

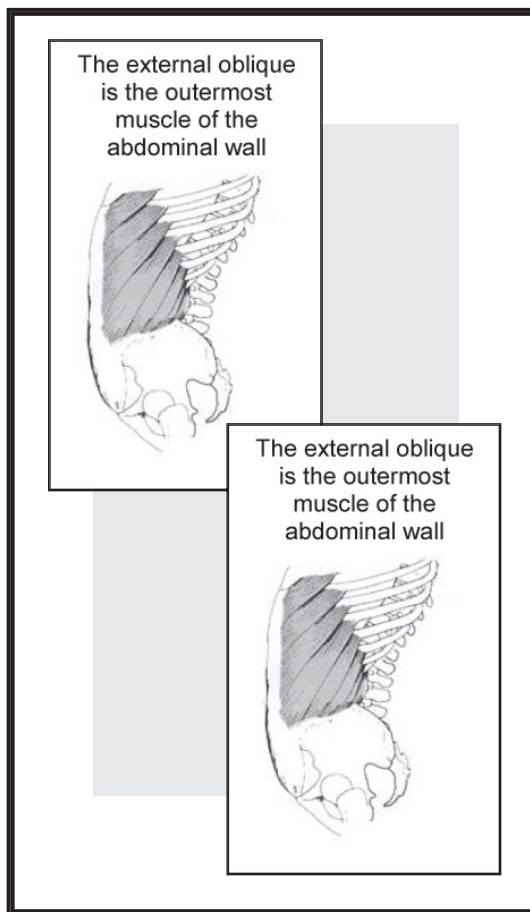
GETTING TO THE CORE

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Most would agree that a strong “core” is essential to all sporting activities and tasks of daily living. What is the core and how do we train it to maximize performance? Generally speaking, the core consists of the lower back, lateral trunk and abdominal (rectus abdominus, obliques, transverse abdominus) musculature. For years, largely based on traditional anatomy lessons and body building routines, we believed that endless sit-ups and hyperextensions were the way to go. As our understanding of human movement and sports performance have grown, we began to realize that training for performance often required a different approach – hence the term “sport specific” training. Simply stated, the more an exercise looks and feels like the activity to be performed, the greater the carry-over to that activity. When designing exercises to enhance performance, one must look at the activity or skill and ask – how does gravity, ground reaction forces and momentum effect the body and how do all the muscles and joints interact to complete a skill

or movement? In the traditional sit up one lies on their back and attempts to bring the shoulders up towards the pelvis, in essence contracting only the abdominals. For performance/function we would ask – when in gymnastics do you lay on your back and do this? Are the gravitational forces the same? Are the ground reaction forces the same? Is the momentum the same? Do all the body parts interact similar to a gymnastics skill? The answer is rarely, if at all. In gymnastics, the body is primarily in a vertical position with various components of spin and rotation acting against gravity, utilizing and absorbing ground reaction forces and momentum. Therefore, training the core in an upright position would be a better choice to



facilitate greater muscle, joint and balance receptor activity, ultimately leading to greater carry-over to the skill or activity. It also facilitates more effective interaction between all the muscles and joints involved in the skill, not just one or a few as seen in the traditional sit-up or hyperextension exercise. The object being to enhance the body’s ability to load to explode.

The true function of the abdominal muscles is to decelerate or control backward bending and rotation of the trunk. You do not need them to forcibly flex the trunk forward (as a sit-up does) because gravity will do this for free. The muscles of the low back help decelerate forward flexion and rotation of the trunk. The respective muscles of the trunk rely on various other muscles to assist them with the task at hand. One common theme that is critical for human movement and sport is that all muscles need to be eccentrically elongated relatively quickly (loading) to enhance their

concentric contraction (exploding). Think of a rubber band, the more you pull it the harder and faster it snaps back. Your muscles utilize the same principle called the stretch shortening cycle to enhance the muscles ability to move the body explosively. An easy example of this is in jumping. You always “squat” down or load first to enhance your ability to jump or explode higher. Try jumping up high without bending your knees or ankles first; its impossible.

Presented here are what we call the Med Ball 6 exercises. They are designed to train the core more appropriately to enhance the skills performed in gymnastics. Initially focus on correct

form, control and full range of motion. Work from slow to higher speeds of movement. Start with light and progress to moderate resistance. Initially, begin with 10-15 reps of each. Gradually work up to 2-3 sets of 10-15 using a light to moderate med ball (depending on size/age of gymnast). Never sacrifice form for speed or resistance. This only leads to poor results, compensations and injury. Remember the idea is to help increase the muscles ability to load in order to more forcefully explode in an environment that closely mimics what the muscles and joints will experience in the actual skill.

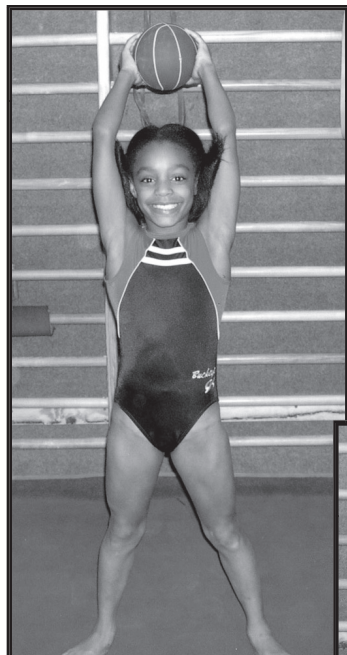


Figure 1A

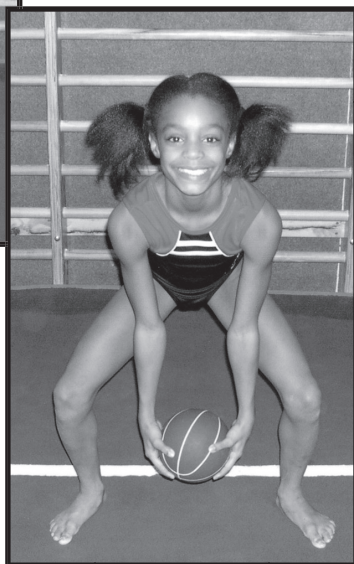


Figure 1B

Figure 1A and 1B.
MB Chop

Hold MB with both hands. Reach high overhead and back and then "chop" down between legs. Bend knees on downward movement. Alternate up and down chop in controlled rhythmic motion for desired reps.

Figure 2

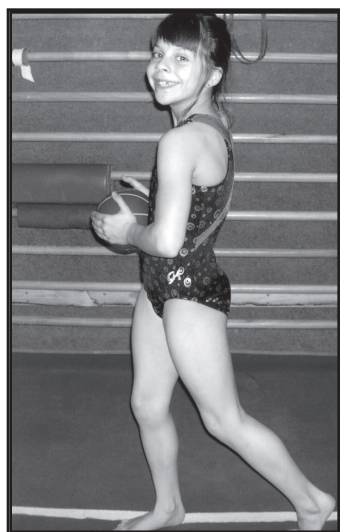


Figure 2. **MB Tight Rotation**

Hold MB close to body. Rotate side to side for desired reps. Make sure to pivot feet when rotating to protect low back.

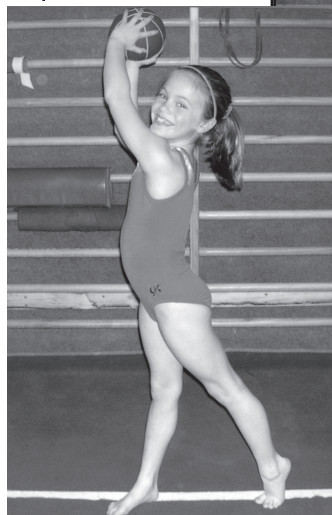


Figure 3A



Figure 3B

Figure 3A and B.
MB Diagonal Chop

Reach high over one shoulder and then "chop" down and across to the opposite hip. Pivot feet with

rotation movement to protect low back. Knees should bend with downward movement. Diagonal chop up and down in controlled rhythmic motion for desired reps. Do both left and right diagonal chops

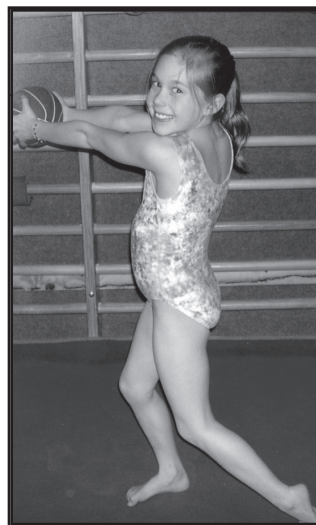


Figure 4

Figure 4. **MB Long Arm Rotation**

Same as above except hold MB out in front of body at chest level.

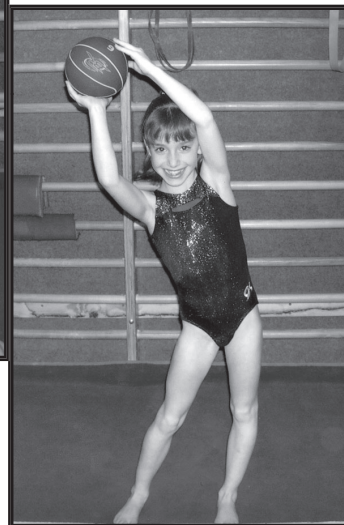


Figure 5

Figure 5. **MB Overhead Side Bend**

Stand with feet shoulder width or less. Hold MB overhead. Tilt body side to side in controlled rhythmic movement. Let hips move with body. Stay fully upright with movement, don't let body sway forward or back. This can lead to increased stress on low back. Can hold ball on head to decrease lever arm if back bothers them or not use MB. Note: Squeezing glutes seems to help minimize stress in low back. ■