

Pel ot Performance Coaching

Free-Weight, Ground Based Strength Training

The majority of exercises done in an athletic weight room need to be free weight based. Athletes are forced to maintain balance under forces from multiple directions when they are in the game. Free weights challenge the body's stabilizing ability and allow an athlete to move in the plane of motion needed to promote sport specific movements. Free weight exercises also promote a greater development of the muscles of the core. When using exercises like squats and over head pressing exercises, these exercises require the use of the core for stability and balance. This is exactly how the core is recruited and used when an athlete is in competition. Athletes do not do sit-ups and crunches on the field, their core twists and turns and stabilizing the body during explosive movements such as sprinting, changing direction, throwing, shooting and jumping. Training the leg muscles while simultaneously training the core to improve stability is a very sport specific strength transfer.

Benefits of Free-Weight Exercises

Ground-based, free-weight exercises, such as the Weightlifting lifts (i.e. cleans, snatches, & pulls), squats, presses and their derivations, are multi-joint activities executed while standing that stress the vital action/reaction principles so important in sports. Free-weight exercises can offer higher metabolic demands, and greater stabilization, coordination and balance when compared to machines. Machines tend to eliminate the need for stabilization, coordination and balance since they are usually designed to train muscles rather than movements thus reducing the metabolic demand. Machines operate in fixed movement patterns that don't conform to the athlete's individual range of motion, but rather, conforms the athlete to the machine's range of motion. Training in a fixed axis with partial movements eliminates total body involvement and drastically reduces synergistic development.

It can take a great amount of practice to become proficient with free-weight exercises such as power cleans, squats, and presses. Although machines can and do play an important auxiliary role, anybody can walk off the street and perform a leg curl. This is where the strength and conditioning professional steps in. If you are to adequately develop as an athlete you must train as you're going to compete.

Training as we compete is the key. Most sports require the athlete to perform explosively. Rapid displays of speed, quickness, agility, power and strength is necessary for sporting success. These displays are executed in coordinated, full-body actions. One must condition the body to meet such demands. Free-weights allow the athlete train in such a manner.

Some coaches cite safety as a concern in choosing machines over free weights. The goal should be to prepare the athlete so that they are less susceptible to injury in the competitive arena not the weight room. How will the athlete be better prepared to meet the demands of the game if conditioning is not similar? The answer is they won't be. Safety is definitely a concern though. Proper care must be taken when selecting equipment, facility layout, staffing, and exercise instruction.

.....*United States Olympic Committee*