

A New Look at Core Training

Most coaches would agree that when training to improve athletic performance, it is best to train movements, not muscles. Yet core training seems to be slipping under the radar of such advice. Many core training regimes isolate and target muscles of the back and abdominals in order to challenge stability and/or strength. Common training positions include lying prone or supine on a flat surface or on a training tool such as a stability ball. Standing activities requiring static balance are also common and are performed on a stable or unstable surface. While these activities may prove to be beneficial and helpful for certain training goals, competitive athletes can benefit from training that is more closely related to the demands of their sport, involving the whole body and subsequently the core.

The core has been called “the hub of the wheel,” “the power zone,” and “power house.” It is where the body’s center of gravity is located and more importantly, involved in the majority of all athletic movements. Furthermore, the core is responsible for developing power, absorbing force, maintaining balance and stability, and improving coordination during movement. For most athletes, this is all done with their feet in contact with the ground.

The following activities do not specifically target the core musculature, but do demand its involvement in the generation of strength, speed and/or power. They are considered advanced training options and should be practiced under expert guidance. (Detailed instruction of these training options can be found in back issues of the *NSCA’s Performance Training Journal*). Including these activities will help to train the core while improving specific athletic performance components as well.

Olympic Movements

Olympic movements help develop power, speed, and strength. They include the clean and jerk, the snatch, and variations thereof. In most instances, Olympic movements require accelerating a weight from a position below the hips to a position above the hips. In addition to great involvement of major muscle groups of the hips and legs, the core musculature is relied upon to help generate the necessary power to accelerate the weight, stabilize the lower body, and maintain proper alignment throughout the movement.

Plyometrics

Plyometrics are characterized by an eccentric contraction followed by a powerful concentric contraction. Studies have indicated that plyometric training augments athletic performance by increasing one’s ability to generate power^{1,2}. The core musculature is

involved in developing power to accelerate the body through space and absorbing shock upon landing.

Speed training

Sprinting and changing direction is a common requirement in sport. The muscles of the core stabilize the trunk during locomotion and assist in rapid and powerful leg and arm action. During change of direction, the trunk absorbs the forces of eccentric action during deceleration.

While basic core training methods may prove helpful to a variety of individuals, the more advanced sport training methods briefly described above may prove beneficial to competitive athletes. Be sure to learn the proper technique for the Olympic movements and plyometric activities from a certified NSCA professional. ▲

References:

1. Bosco C, Komi PV. (1979). Potentiation of the mechanical behaviour of the human skeletal muscle through pre-stretching. *Acta Physiologica Scandinavica*, 106(4): 467 – 572.
2. Cavagna GA. (1977). Storage and utilization of elastic energy in skeletal muscle. *Exercise and Sports Sciences Review*, 5: 89 – 129.

About the Author

Tracy Morgan Handzel, CSCS is the owner and head Performance Coach of Train for the Game in Atlanta, GA. She currently trains elite and professional tennis players and writes training related articles for various trade publications. Tracy has served as assistant director at the International Performance Institute and assistant strength and conditioning coach at the University of Washington, San Diego State University, and the University of California San Diego.