are we using non-functional positions?
- What are we accomplishing from this work?
- Are we reaching our goals?
- Are we getting better!?!?

I'll admit that I used to do whatever I was taught and go for the "burn" too. It was only when I asked myself *why* that I got on track to become a better coach, trainer, and athlete.

Torso Movements

The core has five different functions, and it is important that we perform specific exercises for each movement at least once a week to ensure proper development and balance. The five functions are:

1. Flexion
2. Extension
3. Rotation
4. Lateral Flexion
5. Stability

Flexion Movements occur primarily in the sagittal plane and are characterized by the movement of the shoulders toward the pelvis (trunk flexion) or the pelvis toward the shoulders (hip flexion). Most coaches typically use flexion-based exercises to train the abdominals. Examples of exercises in this category are crunches, reverse crunches, leg lifts, and leg raises.

Extension Movements occur primarily in the sagittal plane and are the exact opposite movements of flexion movements. They are characterized by either bringing the shoulders away from the hips (trunk extension) or the hips away from the shoulders (hip extension). Examples of exercises in this category are hyperextensions, supermans, and reverse hyperextensions.

Rotation Movements occur primarily in the transverse plane and can be found in everyday motions and sporting movements. Rotational movements can be performed by the upper body rotating while the legs are fixed or by the lower body rotating while the upper body is fixed. Side touches, hip crossovers, and Russian twists are good examples of rotation movements.

Lateral Flexion Movements occur primarily in the frontal plane; these motions are very under-trained. These movements target the obliques and quadratus lumborum. Lateral Flexion can occur by the trunk when the feet are fixed, and also by the hip when the trunk is fixed. Examples of exercises in this category are elbow obliques, off bench obliques, and side bending.

Stability Movements is actually a misnomer because there is no real movement. Nonetheless, stability exercises should form the foundation of your torso program. Strength can only be built upon a stable platform, and stability exercises need to be emphasized if torso strength is a priority. The deep abdominals

(local) are primarily recruited with stability exercises, and help to stabilize the spine and each vertebrae. Examples of exercises in this category are Prone (face down), supine (face up), and side bridges.

Training the Torso

You must train the torso just like you would regular strength movements such as the bench press or the squat; the same principles of program design (i.e. rest, tempo, sets, reps, and load) apply to the torso area. When training the torso region, it is important to stay away from the "burn" principle (it's only working if it burns!). It is important to feel your muscles working and notice that they are put under stress, but you must not let your technique break down when performing any type of exercise. This will help to ensure proper muscle recruitment and development, as well as reduce the chance of injury.

There are a number of options that you can decide to use when designing workouts. You can decide to pick 1 exercise from each category and perform 1-2 sets of each, pick 2-3 exercises and perform 2-3 sets of each, or perform one movement each day with a number of exercises for that movement. Once you have decided a method to use, the next step is to put together modules. A module is a group of exercises that are grouped together and can be plugged into your template. Modules are a great way of organizing training and a concept that we picked up from Vern Gambetta. Below is a sample of a typical 3 Day Torso Program with modules.

Mon	Wed	Fri
Core 1A	**Core 1B**	**Core 1C**
Lying Draw In 2x5x10 sec	4 Pt. Draw In 2x5x10 sec	Swiss Ball Crunches 2x20
4-Way Elbow Bridge 2x20 sec	Draw-In Bridges 2x10x2 sec	Side Touches 2x20
Elbow Obliques 2x10 ea	Floor Hypers 2x10x2 sec	Elbow Obliques 2x10 ea

A few key points to note when designing modules are to make sure that a) there is balance among the movements, b) the exercises are progressed over time, and c) if there needs to be extra emphasis on one movement, to do more of that movement. In the example above, stability is emphasized more than the other movements. There are 3 stability exercises, 2 extension exercises, 2 lateral flexion exercises, 1 rotation exercise, and 1 flexion exercise. This is an example of an abdominal program that would occur in the early off-season when we want to emphasis stability and create a solid foundation for subsequent torso training.

Progression

Exercise progression is an often-overlooked variable in many programs. Missing steps is a key factor in the cause of many injuries. Don't worry if the exercise looks easy; the athlete must be able to perform the exercise flawlessly with the right amount of control. Don't jump your athletes straight to level 4 exercises if they can't perform level 1 exercises perfectly. You will see some pretty cool and interesting exercises out there, but you have to consider why you are performing the exercise and whether or not your athletes are ready to handle them.

The main progression we use designing torso programs is pretty simple and is outlined below:

1. Muscle-re-education of the deep abdominal musculature

2. Increase torso stability – initially progress exercise by lengthening time of the hold

3. Integrate more dynamic movements – focus on abdominal stability and control

4. Move from stable surfaces to unstable surfaces (e.g. airex pads, Swiss balls, balance boards)

5. Move from simple to complex exercises; change base of support or limb involvement – e.g. one-arm, one-leg, split stances

6. Move from non-functional (on floor) to functional positions (on feet)

7. Move from slow/controlled movements to fast/explosive movements

Summary

The goal of this two-part series was to shed some light on torso/core/abdominal training that has been missing in many training programs and that does not get much time devoted to it. Hopefully, you can see why training the torso is so important and how beneficial it can be. We hope you can use these principles and implement them into your training programs.