Weight Training For Adolescent and High School Athletes

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The focus of weight training for adolescent and high school athletes involves the pursuit of athletic prowess as well as overall enhancement of strength. Weight training, or strength training, is a more descriptive and desirable term for this activity than "weight lifting". The progressive resistance exercises that are performed during training should address the goal of strength, speed, and endurance. Strength is the force that a muscle can exert in a single maximal effort. Speed represents how fast a weight is moved, and endurance represents the ability of a muscle group to sustain repeated contractions over a prolonged period of time. Incorporating these three aspects of strength training facilitates overall athletic improvement.

Vern Gambetta, a certified strength and conditioning specialist with the Chicago White Sox, infers that there are different types of strength. **Central Strength** addresses general muscle prowess and is facilitated by basic exercises. **Specific Strength** represents the enhancement of movement mechanics and speed required for specific athletic activities. Gambetta encourages controlling strength training variables such as sets and repetitions, specific exercises, the order of exercises, rest periods, and the frequency of three times per week with a heavy, light, and moderate intensity sequence. In-season weight training should focus on sports specific power and quickness tasks versus off-season weight training which involves more control and special strength work. Flexibility exercises should accompany all phases of strength training programs to permit gains through a full range of motion. The American College of Sports Medicine has established guidelines for safe adolescent strength training. They emphasize that adolescents should utilize one to two sets of eight to twelve repetitions per exercise. Major muscle groups should be exercised two to three times per week. Low sets and moderate repetitions permit adequate intensity. Weight should be added in increments of 2 1/2 to five pounds after twelve full repetitions can be performed. Adolescents should have their strength training programs monitored closely. Free weight activities are beneficial in that they contribute to motor coordination. Weight lifting machines are advantageous in that they are easier to control and diminish the potential for injury. Adolescent strength training can be very beneficial, but it is important

that correct lifting techniques are employed and safety considerations are monitored. It should be noted that strength training does not create muscle fibers, but rather enhances individual muscle fiber girth. Significant strength gains will occur secondary to increased neuromuscular efficiency long before an increase in bulk is observed. Strength gains will initially be more obvious in sedentary individuals versus athletes who begin from a more advanced perspective.

The use of a strength training program for high school and adolescent athletes can decrease the incidence and severity of musculoskeletal injures in addition to enhancing performance. Basic central strength programs may progress to special and specific strength programs as an athlete matures. Athletes should be monitored by an experienced qualified supervisor.