

SPORTS TRAINING



A PARENT'S GUIDE

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The sports training boom is here! Each year hundreds of new sports specific training gyms and trainers are promoting their programs to meet the needs of our "Future Super Stars". As a parent there are four key steps you should know before choosing the place for your little sports star.

The first thing that you should ask or look for is the credentials of the staff. The staff members should have a college degree in exercise science or a related field. Many so-called "sports trainers" may have been great athletes themselves but it doesn't mean they understand the principles of developing a scientifically based, safe, and effective exercise program. Every program should address the needs of each individual athlete and not be a pre-developed protocol.

Evaluating athlete's needs requires extensive knowledge of the human body and its movement. The trainer should be able to identify and modify the training components such as repetitions, sets, volume and intensity as the athlete progresses. Before beginning a sports training program athletes should be evaluated on the sports specific skills and physical demands required for success in his or her particular sport.

There are four necessary steps of the Sports Training Pyramid (STP): Injury Prevention (Prehab), Strength and Conditioning, Plyometrics, and Power Training.

The "BASE" or Prehab.

Even if you have never had an injury, you could be prone to one if you don't correct your weaknesses. The Prehab phase should focus on improvement of flexibility, posture, balance, and functional movements.

Flexibility can be improved through either static, self-myofascial release (foam rolling), assisted, active-isolated, and/or dynam-



ic stretching. Depending on what activity you are beginning or finishing will determine which type of stretching you should use.

An STP should address Posture. Your every day movements, along with postural imbalances will directly affect your athletic performance and efficiency. Your trainer should identify these weaknesses before progressing too far up the pyramid. Some common postural deviations can lead to debilitating injuries such as shin splints, chronic headaches, shoulder impingements, lower back pain, IT band syndrome, and plantar fasciitis. Don't let your posture set you back, focus on the corrections early and you can start your journey to the top!

Balance exercises challenge your smaller muscle groups such as standing on one leg, using an unstable surface, or using a stability ball to perform various exercises. Balance may not be a major part of your sport but improving your balance to the point where you can easily stand on one leg while performing exercises will relieve stress from joints and help prevent one or two muscles from overworking for less active muscles.

Functional movements are exercises that imitate motions necessary in your particular sport or activity but challenge your core strength and endurance while activating another muscle group. One great exercise for soccer, baseball and lacrosse is a single leg hop in three different directions. This exercise will challenge your core, hips, and leg stability and strength. A strong core is the key to any athletes' success, without it your overall strength and power are going to be drastically reduced. Your trainer should be able to



provide you with some of the many sports specific functional exercises that will improve your ability to activate your muscles effectively.

Strength and Conditioning

Strength exercises that complement movements of the athletes' sport should be the starting point for any level athlete. You should generally focus on the larger muscle groups first such

as the core, hips and thighs before calves and arms. Ninety percent of the power and movement for almost all sports comes from the core and hips. For example, soccer players generate most of their power and speed from the muscles of the hips and thighs but they are not always moving straight ahead. As a result they should perform strength exercises that not only move forward but side ways and backwards as well.

Athletes rarely run in just a straight line, so if you forget to train all directions then you are most likely not developing your muscles to their full potential and putting yourself at risk for injury. A strength program should involve performing one to two exercises per major muscle group two to three days per week.

Conditioning is also a necessary part of STP. Each sport whether it requires short bursts of power or long continuous motions should involve a conditioning program. A conditioning program for athletes should not follow the traditional "cardio" routine such as jogging, biking, or other calorie burning activities calories for 30-60 minutes a couple days per week to meet minimal aerobic requirements. A proper sports training program, including the conditioning portion should be developed based on the demands of each sport or even a position within a sport. Off-season, pre-season, and in-season conditioning programs should vary in volume and intensity throughout the year.

A sports conditioning program should focus on all three energy systems (aerobic, anaerobic, and lactic acid). In order to hit the energy systems and still leave room for recovery you should divide your training sessions into certain categories that include recovery. I like to do this by making the goal of the workout/training sessions fit into Intensity Zones 1 through 5 based on heart rate zones or energy systems used for a particular activity. For example Zone 1 is a recovery or easy activity that doesn't get your heart rate higher than 60% of maximum through Zone 5 which is intensive short burst activities that require maximum effort but you will get a lot of rest between each one.

Conditioning programs should also include a certain amount of speed, quickness and agility training. The main purpose of these programs is to improve what I like to call the "game speed" of each athlete. "game speed" is a combination of straight and later-

al movements, starting speed, reaction time, acceleration, deceleration, stride rate and length, and speed endurance. Each sports requires different amounts of each aspect "game speed" but training each area will ensure that you have trained the physiological components required for optimal speed development. One thing that your sports trainer should focus on before you start speed training is proper running mechanics.

"Game speed" training can be done with fancy equipment such as speed ladders, hurdles, and parachutes but you can also practice speed drills with athletic tape or cones. Every "game speed" program should progress from beginner, less complex, non-resisted exercises up to advanced, resisted or assisted drills. Your program should consist of forward, backward, and lateral movement drills in order to develop all the muscles properly and developed the skills necessary to excel in your sport.

Plyometric or Jump Training.

Plyometrics come in many levels of difficulty such as basic hopping or skipping to box jumping drills. The levels of difficulty are not only age dependent but also require certain amounts of strength and coordination to perform. You must first learn to walk before running. Progressing too quickly can result in injury. The purpose of jump training is ultimately to improve power and elasticity of the muscles. Your muscles are like rubber bands, if they become stiff and non-elastic they won't be able to produce much force if you pull back but they also have a greater chance of tearing.

Kids playing games in the playground such as hopscotch, jump rope or leapfrog are already doing a form of jump training. These low intensity exercises are making their muscles resistant to injury by training the muscles ability to stretch, recoil, and produce force. Advanced athletes will use apparatus such as boxes up to 3 or 4 ft high to jump onto or off of.

The key to jump training success should be learning proper mechanics, especially on the landings. Learning how to land properly could be a season saving skill for many athletes. Many serious injuries can occur without contact because of the way an athlete plants a foot when landing, stopping or cutting. Athletes who participate in a proper jump-training program reduce the chance of knee injury by almost forty percent. Jump training can be incorporated during warm ups, speed, or strength training sessions.

Power.

Maximum power production involves developing muscles to be strong and move quickly. Power producing movements involve a combination of higher speed movements with moderate resistance (Olympic lifts) or slower speed movements with high resistance (pulling heavily weighted sleds). All power movements should be close to maximum efforts with full recovery between repetitions. Power movements should be restricted to athletes that have finished growing. Athletes under the age of fifteen are at a greater risk for injury when performing power movements because their bones might not be strong enough to handle such activities and most likely the haven't gone through the proper progression of the Sports Training Pyramid.