

Coming to Terms With Early Sports Specialization and Athletic Injuries

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J Orthop Sports Phys Ther 2014;44(6):389-390. doi:10.2519/jospt.2014.0109

Sports participation during childhood and adolescence has many positive attributes.¹ These include developing an appreciation for fair play, respect for others, self-esteem, courage to try new things, self-discipline, learning the value of hard work, and how to lose gracefully.⁸ Sports participation can also lead to

better grades, greater confidence, stronger peer relationships, more academically oriented friendships, greater family attachment with frequent parental interaction, more restraint in avoiding risky behavior, and greater involvement in volunteer work.⁶ To optimize these positive attributes, however, the context and environment in which sports participation occurs greatly matter.

Some children and adolescents are labeled as athletically gifted or talented. Such labeling encourages sport specialization.⁹ Commitment to a single sport at an early age immerses a youngster into a complex world that is regulated by adults.⁹ Preferential treatment may lead to overdependence on and/or control by coaches and sport organizations, as well as altered social relationships with peers, parents, and family members.⁹ Although parents generally are the ones who initially encourage sports participation, it is usually coaches who emphasize sports specialization.¹² When sports physical

therapists determine the safest time for an injured adolescent athlete to return to unrestricted sports participation, factors related to sport specialization practices must be considered. Compounding the situation is the large training volume the athlete may be expected to return to once he or she is released from care. If considered to be skilled, the athlete will often play concurrently for both a school team and a select club team. Each of these teams will have its own coach, player-development system, and strength-and-conditioning program, often with little or no consideration for one another. In this scenario, sport training and conditioning frequency and total volume are essentially doubled, and the time for rest, recovery, and reflection may dwindle to the point of virtual nonexistence. Concerns voiced by the athlete and his or her parents are that this type of training is needed to obtain a college athletic scholarship, to develop superior skills, and to enhance the interest of the elite club

team coach, thereby increasing playing time. Within this scenario, it is often difficult to tell when one sport season ends and another begins. Overlapping seasons with essentially no off-season are a common occurrence.

Early sport specialization may lead to sports and exercise activity attrition later in life, reduced development of lifetime sport skills, and reduced lifetime sports fitness.¹¹ There is little evidence to support the theory that delayed sport specialization postpones athletic development in a manner that cannot be made up at a later stage.¹⁰ Specialized sports training is conducive to burnout in adolescent athletes, as it directly interacts with the normal demands of growing up (physical growth, biological maturation, and psychobehavioral development).⁹ Overuse, overtraining, underrecovery, and the progression from microtrauma to macrotrauma break down tissues through highly repetitive, sport-specific loading.^{5,11} To minimize injury risk, psychological stress, and burnout, Jayanthi et al⁷ recommended that intense training in a single sport should not be initiated until late adolescence. However, the precise definition of what is considered “late adolescence” can vary from 15 to 20 years of age. Perhaps a better guideline should be

that if they are sustaining overuse symptoms, then athletes are doing too much, regardless of their age.

Interestingly, performance expertise can also be reached through sport diversification.³ Transfer of learning occurs from one sport to another, including cognitive, psychobehavioral, and physical benefits. Diversification in different sports may be more beneficial for reaching elite status in many sports than early sport specialization.¹⁰ A diversified training focus helps to minimize the accumulation of those nagging, movement-specific overuse injuries that occur with single-sport participation. Adolescents who participate in multiple sports can also gain an expanded interest and identity from their diverse experiences, including the development of enhanced coping skills. With this approach, they may also be less likely to be drawn into a specific sport culture that is focused more on winning than on overall adolescent development.¹¹

Deliberate practice is vital to skill development. Ericsson et al⁴ reported that 10 000 hours in one's chosen domain were needed to obtain expertise. However, the rate of deliberate practice time needs to be in harmony with the sensitive stages associated with adolescent development. Relating specialized sport skill development solely to deliberate practice fails to acknowledge other important developmental factors among adolescent athletes.² Wolfgang Amadeus Mozart and Marie Curie likely devoted sufficient deliberate practice to meet the needs of skill development in their respective areas of music and science. However, neither individual likely experienced the highly repetitive and high-intensity joint loading associated with single-leg landings, pitching a baseball, overhead volleyball hitting, kicking a soccer ball, serving a tennis ball, gymnastic events, running, or swimming.

The body grows stronger and performs best when appropriate loads and activities are followed by appropriate physical and mental rest and recovery. With this understanding, one has to question the true value of developing a particular sport skill set during childhood and adolescence at the expense of early injury, burnout, and lack of coping-skill development. Lost opportunities for unstructured, deliberate, fun-focused physical activities during adolescence likely contribute to deficits in long-term physical activity and health psychobehaviors currently observed in adulthood.¹¹ Selection of a singular path for sports achievement too early is truly a pity, not just because other important life experiences may be bypassed, but also because the true positive values associated with sports participation become largely ignored. Engaging in a variety of different sports allows the childhood or adolescent athlete to experience different physical, cognitive, affective, and psychosocial environments.³ Deliberate play or unstructured sports activities that are intrinsically motivating provide gratification and enjoyment that may lead to a higher level of sports or exercise activity performance during adulthood.^{2,12} Athletes who regularly sample diversity may be at less risk for injuries than their peers who specialize early.² It is essential to keep the context and environment of sports participation in perspective. How about we put the “play” back in “play ball”? ●

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