

Overuse Injuries in Children & Adolescents: The Neglected Pandemic?

Active participation in sports for my child/adolescent means their safe, right?...Wrong.

If you have a child, know anyone with a child, or frankly if you know any particular children yourself, chances are more than likely they participate in at least one sport. At a time when the majority of focus aimed at our younger population centers around obesity and poor diets, a common misconception lies in believing all kids and adolescents who do participate in sports are immune to problems. For those who are active in sports on a moderate level, they likely remain in good shape and should not be at any specific risk for injury; however, for the year-round, play-'till-you-drop, no time for anything else in life athletes, who are becoming more prevalent as sports continue to evolve, the possibility of a serious, potentially permanent injury, is more likely than one might think.

For parents/coaches of, as well as the athletes themselves involved in time-consuming sports, consider the following:

- Overuse injuries usually result from overtraining a particular muscle/joint/ligament in the body
- 30 million children/adolescents participate in some type of sport today; of those, there are at least 3.5 million injuries reported annually¹
- Youths account for 40% of all sports-related injuries¹
- Centers for Disease Control and Prevention (CDCP) estimates that 50% of all sports-related injuries are avoidable²
- According to the National Youth safety Foundation, the cost sports related injury for youth up to 14 years of age was estimated to be \$26 billion in 1998.
- **In 1980, 10% of sports-related injuries in youths were due to overuse, while today, that number has risen to 70%³**

Why the drastic increase in numbers?

The underlying change youth athletics is currently undergoing is a shift away from recreational, unorganized sports towards over-participation and over-emphasis usually on a single, specific sport. Instead of exercising and using muscles, joints and ligaments in all regions of the body, certain areas are used repetitively, and in some instances, indefinitely, until an injury inevitably occurs. Couple this basic structure with the fact that many "serious" youth athletes remain active not only on one team, but a travel team, club team, various camps and clinics, etc., until the sport consumes as much of their young lives as possible. The equation proves to be more harmful than beneficial, and the end result many times turns out to be a serious injury.

The overall field of athletes in the country has grown significantly in every sport. Often times, there is a strong motivation to receive an athletic scholarship, which brings about an increased emphasis on excelling from coaches and parents alike. In this predicament, many young athletes find themselves stuck with no other choice but to play/compete as much and as hard as possible. Although they may believe the more they do, the better it is for their bodies, the unfortunate truth is: overwork is actually counterproductive.

- Dr. Lyle Micheli, director of the world's first Sports Medicine Clinic at Children's Hospital in Boston, explains "Today's overachieving kids are starting sports earlier and training longer and harder than ever before."³
- Many coaches and parents do not understand the importance and individual variability of rest, conditioning and training on the young athlete.

What sports lead to what injuries on which parts of the body?

Many injuries are area-specific, meaning they're likely to occur in one or more areas of the body that's being overused. Aside from these common area-specific injuries, it should be noted that athletes participating in high contact sports and younger athletes who have not fully matured are at an additional, increased risk than others. The following chart is a breakdown of some of the more common injuries among children and adolescents occurring in specific areas.

COMMON PEDIATRIC OVERUSE INJURIES

LOCATION	TYPE	USUALLY OCCUR IN...	SYMPTOMS
Shoulder	Growth plate injury, instability, impingement/tendonitis, little leaguer's shoulder (similar to rotator cuff syndrome)	Overhead sports: i.e.- *baseball, swimming, tennis	<ul style="list-style-type: none"> • Pain shoulder or upper arm • Loss of speed throwing
Elbow	Growth plate injury, apophysitis, ulna collateral ligament sprains/tears	*Baseball	<ul style="list-style-type: none"> • Inner or posterior elbow pain • Loss of speed throwing
Hip	Apophysitis, sprains and strains	Soccer	<ul style="list-style-type: none"> • Groin or hip pain • Weakness when kicking
Knee	Osgood-Schlatters, Pastella-Femoral Pain	Basketball, track and field/cross country, volleyball	<ul style="list-style-type: none"> • Knee pain • Loss of jumping ability
Shin/ Foot/Ankle	Shin splints (tibial stress), Sever's disease (inflammation of growth plates), stress fracture	Track and field/cross country, basketball, volleyball	<ul style="list-style-type: none"> • Foot or heel pain • Loss of speed • Dull ache after running
Low Back	Spondylolysis (breaking down of vertebrae), spondylolysthesis (vertebra displacement)	Gymnastics, basketball, football	<ul style="list-style-type: none"> • Dull pain in back buttocks or legs

*Pitchers throwing large amounts of curve balls are more likely to induce these types of shoulder injuries

**Strains (injuries to the muscle or tendon) and sprains (injuries to the ligament) are common and may occur at any area in the body. Sprains are the more serious of the two and may lead to tears, which require surgery.

What do I do now that I think an overuse injury seems apparent?

If an injury is suspected in an athlete, the first step is always to contact a health care professional and stop the child/adolescent from participating in the sport immediately, as this will only worsen the situation. "Playing through" an injury has never been a method that has resulted positively.

Aside from what is recommended and prescribed by the physician, a popular treatment that can be performed by the athlete on their own is **RICE**. **RICE** represents: **R**est- reduce or stop using the injured area for 48 hours; **I**ce- ice the injured area for 20 minutes, 4-8 times a day; **C**ompression- use an elastic wrap, air cast or splint for injuries to the knee, ankle or wrist; **E**levation- elevate the injured area above heart level to reduce swelling⁴.

Some parents may suggest to a doctor to perform some type of "fix-it-quick" procedure so their son or daughter can perform in an upcoming game/match/competition. Procedures like this are not meant to be used on young athletes and may likely have long lasting and/or permanent effects on the region.

After the injury is properly diagnosed, unless a physician instructs otherwise, limit the amount of time spent on the sport, but don't completely stop playing the particular sport that brought about the injury.

More importantly, how do I prevent a serious overuse injury from happening in the first place?

There is one chief word/concept that should be kept in the minds of every parent, coach and young athlete while engaged in a competitive sport. The word is **moderation**. Overdoing it may seem great at the time, and may likely improve performance and bring immediate results on a short-term basis. In the long run, however, a career-ending, life-altering injury is never worthwhile, even if it means an athletic scholarship. Years down the line they'll be grateful when they're still able to play a pick-up basketball games at 40, rather than stay home and nurse a sore knee from the last one.

The following precautions should be taken by any youth in the sporting world and by those who regulate and oversee them perform:

- Athletes should take ample amounts of rest on a week-to-week basis, usually at least one day off per week. Yearly, an off-season should take place at some point, most suggest it be about 3-months of moderate activity, if anything.
- Work with a health care professional/physician to address inherent weaknesses which may contribute to injury/modify training programs and establish a limit on how much of the sport should be done on a weekly/yearly basis. If overuse symptoms occur, the program should change accordingly.
- Be sensitive to changes that occur in the performance and behavior of athletes. More times than not, visible signs will become apparent when an injury is likely or pain is felt, though they might not discuss it.
- Emphasize warm-ups and cool-downs before and after practice, as they will make tissues more flexible before practice and loosen up tight tissues after.
- A final measure suggested by many, especially Dr. Lyle Micheli, is "mandatory safety education and maybe even certification" for coaches of school-age children.⁵ While this regulation is far from set in stone, it's a step in the right direction as the importance of coaches' education grows with each subsequent overuse sports-related injury.

While it's the kids/adolescents who are the participants in the ever-expanding youth sporting culture, the power to regulate and prevent overuse injuries lies primarily in the hands of their higher-ups, as in their parents and coaches. Being conscious, aware and perceptive of some of the more frequent injuries and their symptoms should be an essential priority of coaches on all levels. While not to undermine the importance and glory of all sports, keep in mind that most youths will not play an organized sport beyond their high school, possibly college years. Considering the future of all adolescents, what's more important: the long term health and status of their bodies, or winning the upcoming little league championship?

Sources

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