

Girls Lacrosse is the fastest growing youth sport in the United States and over the past few years has seen a rapid increase of new programs. Today girls of all ages have the opportunity to play Lacrosse. As this growth has occurred, the level of play has changed dramatically. Changes include the speed of the game, the design of the sticks, the physicality of the game and the hardness of shots. However, today the game and its expansion are at risk due to growing prevalence and awareness of brain injuries.

With growing concern over concussions and traumatic brain injuries in girls lacrosse, as well as the media's involvement, understanding the decrease of participation in boys football is pertinent to girls lacrosse. Today, Reuters reports that a significant decline in participation in youth football has occurred. In fact, in nine years average national participation in the sport decreased by 500,000 players, contradicting the rise of participation in youth sports in general. Dr. Chris Feudtner, Children's Hospital of Philadelphia, stated that "This decline is associated with media attention focused on concussions or brain injuries among football players" (Reuters). This decrease has additionally translated to high school programs; between 2016 and 2017 20,000 less high school students played football due to growing concerns over "player safety" according to the Washington Post.

<https://www.reuters.com/article/us-health-kids-tackle-football/fewer-u-s-high-school-athletes-play-football-amid-concussion-fears-idUSKCN1GO2LY>

https://www.washingtonpost.com/news/early-lead/wp/2018/08/28/high-school-football-participation-continues-to-drop-as-concerns-over-cost-injuries-persist/?utm_term=.f58b0a0714ce

The number of recorded concussions in girls lacrosse has become recognized as among the highest per player of any sport. A study by the National Center for Biotechnology Information states that the prevalence of concussions in girls lacrosse ranks second only to boys football.

(<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6094348/>)

(<https://www.futuremedicine.com/doi/full/10.2217/cnc-2017-0005>)

A concussion can be a permanent, life-altering injury. Having met many girls who have incurred severe concussions, it is clear that this is a particularly devastating, and somewhat covert, injury as the sufferer ultimately disappears from her normal life. And, on too many occasions never fully returns. All concussions cannot be prevented but, if just one girl's life can be saved through a simple change in the rules: a mandate that ASTM approved headgear must be worn; it **must** be done. And the scientific and anecdotal evidence shows that headgear can reduce the occurrence and severity of many concussions.

As the representative organization tasked with establishing rules and standards for the girls game, US Lacrosse has an obligation to do its utmost to ensure that the game is regulated to create the safest playing environment possible. This responsibility includes taking leadership and in establishing rule changes that will increase the safety of the girls who play lacrosse. This, in turn, will help continue to foster the growth of the game. Further, this change is necessary to

prevent potential players, and more likely their parents, from rejecting the game of lacrosse due to the excessive number of brain injuries.

However, this approach should be based on science, and not comparisons with full contact sports such as football or boys lacrosse.

“...if you take a step back and look at all of the arguments put forward for why girls' lacrosse players should not be wearing helmets, you can address each one with scientific evidence now.”

Dr. Dawn Comstock, PhD in Public Health Epidemiology, University of Colorado School of Public Health. One of five experts invited by the White House to speak at the Healthy Kids and Safe Sports Concussion Summit to address the growing risk of concussions in adolescent sports. In 2017, she accepted an invitation to serve on the Board of Scientific Counselors for the CDC's National Center for Injury Prevention and Control (NCIPC).

The science behind headgear and concussions refutes the primary arguments against the mandate of headgear for girls lacrosse. The arguments most commonly advanced by those opposed to introducing headgear are (1) Helmets don't prevent concussions, (2), wearing helmets will create a “gladiator effect” and (3) it is preferable to reform rules and educate coaches and players instead.

“Helmets don't prevent concussions”

The argument that “helmets don't prevent concussions” is based on a flawed premise which relates the type of concussion in girls lacrosse to that incurred most commonly in full contact sports such as football or men's lacrosse. The *science* explains the flaw in this comparison. In full contact sports, the main cause of concussion is body to body collision. This type of impact creates a rotational force to the brain for which a helmet is of little benefit.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5005709/>

However, *scientific* studies show that the main cause of concussions in girls lacrosse result from linear impacts from a ball or a stick. There has even been discussion about modifying the ball itself to reduce the concussive impact. The US Lacrosse ASTM standard ensures that the headgear available for girls lacrosse is equipped to significantly reduce these kinds of impacts and therefore, the frequency and severity of brain injuries. It is also notable that research shows that the player on the field who most likely sustains the greatest number of impacts to the head with a ball, the goalie, is also the player who sustains the fewest concussions on the field. She alone is required to wear a helmet. <https://www.futuremedicine.com/doi/full/10.2217/cnc-2017-0005>

Moreover, Dr. Jeffrey Kutcher, “a neurologist and the NBA concussion program director advises the NFL and NHL Players’ Associations and helped to create the NCAA’s concussion-related policies.” He stated that “female lacrosse players this spring... might have avoided a visit to his clinic if their heads had been protected” and endorsed headgear in girls lacrosse. Dr. Kutcher asserted that “I would recommend the use of headgear because I see injuries that are preventable” (Associated Press News).

<https://www.apnews.com/abd22831ad494db7a7ec2703871eca1a>

The “Gladiator Effect”

The idea that introducing helmets into today’s game will create a “gladiator effect” and thus increase aggressive play and injuries has been a major crutch supporting the rationale for not mandating the use of helmets. The same argument is typically accompanied by the view that, instead rules governing the game and officiating should be strengthened. The reality is that this argument lacks a single piece of scientific evidence instead relying on opinion. In fact, the only scientific studies of a change in the nature of an athlete’s play I have seen are in rugby, cycling <https://www.theguardian.com/lifeandstyle/2016/sep/22/bicycle-helmets-reduce-risk-of-serious-head-injury-by-nearly-70-study-finds> and

skiing. <https://www.ncbi.nlm.nih.gov/pubmed/27876383> (study in

CO). <https://qz.com/621502/if-youre-not-wearing-a-helmet-on-the-slopes-youre-the-weird-one/> In each of those studies, the opposite was shown: when wearing headgear, there was NO evidence that the nature of an individual’s performance changed while the safety benefits were extremely positive.

The "gladiator effect" is, in my opinion, a myth that simply will not die -- despite the fact that there's not a single piece of published research that I'm aware of that actually proves this idea that if you put a piece of protective equipment on an athlete they will simply, as a result of wearing that protective equipment, become these super-aggressive, high risk-taking players. Girls' lacrosse players can't play more aggressively unless the officials, the coaches, their parents, the policymakers allow them to do so. - Dr. Dawn Comstock, PhD in Public Health Epidemiology from the University of California San Diego/San Diego State University.

Reform the Education of the Game

This argument is introduced with an acknowledgment of the excessive number of concussions and brain injuries within the game, but instead focuses on the reform of rules, education, and officiating. However, historically this has been tried at both a national and regional level and yet, the occurrence of concussions has not diminished. This correlation between past rule and officiating efforts and the continued rise in concussions proves that this is not, alone, a tangible solution. And, for those convinced that rule-changes and officiating can impact dangerous play, the introduction of new rules after a headgear mandate remain an option to mitigate any real concerns of the “gladiator effect”. And in the meantime, girls lives are being permanently damaged due to concussions that could be prevented or whose severity could be reduced.

It is also worth noting that historical arguments were similarly made prior to the introduction of helmets in hockey and even eyewear in women's lacrosse. Today few would say that eyewear should be eliminated due to changes it brought to the game. Thanks to the availability of ASTM approved headgear and the willingness of some to use it, there are modern anecdotal examples that support the science.

As someone that has coached both youth and high school teams, I have seen both my daughters play wearing headgear and the nature of their play has not been any more aggressive than previously. In addition, I have played against teams, including one where a majority of their players wore headgear. They were no more aggressive than any other opponents we played. Here is a quote from that team's head coach.

I have coached the girls game for 10 years from youth to competitive club to high school. During this time I have seen the game transform and I have become alarmed by the tragedy that major concussions have had on several girls I have coached and cared about. As a result, I strongly encourage my players (and their parents) to wear helmets. Our high school team is known to wear more helmets than any other in the region. Concussions will not go away, but I now know first hand that helmets do NOT change the way girls play.” - Avi Orenstein, Head Coach, Las Lomas High School, Northern California, US Lacrosse Level 3 Certified Coach

There is another argument, or fear, that often accompanies this discussion: “Introduction of helmets will change the game.” While this is a legitimate concern about any new rule, the reality is that the game has changed but the rules have not kept pace.

Anyone saying the game hasn't gotten faster and more physical has not been to a girls lacrosse game recently. Headgear isn't changing the game. We just need to play smarter and give our girls every advantage we can. My team wore helmets this year, I had 0 concussions, last year I had three girls concussed. Those are just the facts”. - Joe Ferraro, Tampa Catholic High School Coach, Florida

Anyone who suggests that the introduction of helmets into the girls game will change the game has not been paying attention. The game has changed dramatically and is not a highly physical game with harder shots, more checks and stronger athletes. - Kristen Mullady, Founder, Lax+ Lacrosse Club (CT), Head Coach Springfield College, MA, NewMAC Coach of the year, 2011, 2015, 2017

"I didn't notice any more violent play. It looked like girls lacrosse.” Clint Lyons, Fleming Island H.S. (Florida) Head Coach.

I am the only player on my team who wears a helmet. I could not care less. I feel safer & I have been hit in the head while wearing my helmet and I know I would have been out. It was no big deal. —Kiara, High School Player, California

As a coach - US Lacrosse Level 3 Certified - for the past nine years, I have witnessed the rapid change in the game this decade. I have also witnessed the devastating effects of my daughter's brain injury unnecessarily sustained in a lacrosse game. Two checks to the head in short succession lead to my daughter's fall and a severe concussion. Her recovery took over 1.5 years and was never guaranteed. And she will always remain susceptible to future injury. After dropping out of school and sports for a year, she will always live with the psychological and intellectual changes, darkness and depression she experienced. All of which would have been prevented or minimized had she been wearing headgear.

"I wish I had been wearing headgear when I was hit. I am confident that wearing headgear would have seriously mitigated or prevented my brain injury. I'm 17 and I lost a year of my life. US Lacrosse has the power to prevent other girls from experiencing life-altering brain injuries and concussions. If a helmet prevents one girl from experiencing what I went through, it will be worth it." - Sophia Kofoed, 8 year lacrosse player

Since her injury, I have heard from and spoken with many girls and parents who have had similar experiences, in some cases years later and still symptomatic. Each injury was caused by being struck in the head by either a stick or ball. And brain injuries are unlike any other sports injury. A brain injury may never heal and the nature, happiness and overall health of a person can be changed forever.

I have also personally seen situations where alarmingly hard checks to the head, when wearing a headgear, have resulted in no injury of any kind. I have had players also relate incidents to me where they know, "...I would be out if I wasn't wearing my helmet."

As head coach and a parent of 3 girls that play lacrosse, I witnessed one of my daughter's, a past concussion sufferer, get hit in the head with a stick while wearing a helmet and suffer no injury. I know that helmets can't prevent all concussions but the benefit of helmets in the girl's game is obvious to me." - Phil Mannoni, Founder, 4Core Lacrosse Academy, President, Walnut Creek Warriors Youth Lacrosse, US Lacrosse Level 3 Certified Coach

When reviewing the science and real experiences of coaches and players, the evidence is clear that mandating headgear will increase the safety of the game protecting girls **now**. There is not a single peer reviewed study that demonstrates that headgear will cause greater danger to girls. The arguments advanced against mandating headgear in girls lacrosse have been deemed fallacious by science and statistics; headgear will decrease the rate of concussions in girls lacrosse, does not create more dangerous play, and is the most tangible, immediate solution to lessening the occurrence and severity of brain injuries.

Today, wearing an ASTM approved headgear is optional. The reality is that the use of headgear will save the brains of girls who are playing today and tomorrow. Many players are unwilling to wear a headgear due to a stigma around it or the worry of being different. As with the old arguments against eyewear, there are coaches who fear a threat to the game they grew up playing who discourage or forbid wearing headgear. Or they simply go along with the well-known view of US Lacrosse that “helmets don’t prevent concussions.”

Today, possibly unintentionally, through inaction, US Lacrosse has supported this stigma by not taking a strong, clear position based on the scientific evidence readily available and the rapidly amount of crushing injuries girls are experiencing.

We have spoken to countless youth and high school parents about this matter. An overwhelming majority are bewildered that headgear is not a required piece of equipment mandated by the authorities of the game and strongly support the mandating of headgear.

Until US Lacrosse takes action on this matter and mandates headgear, girls will continue to suffer concussions that may be preventable and parents will ultimately ask why US Lacrosse has not done more to protect players.

We are among a group of coaches, parents, scientific and medical professions who are determined to protect girls and the game of lacrosse by mandating the wearing of ASTM approved headgear. the www.brainsafetyalliance.net.

Respectfully,

Brad Kofoed, US Lacrosse Level 3 Certified Coach
Rebecca Acabchuck, Ph.D., Physiology & Neurobiology with expertise in recovery from post-concussion syndrome
Sophia Kofoed, Junior, Center Midfield, Brain Injury Survivor

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