

Chronic repetitive injuries a growing concern in lacrosse

Shoulder, elbow, hand and wrist account for approximately 15 percent to 25 percent of incidents at high school and college levels

*By Dr. Milford Marchant Jr., Special to The Baltimore Sun
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The rules of lacrosse allow for both player-to-player and stick-to-player contact, leaving players susceptible to acute traumatic injuries like those commonly seen in football and ice hockey.

However, as lacrosse continues to become a year-round game, chronic repetitive injuries like those typical in baseball, tennis and swimming may begin to surface.

Lacrosse has grown rapidly in the past 10 years. According to a recent survey by US Lacrosse, the sport's national governing body, participation has risen by an average of 10 percent a year since 2002, with more than 600,000 people now playing at various levels. Despite the physical nature of the sport, lacrosse maintains an injury rate substantially lower than those in football, wrestling, ice hockey, men's and women's soccer and gymnastics. However, as the game continues to expand, more players and more games mean more injuries.

In regard to reporting specific injury patterns and treatment protocols, the medical community has not kept pace with the sport's growth. Epidemiology studies show that knee and ankle injuries tend to be the most common in lacrosse, but the frequency of upper-extremity injuries is still significant. Injuries to the shoulder, elbow, hand and wrist account for approximately 15 percent to 25 percent of injuries at the high school and college levels.

In terms of protective equipment, lots of variation exists among shoulder and elbow padding, but the helmet and gloves are fairly uniform across equipment manufacturers. Just as athletes are still susceptible to concussions even while wearing helmets, players are susceptible to fractures of the hand and wrist even with well-made gloves.

Hand and wrist injuries account for approximately 10 percent of injuries in high school boys and girls lacrosse. In terms of keeping athletes out of competition at the high school level, fractures of the hand or wrist were the most common reason in girls' lacrosse and the second-most common in boys' lacrosse. Injuries can obviously occur with a direct blow from an opposing player's stick but may also happen when contact with another player or the ground causes the fingers or wrist to bend back.

Goalies are particularly vulnerable to a direct blow from a shot to the tip of the thumb. Multiple episodes of thumb fractures among goalies reported in the American Journal of Sports Medicine helped encourage equipment companies to produce goalie gloves with protection designed to prevent this injury.

Beyond the common bruise, elbow injuries are unusual in lacrosse. Only a few reports of severe injury exist in the medical literature. Repetitive injury to the ulnar collateral ligament has been seen in baseball players and other athletes undergoing Tommy John ligament-replacement surgery. Fortunately, repetitive injury to the elbow has not been reported in lacrosse players.

The shoulder is vulnerable in lacrosse and has received much of the attention in the medical literature. Body checks and player-to-ground contact often occur while the arms are away from the body, placing the shoulder at risk despite the required padding. Collarbone (clavicle) fractures are common injuries that can occur from a stick check, body check or shoulder contact with the ground. Collarbone fractures are seen at all age levels and can limit return to play for nine to 12 weeks whether or not surgery is required.

Similarly, shoulder separations, or injury to the joint where the collarbone joins the shoulder blade, may limit play depending on the severity of the injury. Data from the **NCAA** injury surveillance system reported shoulder separations to be the most common shoulder injury in college lacrosse and the second-most frequent injury causing players to miss 10 or more days. Other major shoulder injuries such as dislocations, rotator cuff tears and cartilage labrum injuries are uncommon but can be career-limiting. High school, college and professional players who suffer these types of injury often require surgery to restore stability not only for athletics, but also for daily living. These injuries require lengthy rehabilitation.

While the majority of players' protective equipment covers the upper extremities, shooting, body checks, stick checks and contact with the turf or grass leave the shoulder, elbow, wrist and hand vulnerable to injury. Because most of the injuries to the upper extremities in lacrosse are contact-related, it is difficult to design training programs to prevent these injuries. That said, offseason weight training and conditioning are still important to strengthen the muscles around the **joints** at risk.

Fortunately, most of the injuries to the upper extremities seen in lacrosse heal well with few long-term complications. Most athletes return to their previous level of competition. As the fastest game on two feet continues to grow, the collaborative effort of players, coaches, medical professionals, league officials and equipment manufacturers will be important to advance the technology of protective equipment and the game as a whole in hopes to limit the number of traumatic injuries.

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