

## High School Sport Injuries: Let's Reduce the Risk and Educate our Kids

In the United States, sports have become an embedded trademark of our culture. Many would say sports are a way of life, teaching values, ethics, and promoting positive life attributes to our kids. According to *the National SAFE KIDS Campaign and the American Academy of Pediatrics (AAP)*, “**more than 30 million high school children participate in organized sports [and] children between 5 and 14 years of age account for almost half (40 percent) of sports-related injuries for all age groups.**” The Children’s Hospital of Wisconsin states that, “about 3 million injuries occur each year.”

**Three million sport related injuries per year** are causing children to miss a significant time participating in their sport. The number of doctor visits, the expensive medical bills consisting of exams, imaging & diagnostic tests, and the number of treatments with physical medicine could have been prevented or reduced. The more common injuries that occur are sprains and strains. The risk for more severe injuries increases with age and select sport type.

The proper athletic education including verbal instruction, making resources more available (online), one on one supervision, or providing videos of demonstration can help kids learn how to perform and move properly. The need to reduce injury in organized sports is extremely important because it allows student athletes to participate in physical activity. The benefits of exercise are immense ranging from cardiovascular benefits, hormone balance, physical strength, motor coordination, injury prevention, mental relaxation, stress relief, social development & interaction, and other autonomic regulations.

So, the solution to reducing injury risk is not limiting participation, **the focus should be centered on teaching our kids how to exercise using multifaceted programs.** The appropriate program should reflect the athlete’s physical capability and skill. These programs should target athletic development guiding them throughout their transition involving more basic training to advanced complex training. Such programs should consist of lifting procedures and safe training guidelines that help improve agility, balance, coordination, stability, power, strength, proprioception, and other fundamental components. Active participation in preventative measures through exercise programs is essential in reducing sport injuries. In the *Journal of Strength and Conditioning Research*, a study involving neuromuscular training with adolescents on a team of handball players illustrated improved biomechanics of the knee and single leg stability.

In the latest August edition of the journal, *The Knee*, volleyball players demonstrated reduced knee injury with simple verbal instruction of landing with equal weight distribution. It may be easy to jump, but being able to safely control the knee during the loading, jumping, and landing phase requires focus. **Teaching kids to focus and improve the quality of movement during their sport is the key.** Student athletes need to be educated on movement biomechanics focusing on proper use of loading strategies.

Training requires an extreme amount of focus to maintain optimal joint position, proper breathing, good movement biomechanics, and safe lifting strategies. The *British Journal of Sports Medicine* states that participation in a resistance training program under the appropriate supervision in preseason may reduce the risk of injuries. **Resistance training programs are a supplement to the athletic development that may increase performance and reduce injury risk.** Our athletic ability is a reflection of our quality of movement. Training with the

appropriate resistance will improve the quality of movement, increase performance, and reduce injury risk.

***Moral of the Story:***

***Let's reduce the injury rate of student athletes by centering our focus on the quality of movement with the appropriate training programs.***

**Points of Interest:**

- **Reduce the risk of injury to ensure that you are moving safely and seek a specialist prior to beginning any sport**
- **Have your movement patterns assessed and treated prior to beginning a new activity**
- **Incorporate an appropriate resistance training program**
- **Focus and improve the quality of movement during activity or sport**

*References*

Barendrecht M, Lezeman HC, Duysens J, Smits-Engelsman BC. *J Strength Cond Res.* 2011 Mar; 25(3):57584. doi: 10.1519/JSC.0b013e3182023bc7.

Faigenbaum AD, Myer GD. *Br J Sports Med.* 2010 Jan;44(1):56-63. doi: 10.1136/bjism.2009.068098. Epub 2009 Nov 27. Review.

Maffulli N, Longo UG, Spiezia F, Denaro V. *Med Sport Sci.* 2011;56:187-200. doi: 10.1159/000321078. Epub 2010 Dec 21. Review.

Milner CE, Fairbrother JT, Srivatsan A, Zhang S. *Knee.* 2012 Aug;19(4):399-403. doi: 10.1016/j.knee.2011.05.005. Epub 2011 Jun 14.

**Author:**

Dr. Artemio Del Real D.C., CSCS

"We cannot solve our problems with the same *thinking we used* when we created them" – (Albert Einstein)