



Early Sports Specialization

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Objectives



At the end of this presentation, listeners will understand:

1. The definition of early sports specialization, and how to detect it.
2. Current literature consensus on early sports specialization populations.
3. The pros and cons to early sports specialization.
4. How early sports specialization is clinically relevant to physical therapy.

Definition of Early Sports Specialization (ESS)

The American Orthopaedic Society for Sports Medicine defines ESS as:¹

1. Participation in intensive training and/or competition in organized sport more than 8 months per year, or approximately year-round.
2. Participation in one sport to the exclusion of participation in other sports or limited free play.
3. Involving prepubertal children, seventh grade, and/or younger than age 12 years.

**Points of controversy are around what “intensity” and time-frame is considered ESS²



Screening for ESS

- Detecting ESS
 - Fitting 3 criteria established by AOSSM¹
 - Intense training with purpose of performance improvement rather than enjoyment²
 - “Perfectionist” mindset or mentality³
 - Younger populations (12-16 years of age)⁴
- Contributing Factors to ESS¹
 - Parents → initiating sport participation,
 - Coaches → intensity or specialization once in the sport
 - Ultra-organized, Adult-driven youth sports leagues
 - Belief that ESS = elite athletes



Sports Specialization Score

Table 1

Sport Specialization Score¹⁰

3 Questions Asked: (1 pt for yes)

Total Score = Level of Specialization

Does the athlete participate in the sport >8 months?	0–1	Low specialization
Has the athlete quit other sport to focus on the one primary sport?	2	Moderate specialization
Is your primary sport more important than other sport?	3	High specialization

Adapted with permission from Jayanthi NA, LaBella CR, Fischer D, Pasulka J, Dugas LR: Sports-specialized intensive training and the risk of injury in young athletes: A clinical case-control study. *Am J Sports Med* 2015;43:794-801.

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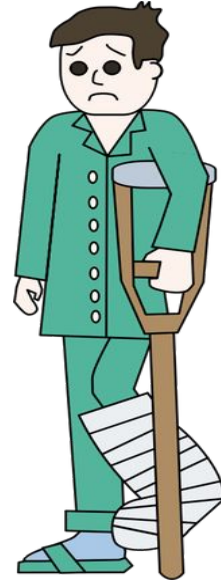
Pros of Early Sports Specialization

1. “Deliberate practice”⁵
2. May be required given the sport in question
 - a. Sports with young average age (ex: figure skating, gymnastics, dance)^{1,6}
 - b. Peak performance in gymnastics typically occurs during adolescence, and participation in Olympic gymnastics can begin at age 16⁷
3. For the love of the game!
 - a. A study found that the most popular reason for specialization among professional baseball players was their love and enjoyment for the sport⁸



Cons of Early Sports Specialization

1. Increasing Injury Risk - overuse injury⁶
 - a. Specialize before the age of 12¹
 - b. > 16 hours training per week = increased injury risk⁹
 - c. Hours training per week > athletes age⁹
 - d. Injury → fear of reinjury → inactivity → mental health concerns⁹
2. Burnout^{6,9}
 - a. Study of burnt out junior tennis players found:
 - i. Less training input
 - ii. Fewer days practice
 - iii. More withdrawal
 - b. Which led to
 - i. Less psychological readiness for high stress situations
3. Social isolation^{6,9}
 - a. Playing at a higher performance level outside of the child's age-specific peer group → burnout in elite youth athletes
 - b. Sport conflicts with social activities = decreased sport commitment and motivation



Cons of Early Sports Specialization cont.

1. Cost⁶



Consensus on Early Sports Specialization



1. Early sports specialization is NOT needed to make it to a professional or elite level.⁶
 - a. Less than 1/5 of NCAA athletes specialize before age 15.¹⁰
 - b. ESS was NOT found to be associated with scholarship attainment.¹⁰
2. Diversifying sports participation prevents injury
 - a. Early specialization is associated with higher rate of UE injury in MLB throwers and decreased number of games played compared to those that played multiple sports.¹¹
3. In fact, later specialization is linked to MORE elite achievement.⁶
4. Increased career longevity with later specialization based on SOME studies
 - a. NBA players that played multiple sports in high school played in more NBA games, had fewer injuries, and longer careers than those that only played one sport.¹²

Clinical Application

1. Understanding ESS as a possible contributor or cause of patient complaints
2. Screening for ESS
 - a. 77% of high school athletic directors have reported an increase in early sports specialization.²
3. Education!⁹
 - a. < 16 hours per week training
 - b. Prevent overscheduling (eg, scheduled rest periods)
 - c. Monitor signs of burnout or fear of reinjury



Resources



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Resources Continued



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11. Confino J, Irvine JN, O'Connor M, Ahmad CS, Lynch TS. Early Sports Specialization Is Associated With Upper Extremity Injuries in Throwers and Fewer Games Played in Major League Baseball. *Orthop J Sports Med*. Jul 2019;7(7):2325967119861101. doi:10.1177/2325967119861101
12. Rugg C, Kadoor A, Feeley BT, Pandya NK. The Effects of Playing Multiple High School Sports on National Basketball Association Players' Propensity for Injury and Athletic Performance. *Am J Sports Med*. Feb 2018;46(2):402-408. doi:10.1177/0363546517738736

Additional Resources



Burwell M, DiSanti J, Valovich McLeod TC. Early Sport Specialization in College Athletes and the Impact on Health-Related Quality of Life: A Critically Appraised Topic. *J Sport Rehabil.* 2022;31(5):645-650. Published 2022 Feb 22. doi:10.1123/jsr.2021-0344

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