

# **Strength Training for Young Tennis Players**

## **Introduction**

Strength training and conditioning are becoming necessities in today's tennis game as play continues to get faster and players hit the ball with more power from everywhere on the court. As coaches, players and parents realise this they want to get their players involved in a strength and conditioning program, often at younger and younger ages. There are a lot of questions surrounding strength training, especially when we start talking about younger players. Through a series of questions and answers, this article will look at some of the questions and dispel some of the 'myths' surrounding youth strength training.

## **What exactly is strength training?**

"Strength training" is synonymous with 'resistance training,' and the two terms can be used interchangeably. Strength training uses the principle of progressive overload to force the body (muscles, bones, tendons, etc.) to adapt in order to be able to produce and resist greater forces. Strength training is not power lifting, nor is it bodybuilding. Also, one does not need to lift weights to strength train. Many exercises can be performed simply using a player's body weight as resistance.

## **What are the goals/ benefits of strength training?**

Strength training for tennis can help to prevent injury and enhance on-court performance. It is important for all tennis players, even young players, to strengthen the muscles of the rotator cuff to maintain a proper strength balance in the shoulder. With young players, the goal of strength training should also be to increase muscular endurance. The goals of strength training should not shift to increasing maximal strength until after a player goes through puberty.

## **Is strength training safe for young players?**

The risk of injury is probably the primary concern of any coach or parent who has a child entering a strength-training program. Any exercise or activity carries with it some level of injury risk – even a child running in the backyard can suffer an injury - so it is unrealistic to assume that injuries will never occur in conjunction with strength training. Both the National Strength and Conditioning Association and the American Academy of Pediatrics state that youth strength training can be safe and effective if:

- A competent coach who is skilled in program design supervises every training session and,
- Proper technique is taught and required in every repetition of every exercise.

## **Isn't there a risk that growth plates will be damaged?**

Many parents and coaches are hesitant to begin strength training with young athletes for fear of damaging the bones and possibly stunting growth. The fact is that no growth plate fractures have been documented in athletes who engage in a resistance-training program that follows the two guidelines listed above. The risk of injury to the growth plates can be further minimized if players do not lift heavy weight over their heads or attempt to lift extremely heavy weights. Growth plate injuries should be taken seriously because they can happen. However, with proper care the risk can be almost eliminated.

## **Does strength training work for young players?**

Yes, it does. Most people believe that testosterone (a steroid produced naturally in the body) is necessary to build strength. However, resistance training helps to improve motor control and strength by “teaching” muscles how to work together in a coordinated manner, which leads to improvements in strength without an associated gain in muscle mass. Some other benefits of youth strength training are:

- Improved strength and coordination
- Increased bone density
- Improved self-image and self-confidence
- Potential to prevent injuries

## **What exercises are appropriate for young players?**

Probably the best way to introduce athletes to strength training is to start with ‘body-weight’ exercises. As you might guess, these exercises use the athlete’s own body weight as the resistance. These exercises can include push-ups, pull-ups, sit-ups (crunches, bicycles, etc), ‘supermans’, body weight lunges and squats, and step-ups.

Players can also use stretch tubing to perform shoulder internal and external rotation exercises to train the muscles that make up the rotator cuff and rowing exercises to train the scapular muscles that also control shoulder movement.

The benefits of these exercises are several-fold. First, this type of exercise is inexpensive and easy to implement. Second, these exercises strengthen the core muscles of the body (the core is defined as the muscles surrounding the body’s center of mass – namely the abs, lower back, and hip musculature). The core muscles stabilize the body and it is important to develop a solid strength base in these muscles before progressing on to more advanced exercises.

## **Questions to ask before starting a strength-training program**

### **Is the athlete physically and emotionally mature enough to engage in a strength-training program?**

Players need to show the maturity, both physical and mental, to advance to these more complex exercises. Keep in mind that athletes of the same ‘chronological age’ can differ by as much as  $\pm 2$  years physically or mentally. Also keep in mind that females mature as much as 2 years earlier than males.

### **If you are using machines or equipment, is it sized appropriately for a young athlete?**

Most equipment in strength and conditioning facility will be sized to meet the needs of an adult, and not a young athlete. Make sure you can adjust any equipment to the size of the child. If you cannot, then do not perform the exercise until the child “grows into” the equipment.

### **Is the program going to be properly run and supervised?**

Proper supervision and teaching is essential to running a safe and injury-free strength-training program. Strength training is more than just throwing a bunch of

exercises together; a program should be carefully tailored to the needs of the athlete and the sport.

### **Summary**

Strength training and conditioning can be an effective, and safe way to augment on-court training, and there is no reason why young players cannot engage in some form of resistance training. The positive benefits of strength training include decreased potential for injury and improved strength and motor control. Additionally, the risk of training related injury is reduced as long as sessions are built on sound technique and are properly supervised. Even performing simple body weight exercises will help players move better on-court and adapt to the demands of today's game. It is worthwhile to make strength and conditioning work a part of every player's training plan.