

Strength Training for Young Athletes

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Basic Strength Training Guidelines for Children

The possible dangers involved in resistance training are related to inappropriate exercise demands placed on the child. Although there are general guidelines for resistance training, you must consider the special needs of each individual. In essence this means you must design a program for each child's needs that employs proper exercise techniques and safety considerations.

Resistance training is a training method in which external resistances are lifted to enhance the muscle's functional abilities. All resistance training programs are not alike, nor are their goals, because goals are related to the individual's needs. Proper program design along with knowledgeable supervision makes resistance training safe, rewarding and fun. Improved physical function will in turn enhance physical fitness, health, injury prevention and sport performance. Perhaps an even more important outcome is the child's development of an active lifestyle. Proper exercise behaviors can contribute to better health and well-being over a lifetime.

With the increasing participation of children in a wide variety of youth sports from wrestling, football and gymnastics to soccer and track, there is a significant need for better physical preparation to prevent sport-related injuries. Resistance training has the most potential of any physical activity to address this need. Concerns about injury from a properly supervised and prescribed resistance training program should be minimal, considering the great potential for improving the child's ability to tolerate sport stresses, improve performance and avoid athletic injury.

When you introduce resistance training to a child, keep in mind his or her physical and emotional maturity. As with any sport or exercise program, a child should have a thorough exam by a physician. A child must then be mentally and emotionally ready to undergo the stress of exercise training. There is no standard age at which a child can start a resistance training program. Typically, if the child can participate in other sports programs, he or she is ready for some type of resistance training program. The child must be able to follow directions and perform exercises safely and with proper form. Children with various physical and mental disabilities can also participate in resistance training with appropriate teaching and necessary equipment adaptations. For any child, the program should provide proper instruction and gradual progression in exercise stress (meaning the resistance and the rest allowed). Remember, the child will need about 2 to 4 weeks to get used to the stresses of resistance training (for example, slightly sore muscles and the discipline involved in adherence to a routine).

Don't let the child try to do too much too soon; allow him or her time to adapt to the stress of resistance training. Furthermore, don't be surprised if some children have problems sticking to the program or really don't enjoy it. Interest, growth, maturity and understanding all contribute to the child's view of exercise training. It is important that the child, in addition to the coaches and parents, understand why he or she is involved in a resistance training program. This requires basic education regarding sensible goals, needs and expected outcomes, such as those listed here:

- **Improved muscular strength and power**
- **Little or no change in muscle size in young children**
- **Improved local muscular endurance**
- **Positive influence on body composition**
- **Improved strength balance around joints**
- **Improved total body strength**

- **Prevention of injuries in sports**
- **Positive influence on sport performance**

Don't impose a program designed for adults on a child. Such a program is too advanced for the child's physical abilities and needs. In addition, don't overlook the importance of communication. Children and adults often have preconceived (and erroneous) ideas about proper resistance training principles. Various misconceptions (e.g., it only takes a little training to become big and strong, or a strong person is invincible) come from television, movies, magazines and other people. In addition, a child can pick up wrong signals in an adult environment, especially in the weight room.

Basic Guidelines for Resistance Exercise Progression in Children:

Age 7 or younger: Introduce child to basic exercises with little or no weight; develop the concept of a training session; teach exercise techniques; progress from body weight calisthenics, partner exercises, and lightly resisted exercises; keep volume low.

Age 8-10: Gradually increase the number of exercises; practice exercise technique in all lifts; start gradual progressive loading of exercises; keep exercises simple; gradually increase training volume; carefully monitor toleration to the exercise stress.

Age 11-13: Teach all basic exercise techniques; continue progressive loading of each exercise; emphasize exercise techniques; introduce more advanced exercises with little or no resistance.

Age 14-15: Progress to more advanced youth programs in resistance exercise; add sport-specific components; emphasize exercise techniques; increase volume.

Age 16 or older: Move child to entry-level adult programs after all background knowledge has been mastered and a basic level of training experience has been gained.

Note: If a child of any age begins a resistance training program with no previous experience, start the child at previous levels and move him or her to more advanced levels as exercise toleration, skill, among of training time, and understanding permit.

Summing Up and Looking Ahead

Training with weights can be fun, safe and appropriate for a child. Resistance training should be part of a total fitness program that will change as the child's goals and needs change throughout life. Stress the need for adherence to and consistency in training, which require discipline and hard work but allow the child to achieve positive gains through resistance training. At the same time, do not impose adult definitions of hard work on a child. Since each child grows, matures, and thus adapts to resistance training at an individual rate, limit comparisons to other children and allow the child to gain satisfaction in his or her own progress. Programs must be very progressive in nature yet must not overshoot the child's physical or emotional abilities to tolerate and recover from the exercise stress.

*Taken from "Strength Training for Young Athletes" by William J. Kraemer, Ph.D. & Steven J. Fleck, Ph.D.
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