

## Health promotion advocacy: A practitioner's role in prevention of sports injuries.

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### **Abstract:**

The CDC reports that over half of all sports-related injuries each year occur among youth athletes. Because these injuries can have implications on current and future health, prevention of such incidents is vital. Healthcare practitioners are in a unique position to not only offer treatment, but also to educate and advocate for injury prevention at multiple community levels. This article summarizes the current statistics on youth sports injuries while examining the healthcare practitioner's role in injury prevention. The social ecology model is used as a framework to demonstrate how practitioners may advocate at both the micro- and macro-levels within a community.

**Keywords:** athletics | sports injuries | health care | health care advocacy | injury prevention | health education

### **Article:**

#### **Introduction**

In the U.S., unintentional injuries have historically been the leading cause of mortality and morbidity among children.<sup>1</sup> Unintentional injuries account for an estimated 45% of all deaths among children between ages 1-19, as well as over nine million nonfatal injuries.<sup>2,3</sup> Regarding nonfatal injuries, falls and being struck with or against an object were leading causes<sup>3</sup> with many of these injuries attributed to youth sports. The Centers for Disease Control and Prevention (CDC) reports that over half of the seven million sports-related injuries that occur annually in the U.S. occur among youth.<sup>4</sup> Given the frequency of youth injuries that occur during athletic participation and the impact that such injuries can have on lifelong health, it is essential that health care providers take a proactive role in the prevention of sports injuries.

## **Sports Participation and Sports Injuries**

It is difficult to determine the number of youth in the U.S. who actively participate in organized sports. According to the 2002 National Youth Survey of Civic Engagement, 42% of students report participation in high school sports including 49% of males and 35% of females, while the National Federation of State High School Associations reports that over 7.5 million high school students participated in athletics during the 2008-09 academic year.<sup>5,6</sup> Additionally, over 44 million youth athletes play in organized leagues each year in the United States<sup>7</sup>; countless millions also participate in non-traditional extreme sports such as snowboarding, skateboarding, rollerblading and paintball. With the justifiable growing concerns over childhood obesity, sport participation is encouraged at a young age to increase physical activity levels among youth. This growing number of youth participants also means the incidence of sport-related injuries will undoubtedly increase.

Equally challenging to establishing the number of youth sports participants is determining the actual prevalence of youth sport injuries. The lack of a consistent way to collect data during research studies and not having a clear definition of common terms around injury have hampered having clear results in this area.<sup>8</sup> Many published studies have focused on specific types of injuries, specific sports, or specific levels of participation, making it difficult to gauge the overall frequency of injuries. However, utilizing a random sample of 100 U.S. high schools reporting injuries to the high school RIO (Reporting Information Online from The Research Institute at Nationwide Children's Hospital), researchers determined that 57.2% of injuries occurred in lower extremities, 21.5% in upper extremities, 14.6% in head/neck/face, and 6.7% in the trunk.<sup>9</sup> Regarding specific body sites, the majority of injuries occurred in the ankle (22.7%), head/face (12.3%), and upper leg (8.0%).<sup>9</sup> Although this study reports on one of the largest randomized samples of youth sports injuries, data still only represents five male sports and four female sports. Despite the challenges in documenting sports injuries among the adolescent population, it has been acknowledged that sports are the leading cause of injury among youth and that most of these injuries are preventable.<sup>10</sup>

## **Practitioner's Role in Injury Prevention**

The need for preventive care to minimize the health impact of youth injuries has been noted among various health care professions including complementary and alternative (CAM) healthcare providers.<sup>11,12</sup> As the most frequently visited of CAM providers<sup>13</sup>, doctors of chiropractic (DCs) commonly treat athletes and adolescents for neck, back, and musculoskeletal problems.<sup>14</sup> While there are some DCs who specifically treat sports-related injuries<sup>15</sup>, many other DCs serve as health care providers for youth athletes who have suffered sports injuries creating an opportunity to serve as an advocate for injury prevention. Collaboration between the DCs and other sports medicine providers presents the chance to greatly reduce the frequency and severity of injuries among youth athletes. One such collaboration is the Youth Sports Safety Alliance (YSSA). The YSSA has issued a call to action among health care providers of all specialties to address safety concerns of youth sports and effectively reduce the risks of injuries.<sup>16</sup> Of the many sport, education, and health care organizations that make up the YSSA membership, the American Chiropractic Association's (ACA) Council on Sports Injuries and Physical Fitness has dedicated support for injury prevention among youth athletes.<sup>16</sup>

Although health care clinicians work primarily on the individual level with patients, this is frequently inadequate to change personal health behavior.<sup>17</sup> To effectively address the goals of the ACA and YSSA, practitioners should seek to educate youth patients as well as parents, while also advocating for school and community policy changes that protect adolescent athletes. Utilizing an ecological approach, practitioners can educate and advocate for injury prevention at multiple levels in any community.

The ecological perspective suggests that individual behavior both affects and is affected by the environment in which a person exists.<sup>18</sup> Based on social ecology, there are five levels of influence on behavior: intrapersonal, interpersonal, organizational, community, and policy. Table 1 provides further description of the levels of influence.

**Table 1. Five Levels of Social Ecological Influence on Behavior** <sup>18, 19</sup>

Intrapersonal Level	Characteristics include personal knowledge, attitudes, and beliefs concerning particular behaviors; Issues of personal skill and self-concept
Interpersonal Level	Social networks including family, friends, and work groups
Institutional/ Organizational Level	Social practices with organizational characteristics including the formal and informal rules and regulations for operation within the particular institution; Organizational norms and changes of those norms can affect behavior of those individuals involved
Community Level	Relationships among organizations, institutions, and informal networks within defined boundaries; Includes the social standards or norms that exist within the community
Public Policy Level	Policies and laws that are designed to protect the health of a community; Policies for health protection include regulations for healthy actions, disease prevention, and disease control

**Practitioner’s Role in Injury Prevention – Individual and Interpersonal Level**

**Intrapersonal (Individual).** Included in any intrapersonal approach is the education of young patients about injury prevention. All clinicians who treat youth athletes should consider teaching proper safety techniques, proper stretching, and warm-up routines. Additionally, DCs should seek to educate athletes on specific spine injury prevention. Of course, treatment of those injuries and assisting in a safe return to play are also intrapersonal levels of involvement that

practitioners have with the athlete. Education on self-care, proper nutrition, equipment safety, and taping skills could also be considered preventive measures that occur at the intrapersonal level.

The American Academy of Pediatrics suggests various techniques to prevent youth sports injuries, among which is use of proper equipment, strengthening muscles, increase flexibility, and use safe sporting techniques.<sup>20</sup> When treating youth athletes, practitioners should make it a point to counsel individuals on such safety precautions for injury prevention.<sup>11</sup> Chiropractic education affords DCs the opportunity to learn techniques in anaerobic and flexibility exercise, however many DCs may not feel comfortable counseling on sport-specific technique and equipment. This presents an opportunity for educational collaboration with other professionals such as coaches, athletic trainers, exercise physiologists, kinesiologists, and even parents. Such partnerships can be essential for integrating appropriate safety measures in youth athletics.

**Interpersonal.** Interpersonal levels of involvement may include those relationships with others in the realm of youth sports. For example, a DC can often serve as a sports medical professional on the sidelines at games or consult with the team as a health care provider to educate, assist in prevention, and treat athletes when needed. Informing coaches, staff, and athletic trainers on early recognition of injury, potential heat threats, or head injury prevention are examples of roles the DC could play. The US Centers for Disease Control and Prevention has an education module on prevention of head injuries in youth sports that could be delivered by DCs or other health care practitioners to area coaches, athletic trainers, and parents to increase awareness of the need to recognize and evaluate potential head injuries.<sup>21</sup> Information specific to “Heads Up,” prevention of concussion in high school, as well as youth sports is available at [http://www.cdc.gov/concussion/HeadsUp/high\\_school.html](http://www.cdc.gov/concussion/HeadsUp/high_school.html) and is an excellent program appropriate for presentation at the local level. This can also be implemented at the community or institutional level with appropriate involvement from a school board, district, or community center sports program.

### **Practitioner’s Role in Injury Prevention – Community Level**

**Institutional.** Coaches play a large role in the sport-specific actions of young athletes, including how athletes perceive the normative behaviors of a particular sport.<sup>22</sup> The concept of “no pain, no gain” is quite pervasive throughout sports and a coach’s attitude towards playing through pain or injury could negatively influence youth athletes.<sup>23</sup> Many coaches have informal team rules regarding playing with or through an injury. Returning to competition too soon or failure to report severity of an injury are actions that youth athletes sometimes take in an effort to avoid looking “weak” in front of coaches. Because this risky practice is pervasive in sports, practitioners should collaborate with coaches, as well as parents, to advocate for proper injury management. As health care providers, DCs can provide education on the risks of pressuring youth to play through pain, particularly in the case of head injuries.

Practitioners can also play a vital role in advocating for proper injury management within team sports. Awareness, education, and championing programs such as “Heads Up” are areas that DCs can have an impact. Assisting coaches in identifying appropriate injury prevention programs for schools, communities, or local youth organizations like the YMCA will be essential to having

them accepted as a viable program. The CDC and other groups mentioned above are potential partners that the local clinician can collaborate with in order to successfully deliver an institutional-based program.

**Community.** Community-level programs provide similar delivery opportunities as do the institutional-level interventions. Organizational partnerships, coalitions, formal and informal networks may hold additional opportunities for local practitioners, as well. Community-based programs like Little League, Pop Warner, or Dixie Youth sports programs all represent community-level sports programs that depend heavily on volunteers to manage, coach, and run successfully. A clinician may choose to partner with these groups to delivery injury prevention/safety messages, provide on-the-field injury prevention clinics, or volunteer time to work the sidelines during games or tournament play. Many communities also have a recreation or advisory board through which positions may be available to serve in an injury prevention or safe-play advisory role.

**Policy.** In an effort to develop safe opportunities for sport, practitioners may be able to lobby, advise, or work with a coalition or concerned group of parents to make changes to policies that may put children at risk in sports. A good example is the use of sport drinks and supplements currently aimed at student athletes. No child health advocacy group, nutritional organization, or pediatric group recommends the use of sport supplements to enhance the play of adolescent athletes.<sup>24</sup> Asking schools, institutions, or communities to develop policies against the use of these products is an example of a potential area of policy development to protect youth athletes.

Health care practitioners should also advocate for effective injury prevention policy change within schools. The CDC's 2002 Injury Center research priorities recommended examination of injury prevention policies regarding the use of safety gear, practice guidelines, rules of play, and informed officiating.<sup>25</sup> More recently, researchers have called on a closer examination of sport policies and their role in injury prevention.<sup>26</sup> As leading health care providers, DCs can have an active role in advocating for school policies that protect youth athletes. In addition to policies on safety equipment and practice guidelines, other policies which have shown protective for youth include policies on return to sports after head or other injury<sup>27</sup>, size and weight limitations in football<sup>28</sup>, and pitching limits for young baseball or softball players.<sup>29</sup>

## **Conclusion**

While serving as health care providers for many youth athletes, as well as community health advocates, chiropractors and other clinicians can play a vital role in the prevention and reduction of sports injuries among youth athletes. Educating both adolescent athletes and parents on healthy behaviors for injury prevention is an appropriate way to address individual patients. On a community level, practitioners should seek to collaborate with coaches, athletic trainers, and school administrators to develop sport-specific policies that promote healthy, safe sport participation among youth.

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