YOUTH SPORTS SAFETY STATISTICS

ATHLETIC INJURIES AND HEALTH CARE IN THE UNITED STATES

- There were as many as 50 sports-related deaths of young athletes in 2015, 25 in 2014, 32 in 2013, 33 in 2012, 39 in 2011 and 40 in 2010.[3]
- A total of 7.8 million student athletes participated in sports during the 2014-2015 academic year, an increase of 11,389 from the previous year.[1**]
- Of those 7.8 million student athletes, 2.5 million participated in contact sports during the 2014-2015 academic year.[1]
- In 2013, there were an estimated 1.35 million emergency room visits for injuries related to 14 commonly played sports in children ages 6-19.[75]
- In total, approximately 46.5 million children play team sports each year in the U.S.[2]
- Sports injuries accounted for 20 percent of all injury-related emergency department visits for children ages 6-19.[75]
- Among children, those ages 12-15 experience the highest rate of emergency room visits for concussion at 47 percent.[75]
- Medical costs for sports injury emergency department visits exceed $935 million each year.[4,6]
- Prevention of injury is critical because previous history is often a risk factor for future injury. Players with one or more previous injuries have two to three times greater risk of incident injury compared to those without previous injury.[7]
- In 2014-2015, 59.2 percent of injuries reported to an athletic trainer by high school athletes were sustained in competition, while the rest occurred during practice.[8]
- Up to 25 percent of public schools in the U.S. do not have a school nurse. 47 percent of schools fall short of the federally recommended nurse-to-student ratio, and fewer than half of U.S. public schools have a school nurse on site during all school hours every day.[9]
- 96 percent of Americans feel it's important for young athletes to be evaluated by a qualified health care professional before they begin playing sports.[10]
- A total of 72 percent of children that are secondary school age play a sport, among these children 29 percent play year-round[68]
- Athletes who only play one sport year round have a 50 percent increased risk of knee injuries and a greater overall injury risk.[69,70]
- 54 percent of athletes reported they have played while injured.[71]

TRAUMATIC BRAIN INJURIES AND CONCUSSIONS

- There are three times as many catastrophic head injuries in football among high school athletes than college athletes, and 39 percent of the athletes were playing while still having symptoms from a prior head injury.[11]
- In 2012 there were 163,670 young athletes seen in the emergency department for a concussion, which is more than 8 percent of the 1.35 million youth sports-related injuries reported to the ED, meaning every three minutes a child is seen in an emergency department for a sports-related concussion.[4]
- Among high school athletes, concussion rates have risen 200 percent in the past decade.[48]
- Emergency department visits for concussions sustained during organized team sports doubled among 8-13 year olds between 1997 and 2007 and nearly tripled among older youth.[12]
- Concussion rates more than doubled among students ages 8-19 participating in sports like basketball, soccer and football between 1997 and 2007, even though number of athletes participating in those sports declined.[12]

- A 2011 study of high schools with at least one athletic trainer on staff found that concussions accounted for nearly 15 percent of all sports-related injuries reported.[13]
- Children ages 12 to 15 suffered 47 percent of sports-related concussions seen in the ED, followed by the 16-19 age group (29 percent), then younger children 8-11 years (19 percent) and children 7 years or younger (5 percent).[4]
- Female athletes are more likely to report concussions as a proportion of all injuries than boys in sports that both girls and boys play.[4]
- Females ages 10-19 years sustained sports- and recreation-related TBIs most often while playing soccer or basketball or while bicycling.[14]
- Athletes ages 13 to 16 take a longer time to recover following a concussion – measured with memory tests, reaction times and a symptom scale – than athletes ages 18 to 22.[15]
- Additionally, serious and potentially fatal diffuse brain swelling is more common in children who have suffered a TBI than in adults with TBIs.[16]
- The percentage of children who required hospitalization for sports-related concussions is almost double the percentage of non-concussion sports injuries requiring hospitalization.[4]
- 15.8 percent of high school football players who sustain a concussion severe enough to cause loss of consciousness return to play the same day.[17]
- A study of concussions in high school athletes found that the concussion rate in boys' ice hockey was the second-highest of any sport, and it is estimated that the proportion of concussions in ice hockey that result from body checking are between 30 and 70 percent.[49]
- Young athletes who have been concussed are three times more likely to suffer another concussion in the same season.[18]

SUDDEN CARDIAC ARREST

- 2,000 children die every year of SCA[72]
- Sudden cardiac arrest (SCA) is the leading cause of death in exercising young athletes.[19]
- Approximately one in 300 young athletes has a heart disorder that may increase their risk of sudden cardiac arrest.[57]
- Sudden cardiac arrest in athletes is more common among males, African Americans, and basketball players, regardless of their race or ethnicity. [57]
- Often the underlying cause of sudden cardiac death is a structural or electrical cardiac disorder; however as many as 80 percent of these patients are asymptomatic until sudden cardiac arrest occurs, and many underlying causes are not detectable through traditional screening in pre-participation physical exams.[20]
- Without appropriate emergency preparations and response, just one in 10 U.S. student athletes who suffer sudden cardiac arrest survives.[21]
- The greatest factor affecting survival after SCA is the time from arrest to defibrillation, emphasizing the critical need for the availability of AEDs in schools and sporting facilities.[22]
- When prompt recognition, CPR, and early defibrillation with an AED are provided sudden cardiac arrest in student athletes is largely a survivable event with over 80 percent survival[23]

YOUTH SPORTS SAFETY STATISTICS

HEAT ILLNESS

- 40 high school football players died of heat stroke complications between 1995 and 2013.[24]
- Between 2004/05-2013/14 there were a total of 38 heat stroke deaths at the high school and college levels. The majority of these cases were in football (87 percent) and to high school athletes (74 percent). The majority occurred in July/August (79 percent) and during practice (90 percent).[61*]
- The number of heat-related injuries from 1997 to 2006 increased 133 percent. Youth accounted for the largest proportion of heat-related injuries at 47.6 percent.[25]
- Young male athletes are at the highest risk of suffering exertional heat illness requiring treatment in U.S. hospital emergency rooms due to the increased rate of occurrence in high school football players.[26]
- The majority of time-loss heat illnesses occurred among high school football players (70.7 percent) at a rate 10 times higher than the average rate for eight other high school sports.[26]
- 64.7 percent of football players sustaining a heat illness were either overweight or obese.[27]
- Two-thirds of young athletes show up for practice at least significantly dehydrated.[28]
- Although heat stroke is usually among the top three causes of death in athletes, it may rise to the primary cause during the summer.[29]
- Exertional heat stroke can be prevented and it has proven to be 100 percent survivable when immediately recognized and aggressively cooled on site.[30]

CERVICAL SPINE INJURY

- Over half of catastrophic injuries in sports are cervical spine injuries. [52-56]
- C-spine injuries have been reported in most contact sports, including football, hockey, rugby and wrestling, as well as in several noncontact sports, such as skiing, track and field, diving, surfing, power lifting and equestrian events.[52-56]
- From 1977-2012, there have been a total of 266 high school football players with incomplete neurological recovery from cervical cord injuries.[31]
- It is estimated that 12,000 new cases of spinal cord injury occur each year in the United States. Approximately 80 percent of these injuries occur in males.[32]
- Sport participation constitutes the fourth most common cause (approximately 8 percent) of all spinal injuries,[32] but it is the second most common cause after motor vehicle crashes for those under the age of 30.[33]
- Football is associated with the highest number of cervical spine injuries of any sport in high school, while cheerleading is associated with the highest number of direct catastrophic head and neck injuries for high school females.[34]
- High school gymnastics and ice hockey have higher incidence rates of direct catastrophic head and neck injuries than football when comparing participation numbers.[34]

ASTHMA

- Asthma affects approximately 7 million children under the age of 17.[50]
- 10.5 million school days are missed each year due to asthma. [51]
- About one in 12 people in the U.S. (about 25 million) have asthma, and the numbers are increasing every year.[35]
- Rates as high as 23 percent have been reported in school age children, and the incidence in athletes may also be this high.[36]

- It is estimated that 80 to 90 percent of all individuals who have allergic asthma will experience symptoms of exercise-induced asthma with vigorous exercise or activity. For teenagers and young adults this is often the most common cause of asthma symptoms.[37]
- Approximately 10 percent of otherwise healthy school children have been reported to have exercise-induced asthma without other daily symptoms of asthma.[38]
- 3,404 people died from asthma in the United States in 2010, a staggering number for a condition that can be managed effectively.[39]

OPIOIDS/AMPHETAMINE

- According to a 2013 study, adolescent athletes are 50 percent more likely to abuse painkillers. [76]
- Opioid pain medication prescriptions have more than tripled in the US between 1999-2011.[77]
- There were nearly 207 million prescriptions written for opiates in 2013.[77]
- Half of all students today try an illicit drug by the time they finish high school. [78]
- Prescription drugs are the second most commonly abuse drug among teens. [78]
- According to a 2005 study, the use of OxyContin has risen nearly 40 percent among 12th graders since 2002. [78]
- Nonmedical use of the prescription drug Adderall, a medication used to treat attention deficit hyperactivity disorder rose approximately 67 percent among young adults from 2006 and 2011. [79]
- Emergency room visits involving the misuse of Adderall also rose among young adult from 2006 and 2011. [79]
- A study in 2015 reports an average increase of 3.2 percent of prescription opioid abuse among students from 8th grade to 12th grade. [80]

PERFORMANCE-ENHANCING DRUGS/SUPPLEMENTS

- The average age for first time steroid use is 14 years old.[73]
- Risk factors for the abuse of anabolic-androgenic steroids include peer pressure, media exposure, parental pressure, a history of depression, a negative body image, and a tendency to compare one's own body with known AAS users.[59]
- Although anabolic-androgenic steroids are the most commonly abused appearance and performance enhancing drug (APED), other illicit APEDs presently being abused by athletes and non-athletes include human growth hormone (HGH), insulin, insulin growth-factor 1 (IGF-1), clenbuterol, thyroid hormones, diuretics, tranquilizers, masking agents, opiates/opioids, and blood-boosting agents.[58]
- Nearly 6 percent of middle school and high school boys in urban areas admitted to using appearance and performance enhancing drugs without a physician's prescription, and 4.6 percent of girls at this level also admitting to using steroids.[40]
- In addition, 35 percent of the students who responded said they used protein supplements, and 11 percent claimed to use other muscle-enhancing supplements. [40]
- Use of three or more muscle modifying behaviors such as intake of protein supplements, steroids, altered eating patterns, exercising, other muscle enhancing tactics, etc. was more than twice as high among boys who participated in sports versus those who did not play sports.[40]
- 85 percent of youth in high school have never had a parent, teacher or coach talk to them about the dangers of appearance and performance enhancing drugs.[41]
- In 2014 data for male and female 8th grade students indicate that non-physician ordered, life-time use of anabolic-androgenic steroids and amphetamines was 1 and 7 percent respectively.[60]

- In 2011 there were 1,499 energy drink-related emergency department visits by 12-17 year olds. The occurrence of energy drink-related emergency department visits among adolescents and young adults shows that these vulnerable populations experience negative health events after consuming energy drinks.[42]

MENTAL HEALTH

- In a recent study, nearly 1 in 3 adolescents (31.9%) met the criteria for anxiety disorder, 19.1% were affected by behavioral disorders, 14.3% experienced mood disorders, and 11.4% had substance-use disorders.[62]
- Approximately 13-20 percent of children living in the United States experience a mental disorder in a given year, and surveillance during 2005-2011 has shown the prevalence of these conditions to be increasing.[43]
- Many student athletes train all year round. Emphasis on work and/or training without the proper time for rest and recovery can lead to physical and psychological staleness and burnout.[63-65]
- One in six high school students seriously consider attempting suicide, and one in 13 high school students attempt suicide one or more times.[66]
- Attention-deficit hyperactivity disorder affects males to females in a more than three to one ratio. Chronic and impairing behavior patterns result in abnormal levels of inattention or hyperactivity or their combination.[62,67]
- Suicidal thoughts have been shown to be less prevalent in high school athletes than non-athletes.[74]
- Suicide, which can result from the interaction of mental disorders and other factors, was the second leading cause of death among children ages 12-17 years in 2010.[43]
- While school is the most commonly mentioned source of stress for teens, more than half of teens report that managing their time to balance all activities is a somewhat or very significant stressor.[44]
- Teens ages 13-17 report that their stress level during the school year far exceeds what they believe to be healthy and even exceeds adults' average reported stress levels.[44]
- 27 percent of teens report experiencing a level of stress that is an 8, 9 or 10 on a 10-point scale during the school year.[44]
- 31 percent of teens say that their stress level has increased in the past year, and 34 percent believe their stress levels will increase in the coming year.[44]
- One-third of teens report feeling overwhelmed and depressed or sad as a result of stress.[44]

EXERTIONAL SICKLING

- Sickle cell trait was the primary cause of death for 15 out of the 2,387 athlete deaths recorded between 1980-2010.[45]
- All but one of the deaths due to exertional sickling occurred during practice. Those who passed away were predominantly African-American, male football athletes with an average age of 18.5 years.[45]
- Young athletes with sickle cell trait may be at an increased risk of heat-related illnesses and their complications.[46]
- Predisposing factors to exertional sickling include heat, dehydration, race, altitude, asthma and high intensity exercise with few rest intervals.[47]

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* Note: There were 2 heat stroke deaths in the Fall 2014 that are not included in the above numbers. Both occurred in football. There were also 2 deaths that were related to athletes over-hydrating in order to prevent heat-related issues (hyponatremia and water intoxication).

** Contact sport was defined as the following sports: Football, Ice Hockey, Judo, Rodeo, Wrestling, Basketball, Boys Lacrosse, Rugby.