

The One-Sport Syndrome by Dr. Warren I. Hammer

I recall that as a kid, I participated in sports based on the season. In spring and summer, it was baseball and basketball; in fall, it was football; and in winter, it was ice hockey. Nowadays, an increasing number of kids focus on one sport at an early age and compete in it year-round. Some even attend special camps to pursue that single sport.

What that means is there is no real time to rest between seasons. The one-sport athlete often plays at a continuous high level, which doesn't allow adequate time for recovery. Playing a variety of different sports throughout the year is a form of **cross-training** that is extremely beneficial to a young body's physical development. Playing multiple sports at different times of the year gives some muscles a chance to rest while different ones are being worked. Today, there is a higher likelihood that the same muscles and joints are being used nonstop, giving them no chance for recovery.

Young athletes need to vary their training just like pros do. All pros have an offseason during which they change their training routine and rest more. They still specialize in one sport, but they adjust their seasonal training to allow complete recovery. No one can go 100 percent in a sport year-round without risking injury or reduced performance.¹

According to Dr. James Andrews, he sees four times as many **overuse injuries** in youth sports now compared to five years ago, and more kids are having surgery for chronic sports injuries. "Complicating the issue with many of these young athletes is their immature bones, poor biomechanics, a lack of knowledgeable coaching, and inadequate conditioning."²

Despite the increase in precautions taken by young athletes, their parents and coaches, the overall rate of injury since 2000 has remained the same. And the number of young athletes who have sustained multiple injuries while playing team sports has increased substantially, jumping from 15 percent in 2000 to 21 percent today. Part of the reason for this increase in injuries is the increased rate of injuries in girls from 10 to 14 years of age, equaling the rate in boys at the same age range.²

Age (Years)	Max. Number of Pitches (Per Start)
7-8	50
9-10	75
11-12	85
13-16	95
17-18	105

Baseball, especially pitching, is a prime example of the problem, although any sport based on the domination of particular movements can be at fault. The one-sport baseball pitcher uses their pitching arm year-round, leading to an increased risk of overuse injury. In fact, it is estimated that more than 50 percent of all injuries suffered by middle- and high-school athletes are caused by overuse.

Pitch Count (Ages 7-16)	Pitch Count (Ages 17-18)	Days of Rest Required After Pitching
1-20	1-25	0
21-40	26-50	1
41-60	51-75	2
61 or more	76 or more	3

Amazingly, the Tommy John operation for a torn ulnar collateral ligament is increasingly being performed on young baseball players. Originally, this procedure was reserved for professional players, but of late,

high-school students are undergoing these procedures at alarming rates. This is definitely related to overuse. The Andrews Sports Medicine Center attributes the increase in this surgery to year-round throwing, inadequate rest between starts, throwing more than 80 miles per hour (probably because these are the kids who get asked to throw a lot by their coaches), and pitching in showcases.

An organization called STOP (Sports Trauma and Overuse Prevention; www.stopsportsinjuries.org) has been formed to reduce the sports-injury epidemic. The organization's Web site provides information for coaches, parents and kids, including the following tables, based on the research of Dr. G. Fleisig, research director of the American Sports Medicine Institute in Birmingham, Ala., and Dr. Andrews.³ **Table 1** shows pitch-count limits for pitchers of all ages; **Table 2** shows the recommended age for when a young pitcher should begin learning various pitches; and **Table 3** shows the days of rest required after pitching based on the number of pitches thrown and the age of the athlete.

Type of Pitch	Starting Age
Fastball	8 +-2
Change-up	10 +-2
Curveball	14 +-2
Knuckleball	15 +-3
Forkball	16 +-2
Slider	16 +-2
Screwball	17 +-2

The only way to reduce the injury rate beyond these guidelines is through education: public-service announcements, posters, DVDs, brochures and lectures, especially to parents, children and coaches. Doctors dealing with these conditions should be educating their patients and their families. Below is a sports safety checklist for parents that may help ensure a safe and healthy playing environment for their children who participate in organized sports:⁴

- Is there a scheduled warm-up and cooldown at games and practices?
- Does your child receive guidelines and recommendations about proper safety equipment? Is safety equipment required for play?
- Are children allowed adequate rest between games and practices?
- Is sportsmanship and fair play a core value of the program and the coach?
- Does the coach have First Aid training and an emergency action plan? Is a First-Aid kit always on hand?
- Is there a safety policy regarding injury, illness and inclement weather?
- Does the coach have your emergency contact information? Do you have contact information for the coach?
- Do players have adequate water/hydration available at all practices and games?

References

1. Quin E. Youth Sports and Overuse Injuries. About.com, Sports Medicine; updated Sept. 8, 2009.
2. Hill DE, Andrews JR. Stopping sports injuries in young athletes. *Clin Sports Med*, 2011;30(4):841-849.
3. Safe Kids USA Campaign: Preventing Injuries at Home, at Play and on the Way. Safety Fact Sheets. Available at www.safekids.org/our-work/research/fact-sheets/.
4. Quinn E. Youth Sports Safety Tips for Parents. A Parent's Checklist for Kids Who Play Youth Sports. About.com, Sports Medicine; updated Sept. 5, 2009.