



SPORT SPECIALIZATION POSITION STATEMENT

**National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)**

Background

Participation in high school athletics provides students with a number of proven benefits including increased levels of physical activity and fitness as well as improved academic performance and self-esteem. In recent years, we have seen a trend toward intense sport-specialized training (sport specialization) among high school athletes. This increased focus on sport specialization is evident through the proliferation of non-school affiliated “club” sport leagues and the use of personal coaches and private instructors, as well as expanding opportunities for state, regional, and national tournament showcase participation.

In response to this serious trend, numerous national and international medical and sport organizations have released position statements warning against early sport specialization for youth and adolescent athletes. The trend for increased sport specialization is concerning to the NFHS Sports Medicine Advisory Committee (SMAC) for several reasons that merit discussion.

What is Sport Specialization?

Sport specialization is defined as intense, high-volume (hours per week or months per year) training and participation in a particular sport at the expense of an equal focus on other sports. Frequently, the athlete practices and competes in a school-affiliated sport while also practicing and competing in their “specialized” sport in a club (non-school) setting or while receiving personalized coaching.

While single sport participation can be considered a type of sport specialization, more often, high school athletes who specialize often participate in multiple sports throughout the year. However, despite multisport participation, these athletes focus more intensely on a single sport.

Sport Specialization Prevalence

The prevalence of sport specialization in high school athletes has not been well documented. We do know that there are 60 million youth, 6-18 years old, who participate in organized sports and 27% participate in only one sport. Recently, sports medicine researchers have developed a classification system for high school sport specialization to better understand and further research the issue.

Characteristics of the Different Levels of Sport Specialization in High School Athletes

Specialization Level	Characteristics
Low	<p>Does not have one sport they consider their primary sport (more important than other sports).</p> <p>Chooses to participate, train, and compete in multiple sports equally throughout the year.</p> <p>Does not participate in club (non-high school) sports while simultaneously playing on a high school team.</p>
Moderate	<p>Participates in a single sport or identifies a primary sport (though they may participate in multiple sports) that they consider more important than other sports.</p> <p>Chooses to train and compete more frequently (through club participation and/or personal coaching) for this sport compared to their other sports.</p>
High	<p>In addition to identifying a primary sport, these athletes may do two or more of the following:</p> <ol style="list-style-type: none">1) Quit other sports to participate in their primary sport.2) Play their sport for more than 8 months per year.3) Miss time from family and friends to play their sport.4) Travel to out of state competitions.5) Play or train for sports (in a club setting) at the same time they are competing in a high school sport season.

Depending on the sport, 20% to 60% of athletes are moderately specialized, while the prevalence of highly specialized athletes can range from 10% to 35%. Females are more likely to specialize. Participants in sports such as basketball, soccer and volleyball are more likely to specialize than those involved in other sports.

Rationale for Sport Specialization

The rationale for sport specialization varies by participant. In general, athletes (and/or their parents/guardians) believe that specializing in a single sport will help the athlete achieve an “elite” status, gaining skills to earn a spot on their high school team, earn a college scholarship, or even be given an opportunity to play at the Olympic or professional level. Despite the widespread belief in these theories regarding the benefits of specialization, there is no supportive evidence. In fact, multisport participation actually has been shown to result in better long-term performance and achievement beyond high school. Additionally, participation in multiple sports in high school is associated with better fitness as an adult.

Long-term athlete development (LTAD) programs, which started in the 1990s in the United States, Canada, and other industrialized countries, have tried to counter the detrimental effects of early specialization and year-round sports by offering a positive framework to develop physical literacy and elite athletes.

Adverse Effects of Sport Specialization

While there is a perception that specialization is important to athletic development, studies indicate that sport specialization can be detrimental to high school athletes. Studies have shown that sport specialization increases the likelihood of elevated levels of stress and the risk of athletic burn out. Also, the repetitive nature of year-round sport specific training and competition significantly increases the risk of injury (particularly overuse injury). Notably, these athletes are at increased risk for injury in all sports they are participating in, not just their specialty sport.

While the sport medicine community is aware of the adverse effect that sport specialization can have on a high school athlete, there is evidence that many interscholastic athletes, their parents/guardians, and their coaches are not aware of the risks. Compounding the problem is that these same stakeholders are not aware of participation guidelines regarding the volume of training and competition (hours per week, months per year, simultaneous leagues) an athlete should be able to safely take part in before they increase their risk of injury.

Specialization and Injuries

- High school athletes who are **Moderately** specialized have a **50% increased risk** of an injury compared to Low Specialized athletes.
- High school athletes who are **Highly** specialized have an **85% increased risk** of an injury compared to Low Specialized athletes.

Recommendations

The NFHS SMAC recognizes that sport specialization is a growing concern that should be addressed. Specifically, the NFHS SMAC recommends that coaches and athletic administrators actively educate interscholastic athletes, parents/guardians and coaches that sport specialization:

1. Increases the risk for over training and athlete burn out.
2. Is not associated with athletic success beyond high school, i.e. at the collegiate or professional level.
3. Is strongly correlated with an increased risk of injury in each sport the athlete participates in, regardless of their specialization in a single sport.

Specific safe sport recommendations exist for the safety of the athlete:

1. The athlete should not participate in a single sport for the hours per week beyond their age.
(Example: 14 yr. old should be limited to ≤ 14 hours per week of a single sport participation, 15 yr. old < 15 hrs. per week of a single sport participation, 16 yr. old < 16 hours of single sport participation per week, etc.)
2. The athlete should not participate in a single sport more than eight months per year.
3. The athlete should not participate in simultaneous sport teams/leagues.

Participation in multiple sports increases the likelihood the student reaps the long-term benefits of an athletic lifestyle. These athletes remain physically active and participate in recreational sports beyond their high school years. The NFHS SMAC strongly endorses that the coaches within a secondary school setting advocate for their athletes to participate in multiple sports. Furthermore, the NFHS SMAC stresses that parents/guardians and coaches should avoid the temptation of encouraging early sports specialization in the false hope of achieving success at the high school varsity level and beyond.

References

THE ESSENTIALS INITIATIVE. Report from the 2016 NFHS Summit on the Essentials for Enhancing Participation, Reducing Injury Risk, and Optimizing Performance. Available at NFHS.org.

Brenner JS, American Academy of Pediatrics Council on Sports Medicine and Fitness: Clinical Report: Sports Specialization and Intensive Training in Young Athletes. *Pediatrics* 138(3) 106-113: September 2016. DOI: 10.1542/peds.2016-2148

Hall R, Foss KB, Hewett TE, Myer GD. Sport specialization's association with an increased risk of developing anterior knee pain in adolescent female athletes. *J Sport Rehab.* 2015;24(1):31-5.

McGuine TA, Post EG, Hetzel, S, Pfallar A, Brooks MA, Bell D. A Prospective Study on the Impact of Sport Specialization on Lower Extremity Injury Rates in High School Athletes. *Am J Sports Med.* 2017;45(12):2706-12.

Post EG, Bell DR, Trigsted SM, Brooks AM, & McGuine TA. The Association of Volume, Club Sports, and Specialization with Injury History in Youth Athletes. *Sports health.* 2017;9(6):518-23.

Myer GD, Jayanthi N, Difiori JP, Faigenbaum AD, Kiefer AW, Logerstedt D, Micheli LJ. Sport specialization, part I: does early sports specialization increase negative outcomes and reduce the opportunity for success in young athletes?. *Sports Health.* 2015 Sep;7(5):437-42.

LaPrade RF, Agel J, Baker J, Brenner JS, Cordasco FA, Côté J, Engebretsen L, Feeley BT, Gould D, Hainline B, Hewett TE. AOSSM early sport specialization consensus statement. *Ortho. J Sports Med.* 2016 Apr 28;4(4):2325967116644241.

Bell DR, Post EG, Biese K, Bay C, McLeod TV. Sport specialization and risk of overuse injuries: a systematic review with meta-analysis. *Pediatrics.* 2018 Sep 1;142(3):e20180657.

National Council of Youth Sports. Report on Trends and Participation in Organized Youth Sports. Available at: www.ncys.org/pdfs/2008/2008-ncys-market-research-report.pdf. Accessed December 15, 2015.

April 2023

April 2019

DISCLAIMER – NFHS Position Statements and Guidelines

The NFHS regularly distributes position statements and guidelines to promote public awareness of certain health and safety-related issues. Such information is neither exhaustive nor necessarily applicable to all circumstances or individuals and is no substitute for consultation with appropriate health-care professionals. Statutes, codes or environmental conditions may be relevant. NFHS position statements or guidelines should be considered in conjunction with other pertinent materials when taking action or planning care. The NFHS reserves the right to rescind or modify any such document at any time.