

Sports-Related Injuries

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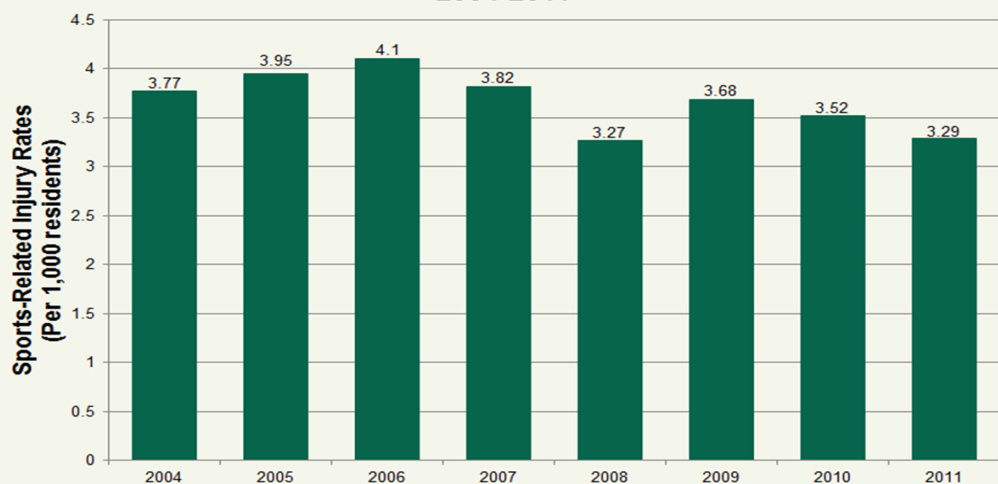
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Sports-Related Injuries, 2004-2011

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Figure 1: Sports-Related Injury, Hamilton County, 2004-2011



Source: Hamilton County data were collected from the Hamilton County Injury Surveillance System.

According to the Centers for Disease Control and Prevention (CDC), "More than 7,100 children ages 0-19 were treated in hospital emergency departments for sports and recreation-related injuries each day in 2009¹." Sports-related injury is an injury that most commonly occurs during exercise or sports². Often-

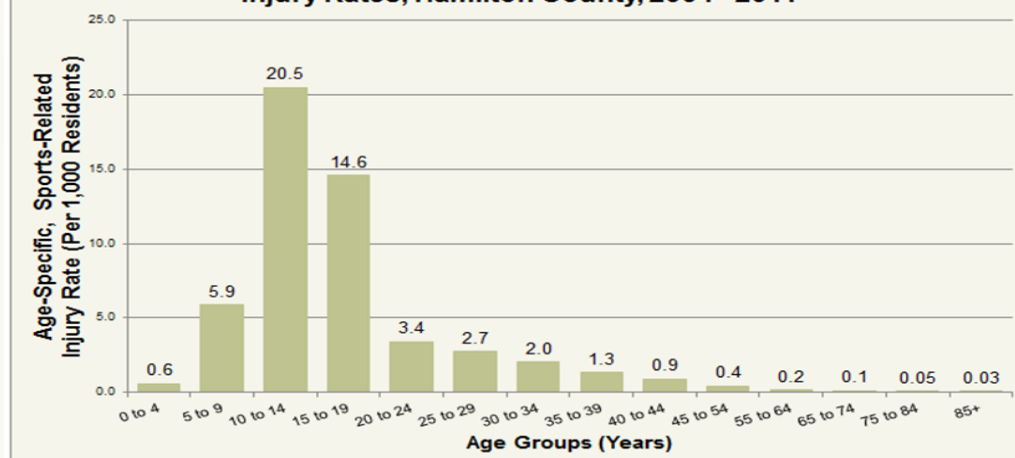
times, sports-related injuries result from accidents, poor training practices, insufficient warm-up and stretching, lack of conditioning, or improper equipment².

Figure 1 shows the sports-related injury rates for the United States and Hamilton County, Ohio. From 2004 to 2006, Hamilton County experienced a slight

increase in sports-related injury rates. In 2007, the rate of sports-related injuries for Hamilton County began to slightly decrease. The rate of sports-related injury for Hamilton County has since remained relatively stable through 2011.

Sports-Related Injuries by Age

Figure 2. Annual, Age-Specific, Sports-Related Injury Rates, Hamilton County, 2004 - 2011



Age is an important factor to examine when discussing risk for sports-related injuries. Figure 2 shows the annual, age-specific rates for sports-related injuries among Hamilton County residents during 2004-2011. As the figure shows, youth

(ages 10-14 and 15-19) had the highest rates of sports-related injuries. Many factors are believed to play a role in why sports-related injuries occur more frequently among these age groups.

Youth and Sports-Related Injuries

As seen previously in this brief, individuals between the ages of 10-19 are more likely to suffer a sports-related injury than older adults. There are multiple factors that contribute to youths suffering from higher rates of sports-related injuries. During the time that youth are participating in sports, they have immature bones, insufficient rest after an injury, poor training or conditioning, and are more likely to participate in sports year-round, which increases the risk of an injury³.

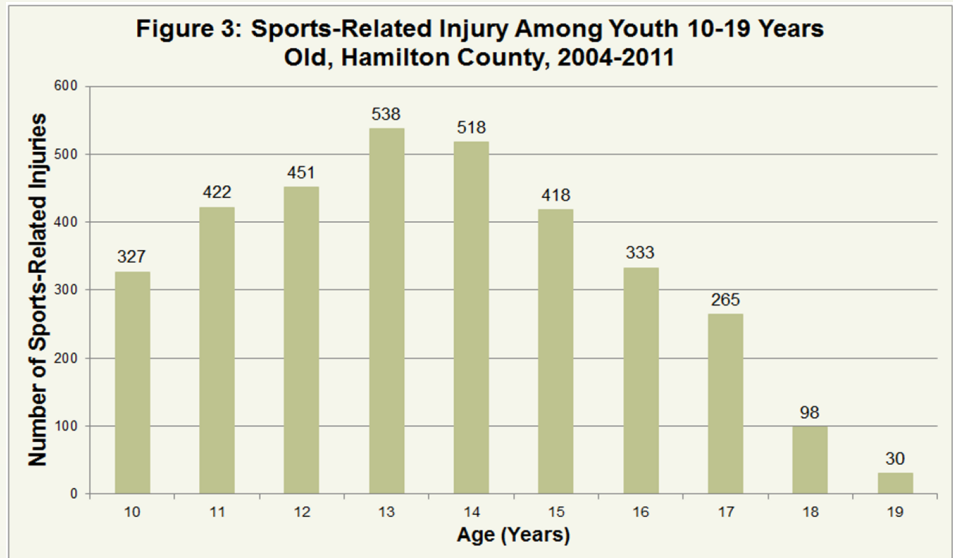
Youth may also be more likely to participate in more than one sport than adults. Youth are at a higher risk of injuries if they participate in two or more sports that place emphasis on the same body part (e.g., soccer and track)⁴.

For the 2010-2011 academic school year:

- Approximately 58% of high school sports-related injuries for males were from football⁵.
- Approximately 56% of high school sports-related injuries for females were from soccer⁵.

****Note:** Statistics are national statistics and are not Hamilton County specific.

Additionally, many youth are reluctant to talk to a parent or a coach about a sustained injury⁴. This may be because drawing attention to the injury may lead to the youth sitting out or missing an important game, having to see a doctor about the injury, or even feeling as if they are letting down their teammates. Some youth may not be able to describe how they feel from the injury or may not have



someone with whom they feel comfortable talking to about the injury.

Approximately 67 percent of sports-related injuries occurred among youth between the ages of 10-19. Figure 3 shows the number of sports-related injuries that occurred in youths age 10-19 for specific ages. As illustrated in Figure 3, youths who were 13 or 14 years of age had the highest number of sports-related injuries.

Figure 4 compares the number of sports-related injuries for male and female youth age 10-19 for specific ages. Overall, sports-related injuries among females were found to occur less frequently than males in Hamilton County. Males who were 14 years of age had the highest number of sports-related

injuries among males, while females who were 13 years of age were found to have the highest number of sports related injuries among females. The number of sports-related injuries for females is on the rise. For the 2010-2011 school year, the number of females athletes has increased tenfold for high school females and by 6 times as much for collegiate sports over the course of the past 40 years⁶.

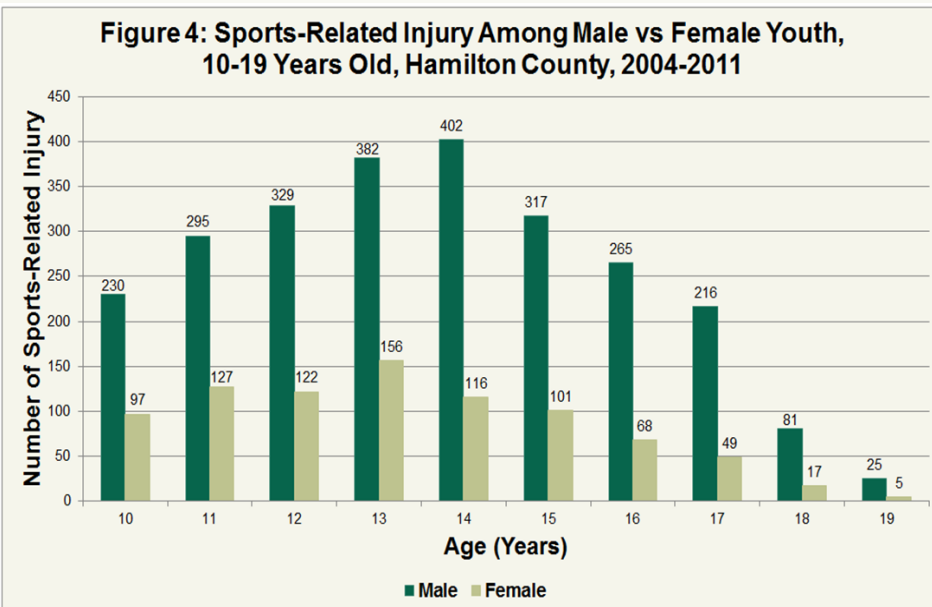
Table 1: Age-Specific Sports-Related Injury Rate, School Type, Hamilton County, 2004-2011

School Type*	Age-Specific Sports-Related Injury Rate (Per 1,000 Residents)
Elementary School	5.9
Middle School	20.5
High School	14.6

***Note:** Age groupings for school type are as follows; Elementary School 5-9 years, Middle School 10-14 years, and High School 15-19 years.

When sports-related injuries for youth ages 10-19 are compared by school type, as illustrated in Table 1, the rate for middle school students is 1.4 times higher than that of high school students, and 3.4 times higher than that of elementary school students.

1 in 3 children who play a team sport is injured seriously enough to miss practice or games⁴.



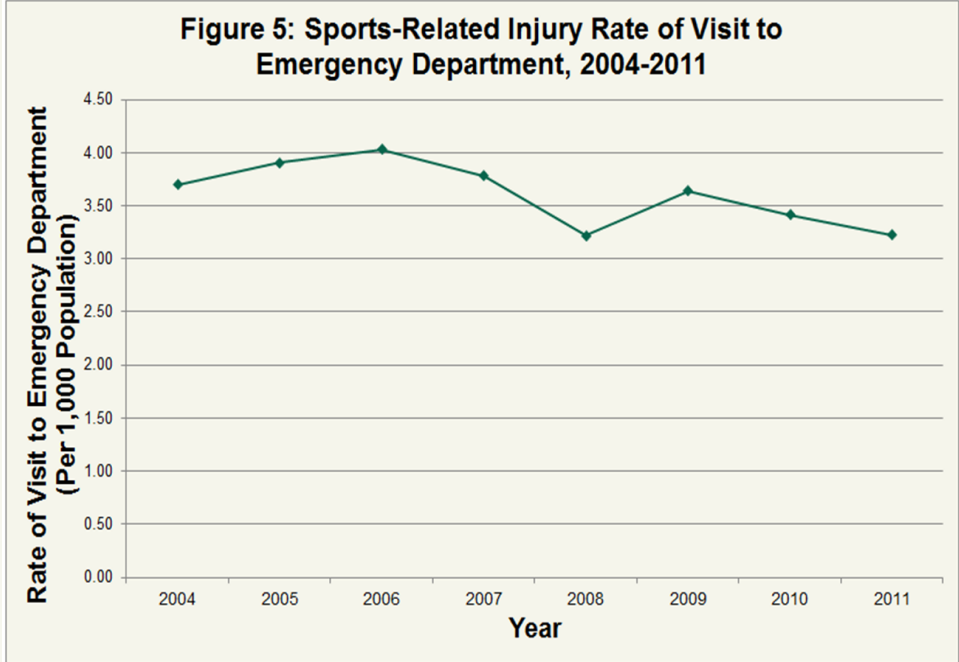
Sports-Related Injury Emergency Department Visits

One way to monitor the effects of sports-related injuries is to look at the associated emergency department visits. In 2011, a total of 2,582 individuals visited the emergency department due to a sports-related injury. Table 2 shows how the number of visits and the associated rate of visits to the emergency department due to a sports-related injury have changed over the course of time from 2004-2011.

The overall rate of emergency department visits has been gradually decreasing since 2006, as illustrated in Figure 5. In 2009, a spike in the visits to the emergency department

Table 2 : Visit to Emergency Department due to Sports-Related Injury, 2004-2011

Year	Number of Visits to Emergency Department	Rate of Visits (Per 1,000 Residents)
2004	3,021	3.70
2005	3,165	3.91
2006	3,245	4.03
2007	3,033	3.78
2008	2,575	3.22
2009	2,919	3.64
2010	2,740	3.42
2011	2,582	3.23



ment occurred causing the rate to nearly return to the level seen in 2004 (3.64 per 1,000 versus 3.70 per 1,000 respectively). The number of visits to the emergency department due to a sports-related injury has trended downward since 2009.

Monitoring the effects of sports-related injuries can also be accomplished by looking at the rate of hospitalizations due to a sports-related injury. For Hamilton County, the rate of

hospitalizations, due to a sports-related injury, has remained relatively stable since 2004. From 2004-2011 the average rate of hospitalization for a sports-related injury was 0.059 per 1,000 residents (Median: 0.055 per 1,000, Range: 0.04—0.10 per 1,000 residents).

Where Does Public Health Get The Data?

The county data used in this report were gathered from the Hamilton County Injury Surveillance System (HCISS). The HCISS is a collaborative surveillance effort led by Hamilton County Public Health and supported by our local hospitals, the Hamilton County Coroner's Office, and the Greater Cincinnati Health Council.

Data on non-fatal injuries were obtained from local hospitals/trauma registries and represent emergency department visits and hospitalizations (inpatients); data on fatal injuries were obtained from the Hamilton County Coroner's Office. Figure 6 shows the breakdown of sports-related injuries as reported through HCISS. The bottom layer, emergency department visits, represents the least severe injuries, yet the largest number of patients; the next two layers, hospitalizations and deaths, represent the most severe and costly injuries to residents of Hamilton County.

An unknown number of unreported sports-related injuries were not identified in the HCISS because these individuals either did not seek medical care from a participating hospital system, or did not seek any type of medical care.



Figure 6: Sports-Related Injury Pyramid, Hamilton County, 2004-2011

Sports-Related Injury Prevention

There are ways to prevent a sports-related injury from occurring. The following are areas of prevention recommended by the CDC, that can be used to reduce sports-related injuries.

1. **Gear Up.** When children are active in sports, make sure they use the correct protective gear such as helmets, wrist guards, and elbow or knee pads⁷.
2. **Use the Right Equipment.** Ensure that protective sports equipment is in good condition and worn all the time. Avoid broken buckles, worn padding or missing pieces. If the protective equipment doesn't fit properly, it may be uncomfortable and

may not provide for the best protection⁷.

3. **Practice.** Make sure that children learn and practice the necessary skills they will need in their activity. Ensuring that proper form is practiced can prevent injuries. Be sure to increase activities to improve physical fitness slowly and safely; being in good condition can protect a child from injury⁷.
4. **Pay Attention to Temperature.** Allow adequate time for child athletes to gradually adjust to humid or hot temperatures to avoid and prevent heat-related injuries or illness. Pay close attention to ensure all players are hydrated and dressed appropriately⁷.

5. **Be a Good Model.** Communicate positive safety messages and become a model of safe behavior, including following the rules and wearing a helmet⁷.

For more information regarding sports-related injury prevention, please visit the CDC and ODH websites:

- http://www.cdc.gov/SafeChild/Sports_Injuries/index.html
- <http://www.cdc.gov/safechild/NAP/overviews/sports.html>
- <http://www.healthy.ohio.gov/~media/HealthyOhio/ASSETS/Files/injury%20prevention/Evidence%20based%20interventions%20youth%20sports%200313.ashx>

Ohio's Return-to-Play Law

In April 2013 the State of Ohio instituted a Return-to-Play Law. This law was enacted to aid in the reduction of sports-related injuries, specifically concussion and head injuries⁸.

The Return-to-Play Law states that individuals who coach or referee for youth sporting organizations must:

- Successfully complete, every three years, an online training program to recognize the signs and symptoms of concussions and

head injuries provided by the Ohio Department of Health⁸.

-Or-

- Hold a Pupil Activity Permit (PAP) from the Ohio Department of Education⁸.

The law states that coaches, referees, or officials must remove an athlete exhibiting the signs and symptoms of a concussion during practice or a game. The athlete cannot return to play the same day that he/she is removed.

The athlete is not permitted to return to play until they have been assessed and receive written clearance by a physician (M.D. or O.D.) or by any other licensed healthcare provider approved by the youth sports organization⁸.

For more information regarding Ohio's Return-to-Play Law, please visit the ODH website:

- www.healthyohioprogram.org/concussion

Healthy People 2020 Goals

Table 3. Healthy People 2020 Goals

Goal
IVP-27.1: Increase the proportion of public and private schools that require students to wear appropriate protective gear when engaged in school-sponsored physical education to 84.5 percent ⁹ .
IVP-27.1: Increase the proportion of public and private schools that require students to wear appropriate protective gear when engaged in school-sponsored intramural activities or physical activity clubs to 94.4 percent ⁹ .

The Healthy People 2020 (HP 2020) goals were released in December 2010. Healthy People is a government organization that sets forth 10-year national objectives for improving the health of all Americans. Many of these objectives are created by taking rates from a previously measured national rate gathered during Healthy People 2010 or

from a 10 percent decrease there-in. Specific objectives for prevention of sports-related injuries are given by the Injury and Violence Prevention (IVP) goal 27. Table 3 describes these Healthy People goals. There currently is no benchmark to be measured against these Healthy People 2020 goals for Hamilton County.

While these goals aim to protect children from sports-related injuries, there are no laws in the State of Ohio that mandate the use of protective gear. However, while there are no laws for the wearing of protective gear, in 2008, 88 percent of all schools in Ohio have teachers who are required to educate their students about preventing injury during physical activity¹⁰.

As more data are collected through HCSS, changes throughout the years will be detected allowing for improved surveillance of sports-related injuries.

For additional reports on injuries in Hamilton County, please visit:
http://www.hamiltoncountyhealth.org/en/resource_library/reports.html

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