

# Developing Youth Athletes

## Hidden Risks of Early Sports Specialization

By Ken Vick

The thinking goes, if a young athlete has reached high school and hasn't started to focus on one particular sport, they might as well give up any hope of success in that sport later. Early specialization in sport continues to be a trend for young athletes, but is this the key to success, and what are the consequences?

This recent phenomenon has many young athletes and their parents choosing a single sport on which to focus as early as middle school. They exclude other sport activities and focus nearly year round on training and competing in a single sport. This is very different than in the past where kids played the sport that was in season. Is this specialization necessary?

There is little evidence that it is necessary for long term athletic success. Sure it gives an athlete sport specific skills early on, but research suggests it may be detrimental for later success. An unplanned consequence, that has many medical experts concerned, is the alarming rate of injury in young athletes.

Early specialization affects fundamental movement skills. This can be seen in the ten year old basketball player who has an amazing jump shot, but plays defense without basic coordination. Or the youth soccer player we see who can perform impressive dribbling moves with ball, but has difficulty coordinating skipping or jumping. Young athletes often cannot go outside their sports' narrow movement patterns, and extend to an unusual position or coordinate an unfamiliar move.

Concurrent with the early sport specialization trend, we see an alarming increase in injuries in young athletes. Not teaching fundamental mobility and stability, along with the repetitive demands of sport specific movements, may be the leading cause of these injuries.

While every athlete wants to get an edge and parents want to provide every opportunity to their children, the question of how to balance sports specialization with long term development is greater than ever.

### Today's Youth Sports Paradigm

In the past, fundamental movement skills were learned during free play and in school physical education classes. Today free play has almost disappeared in our society. When was the last time you saw a group of children playing tag on their own at the park? Combine that with the fact that physical education programs are minimal or non-existent in many school districts.

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Headlines are telling us that today's children are more sedentary. When they do play, it is in an organized game or practice session for their sport. Children are even driven in cars to practice, where they used to walk or ride their bicycles.

At the same time, youth sports have become more competitive. According to American Sports Data, the leading tracking study of sports and recreation activity, participation in general physical activities has dropped, while competitive participation has skyrocketed.

The competition to make high school and club or travel teams is greater than ever. We see high school athletes going pro, and parents and athletes have their eye on that Holy Grail, the college scholarship. They seek out private skill instruction early and make sure they get on the "right" teams.

The high school world no longer celebrates multi-sport athletes. Coaches want commitments, not just in-season but also out of season. Often, both the high school and club coach demand the player's time, leaving the young athlete in a no win situation.

## Consequences

Many parents fail to recognize that intensive sport-specific training puts their child at a greater risk of injury. Today, more athletes are specializing in one sport at an early age. While this may increase their early skill levels, it also means they are at a greater risk of injury.

A recent study by the US Centers for Disease Control and Prevention found children ages 5 through 13 had the highest sports related injury rate of any age group, with 59.3 injuries per 1,000 exposures. The American of Sports Medicine suggests that approximately 50 percent of overuse injuries sustained by youth athletes could be prevented if more emphasis was placed on the development of fundamental and fitness skills.

Dr. Brendan Murray, a Santa Monica physician who has worked with many elite athletes and served US teams internationally, sees the problem in his practice. *"Too often, these growing young athletes are trained only in a single sport, focusing on specific skills and movement patterns while neglecting others. Doing one sport creates imbalances and in some cases inhibits development of overall athletic ability. The risk of overuse injuries is far more prevalent than most parents think,"* Murray says.

In his book, Total Training For Young Champions, international sports training expert Tudor Bompa points out two longitudinal studies, done on large numbers of athletes, in a variety of sports. The athletes specializing very early were more likely to develop sport specific skill sooner. Ultimately though, the level of skill was not as high as those who waited until a later age to start specializing. They were also prone to injury, burnout, and inconsistent performances. These problems were not as likely in the group that waited until later to specialize.

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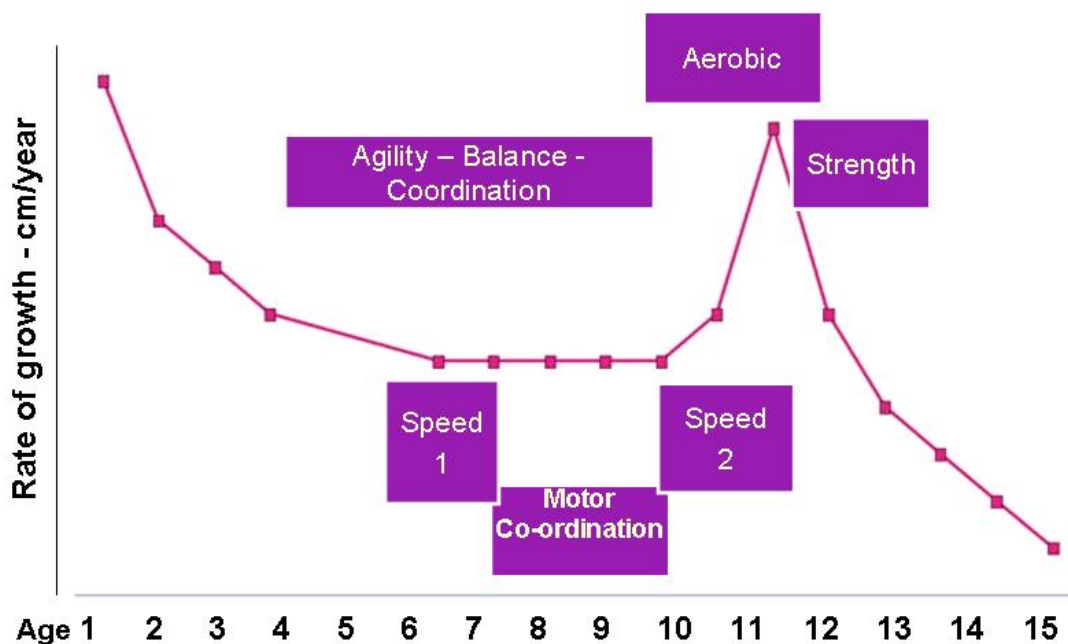
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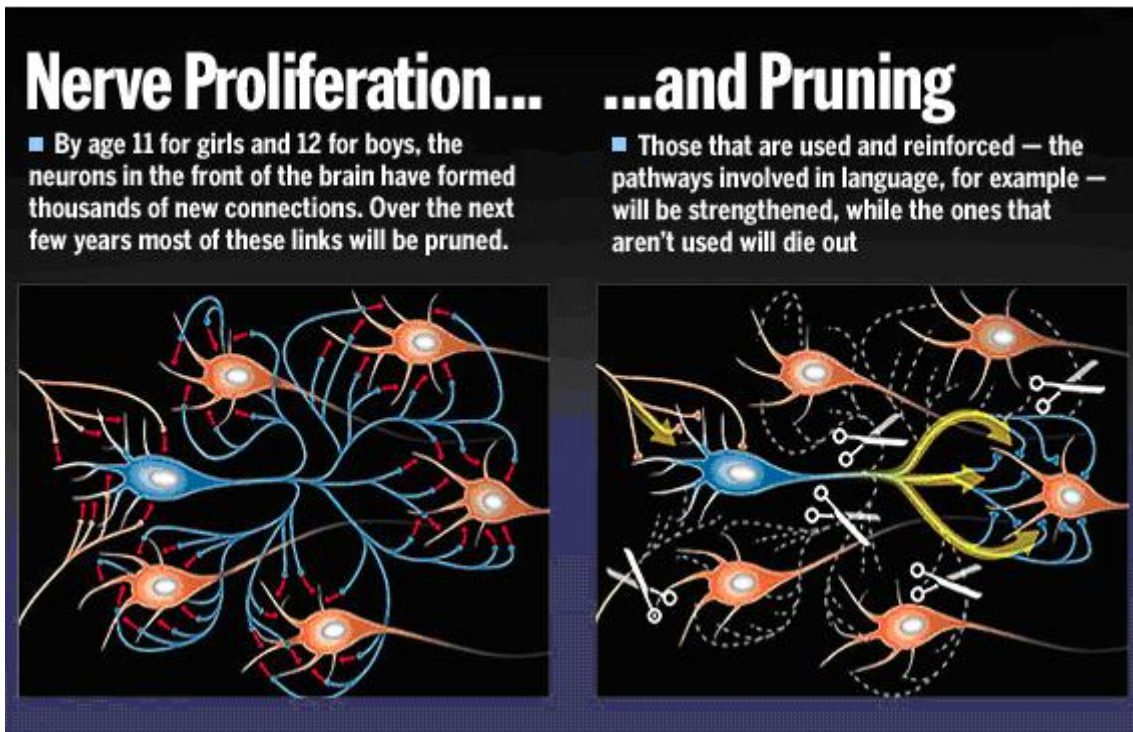
Many sports and national Olympic committees have spent decades of research and millions of dollars trying to learn how to identify future champions. Studies in the US and abroad in tennis, figure skating, golf, weightlifting, and soccer have all confirmed success at a very early age does not predict elite level success with-in the sport later on. In many of these studies, the players who were considered superior at 12-14 years old had dropped out of the sport at later stages.

Nobel Laureate, Herbert Simon said "*It takes 10 years of extensive training to excel in anything*" Scientific research has concluded that it takes between eight and twelve years of training for a talented player/athlete to reach elite levels. This is the so called, **ten-year or 10,000 hour rule**, which translates to slightly more than three hours of practice daily for ten years.

Critical periods in the bio-motor abilities of an athlete have been identified. These periods provide a chance to either increase or retard the long-term potential of an athlete. During certain ages which typically are a few years earlier for girls, athletes can experience a faster rate of development in specific qualities.



Recent brain research has shown that these periods correspond with “pruning” of unused cells in the brain. This is a use it or lose it thing. Basically, if an athlete is not using these bio-motor abilities, the brain gets rid of those cells. Playing multiple sports strengthens these brain connections and enhances the athletes long-term abilities.



Unfortunately, in many cases parents, athletes, and coaches approach training with an attitude best characterized as "peaking by Friday," where a short-term approach is taken to training and performance with an over-emphasis on winning early on. This focus on results at an early age, can cause problems in athletic development and health.

## Solution

Although challenging at times, there are ways that we can blend both short term gains and long term success, while maintaining the health of the young athlete. It involves keeping a broad view of athletic development and asking the same of our sport coaches.

A key goal should be to help kids develop a base of movement fundamentals and physical integrity. Young athletes are being asked to play games they are not prepared to play. They seem ready in sport specific movements, but they come up short in the foundation of fundamental movement skills and their body's capacity to handle the physical demands of repeated exposure.

Parents can encourage participation in multiple sports in the early years. Fundamental movement skills can be put into four broad categories. These consist of; 1) locomotion skills such as running and jumping, 2) non-locomotion skills such as twisting, turning and balancing, 3) manipulative skills including throwing, catching, or kicking and 4) movement awareness, knowing how to move ones body and how to orient it to others and objects. For optimal athletic development, pick activities so that all four areas are addressed.

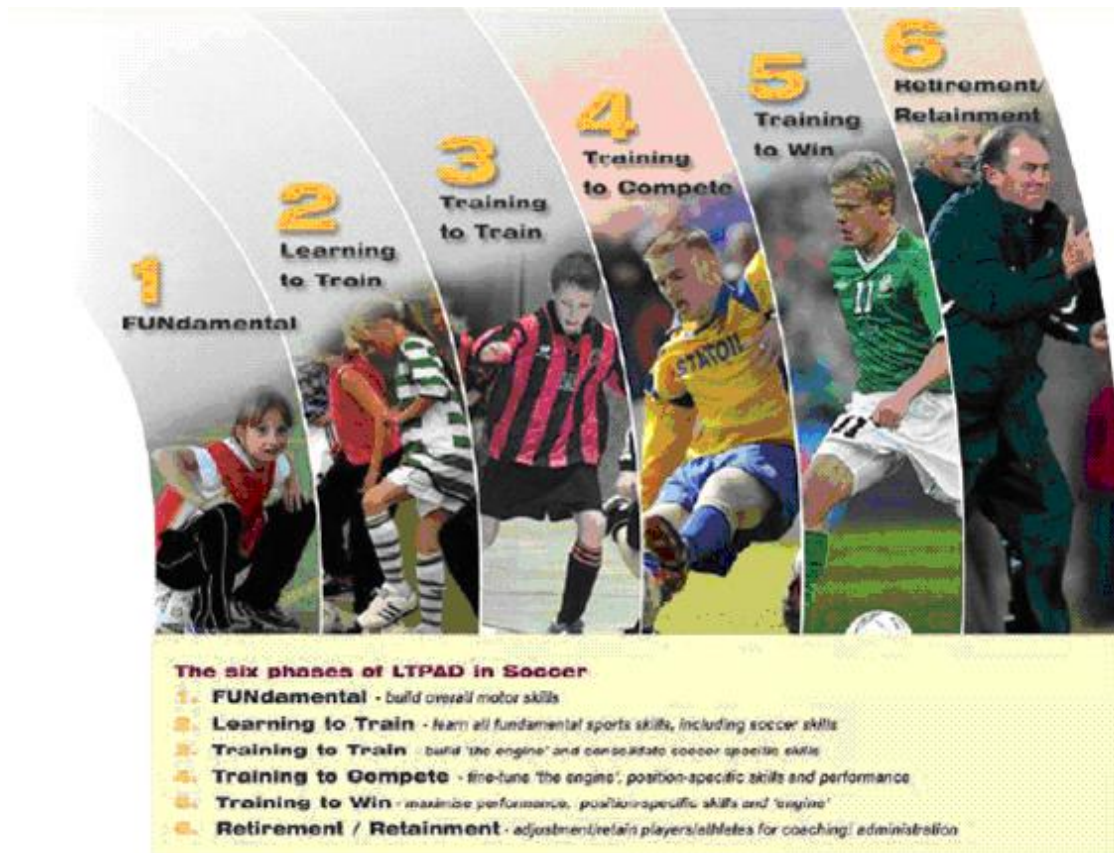
Coaches often teach that success is built on fundamentals, and the most basic fundamental of all is movement skill. By incorporating a variety of movement fundamentals into practices, coaches will be going far to counter the lack of physical activity during free play and school.

Often the young athlete is already participating in one sport through much of the year. In this case, adding programs that focus on movement skills and developing basic physical integrity can be added to round out development. This may occur with-in a professionally designed Speed, Agility & Quickness program for youth, or a well rounded physical training program.

## A Model of Long-Term Athlete Development

One important step for parents and coaches is to adopt a long term view. Istvan Balyi, a sports expert who has worked with numerous international sports bodies and Olympic committees, has proposed a six stage model for late specialization sports.

Late specialization sports, include; track and field, combative sports, cycling, racquet sports, rowing and all team sports, require a generalized approach to early training. For these sports, the emphasis during the first two phases of training should be on the development of general motor and technical-tactical skills.



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## Late Specialization Model

1. FUNdamental stage
2. Learning to Train
3. Training to Train
4. Training to Compete
5. Training to Win
6. Retirement / retainment

### Stage 1 – FUNdamental

Age: Males 6 - 9 / Females 6 - 8 years

Objective: Learn all fundamental movement skills.

This stage is fairly self explanatory and still adhered to fairly well. The point here is FUN! Let kids play lots of sports and enjoy it. The emphasis is on development of the athlete's ABC's of athleticism - Agility, Balance, Coordination and Speed by using FUN games.

### Stage 2 – The Learning to Train stage

Age: Males 9 – 12 / Females 8 – 11 years

Objective: Learn all fundamental sports skills.

One of the most important motor development periods is between the ages of 9 - 12. This is the "*window of opportunity*" for accelerated adaptation to motor coordination. If fundamental motor skill training is not developed between the ages of 8 - 11 for females and 9 - 12 for males, a significant window of opportunity has been lost.

### Stage 3 – The Training to Train Stage

Age: Males 12 - 16 / Females 11 - 15 years

Objectives: Build the physical base and further develop sport-specific skills.

This stage is a "*window of accelerated adaptation*" to aerobic and strength training. The onset of Peak Height Velocity (PHV) which is the major growth spurt, marks the beginning of this stage.

Optimal aerobic trainability begins now. There is also accelerated adaptation to strength training. For males it's 12 - 18 months after PHV, and for females it's both immediately after PHV and at the onset of menarche (the first menstrual period). Emphasis on flexibility training due to the sudden growth of the body is also required.

The "Training to Train" phase addresses two of the critical or sensitive periods of physical development. Athletes who miss this phase of training will not reach their full potential, as these critical periods have been missed.

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Stages 2 & 3 are the most important phases of athletic preparation. This is where the foundation for future success is laid. Maybe the biggest reason why many athletes plateau during the later stage of their careers is primarily because of an over emphasis on competition instead of on training during these important stages.

#### Stage 4 – The Training to Compete Stage

Age: Males 16 - 18 / Females 15 - 17 years

Objectives: Optimize fitness preparation and sport, individual and position-specific skills as well as performance.

After the goals and objectives of the “Training to Train” stage have been achieved, training becomes more individualized. Fitness programs, recovery programs, psychological preparation, nutritional needs and technical development are now individually tailored to the athlete. This emphasis on individual preparation addresses each athlete’s individual strengths and weaknesses.

#### Stage 5 – The Training to Win Stage

Age: Males 18 years and older / Females 17 years and older

Objectives: Maximize fitness preparation and sport, individual and position specific skills as well as performance.

### **Conclusion**

The pressure to specialize early in a single sport is greater than ever. The motivation is to help young athletes get an edge, and is understandable. To really get that edge however, we need to take a long term view.

A long term view of an athlete’s development will help them build the fundamental abilities needed and keep them healthy. This takes active encouragement from parents and conscious training design from coaches.

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