

Baseball injuries: Research musings

Written by John Tomberlin

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Over the last 10 years I have performed many orthopedic physicals on major league pitchers and catchers in spring training with the Los Angeles Angels of Anaheim and the Milwaukee Brewers organizations. A few weeks ago I was privileged to spend a weekend with the Milwaukee Brewers' athletic training staff and I was rewarded with great seats to watch their weekend series at Miller Park. Truth be told, major league players spend a lot of time in the training room, recovering from all types of injuries.

Here in Iowa, high school baseball season is in full swing. Most baseball fans wouldn't guess that high school baseball players suffer many injuries, but just ask the team athletic trainer, coaches and parents.

Less than 1 in 200 high school baseball players in the United States will be drafted by Major League Baseball. Fortunately, between 5 and 10 percent of all high school baseball athletes will go on to play at the college level. Thus, staying healthy during the high school baseball season is paramount to staying on the field, and it will make a positive impact towards an athlete's chances of playing at the next level.

Research tells us that the most common site of injury in high school baseball is the head and face area; followed by injuries to the shoulder; then a relative tie for injuries to the hand/wrist, arm/elbow, and ankle/lower leg; and lastly injuries to the thigh/upper leg. Injuries to the head and face occur more commonly by a batted ball than by a pitched ball.

Pitchers are the most likely high school player to suffer an injury that requires surgery, and pitchers are more likely to suffer a shoulder injury throwing during practice (rather than a game) that will put them on the sideline.

Ankle injuries are most likely to occur with sliding, and ankle fracture rates as a ratio of fractures to sprains is higher in baseball than in other high school sports. Hand and finger injuries occur more often during the act of catching a ball. Baseball injuries to the thigh and upper leg usually are linked to running on the base paths or while fielding the ball.

Research also sheds light on many other interesting facts about high school baseball injuries.

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Nearly 75 percent of these injuries will take place during the competitive season. Most of the injuries that occur during a high school baseball game seem to occur between the third and fifth innings. The most common area of the field where injuries occur is at first base; followed by home plate and second base.

High school baseball injuries occur greater than 25 percent of the time while a player is fielding the ball; 17 percent of the time while running the bases; and approximately 14 percent of the time (each) for pitching and batting. Over 60 percent of the reported injuries during practice occur about 1-2 hours into a baseball practice, although it is not clear why this is the case.

The information I reviewed is in part a portion of the largest sport injury study in high school sports ever completed, which covered the 2008-2009 season. The data came from 100 high schools across the USA. This included nearly 40,000 injuries reported for high school baseball out of a total of 1.25 million injuries reported for all high school sports. Yet it is extremely common for high school baseball players to not talk about an injury, partly for fear of losing playing time and also to avoid a label of being “soft” by their teammates and coaches. Communication that is open and honest is the key to identifying any injury, treating the injury, and getting the player back to the field safely as soon as possible. Note to high school baseball players: Talk to your athletic trainers!

Most people believe that injuries are just a part of playing sports. The reality is, sports-related injuries are in large part preventable.

The largest survey of the most successful pitchers (and least injured) in the last 20 years in Major League Baseball shows that these pitchers did not throw breaking balls until the age of 16. Despite this overwhelming evidence and pitch-count guidelines, many coaches, parents, and players alike continue to ignore these facts and put winning first in youth baseball. Unfortunately, ignoring the evidence has led to an increase in severe elbow and shoulder injuries in youth and high school pitchers.

Changes in protective equipment have been linked to injury studies, such as the current design of the batting helmet. The same can be said about the newer hockey-style masks for catchers. Most recently, in March 2011, Easton-Bell manufacturing unveiled a design for a protective head-band helmet that fits over the baseball cap, designed for pitchers. This might seem blasphemy to baseball purists; but the increasing frequency of severe head injuries in high school baseball pitchers (due to batted balls from aluminum bats) has led to this futuristic

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design.

My 30 years experience in sports medicine tell me it will take some time for policy to change across the country to include such a radically new idea like the headband helmet. However, I am a little-leaguer from the 1960s who loved his wood bat and sometimes batted without a helmet (even though the double ear- flapped helmet was designated “mandatory” for use in Little League baseball in 1958). It is possible that my cognitive function and memory have been influenced by the number of times I was hit by a pitch in my hard head. I was only trying to follow my coaches’ orders to “protect the plate”!

(About the Author: John Tomberlin has worked with high school athletes in the Cedar Rapids Metro area since 1995. He was a four-sport athlete in high school and a high school coach for two years in Illinois. John has more than 25 years of experience working with athletes as a physical therapist and a certified strength and conditioning specialist. He has worked with professional athletes in the NFL, MLB, and on the PGA and LPGA tours. John also has worked with elite amateur athletes in alpine skiing, figure skating, and track and field.)