

On behalf of the Brain Safety Alliance, Coaches, Players and Families, I respectfully submit this request for a rule change in girls/women's lacrosse. Specifically, we request that US Lacrosse mandate the use of SEI certified headgear for all girls who participate in the game of lacrosse, similar to the requirement that boys players wear a hard helmet to protect their heads.

Our group formed because of the personal experience many have had - from the impact of a brain injury while playing girls lacrosse. The other thing we share is our love for the game of girls' lacrosse and our wish is to see the game continue to grow and for more boys and girls to play the game.

US Lacrosse must take its responsibility seriously to increase the safety of the game wherever possible. Creating a headgear standard is not sufficient when evidence is clear that, A) players won't wear the headgear without a requirement due to stigma, and B) other measures such as enforcement, improvement of post-concussion training, and coaching methods are not adequate alone.

Since our first rule change request in May of 2019, the only thing that has changed regarding the importance of this rule change is that more girls undoubtedly suffered concussions in the shortened 2020 season and will suffer unnecessary concussions this shortened 2021 season. And a third scientific research study has been released supporting the same arguments made in our initial submission: 1) Mandated headgear will reduce the impact, severity and number of concussions and head injuries, and 2) Mandated headgear will not increase the danger or physicality of the game and the "gladiator effect" argument is a myth.

There has historically been a third argument or rationale for no mandate: change how the game is officiated. This has not changed the game in a way to address the main problem of concussions. Further, if this argument is to be believed, then it also must be accepted that officiating can address any undesirable outcomes of a headgear mandate.

Headgear will not prevent or minimize every concussion. The current headgear design standard is specifically designed to address the nature of impacts in the girls game so as to distribute the force to reduce the impact to the head and internal brain structures. Now both science and anecdotal evidence is beyond question that the harm of some brain injuries will be lessened, others will be prevented with the mandate of headgear without causing concomitant physicality leading to different injuries.

There are now three scientific research studies whose conclusions are as follows:: Headgear reduces both the severity and number of concussions in the girls game, and does NOT increase the violence or physicality of the game.

This same conclusion has been seen by coaches who have, on their own, supported or required their players to wear headgear. For those of us who have coached teams and players that have worn headgear, the positive benefits are obvious. Several quotes from coaches, including two State Championship Finalists, are included below.

Finally, and most importantly, had there been a mandate sooner, we believe that there are clear instances where the severity of brain injuries could have been reduced or prevented had headgear been mandated. The impact of this kind of injury is unlike most others. And often goes unseen due to the nature of recovery and isolation. Often the impact is life-long. Future players MUST be protected without any further delay.

It is important to state that the approach of making headgear optional is tantamount to inaction. It is well-known that most players will not choose to wear a helmet when others are not. The stigma against standing out is too strong. These are young girls who depend on the safety decisions and guidance by adults, particularly those tasked with ensuring every possible measure is taken to improve their safety.

How many girls' lives have been negatively altered since our submission in May 2019 whose injuries may have been lessened had this mandate been put into place two seasons ago? Let us not have to ask this question in another year due to non-scientific attachment to myths and the idea that headgear will alter the essence of a game we all love. Plastic sticks, fields with lines, eyewear, all posed a "threat" to the essence of the original game. Yet the game has, and will continue to flourish. In fact, brain injuries may pose the greatest threat to the girls game if US Lacrosse fails to act.

SCIENCE

1. Caswell, S. V., Kelshaw, P. M., Lincoln, A. E., Herman, D. C., Hepburn, L. H., Vincent, H. K., ... & Cortes, N. (2020). The Effects of Headgear in High School Girls' Lacrosse. *Orthopaedic Journal of Sports Medicine*, 8(12), 2325967120969685.
 - *Methods:* Using wearable sensors and video verification, this study compared a full season of play with and without helmets, in one varsity-level high school team (N=49).
 - *Results:* The study found **the use of lacrosse headgear significantly reduced the magnitude of impacts to the head.**
2. Baron SL, Veasley SJ, Kingery MT, Nguyen MV, Alaia MJ, Cardone DA. Decreased Injury Rate Following Mandated Headgear Use in Women's Lacrosse. *Bulletin of the NYU Hospital for Joint Diseases* (2020) Dec;78(4):260-265. PMID: 33207148.
 - *Methods:* Injuries were documented in eight high school women's lacrosse teams and their game opponents who were mandated to wear F3137 headgear for the 2017 and 2018 seasons. Injury rates were compared to a control cohort from the High School Reporting Information Online injury data reports.
 - *Results:* **The headgear cohort demonstrated significantly lower rates of concussions in games, as well as lower rates of in-game head and face injury, when compared to the control cohort that was not wearing helmets.**
 - *Conclusion:* Baron and his team concluded that mandated use of F3137 headgear was shown to be effective at lowering the rate of head or face injury and concussions in women's lacrosse. Additionally, mandated headgear use was also shown to lower the rate of injury to body locations other than the head or face during practice.
3. Comstock, R. D., Arakkal, A. T., Pierpoint, L. A., & Fields, S. K. (2020). Are high school girls' lacrosse players at increased risk of concussion because they are not allowed to wear the same helmet boys' lacrosse players are required to wear?. *Injury epidemiology*, 7, 1-10.
 - *Methods:* Compared boys and girls national high school injury surveillance data from 2008 to 2019.
 - *Results:* Found **stick or ball contact accounted for the majority (72.7%) of concussions for girls**, but not for boys. **An estimated 44.7% of all girls' LAX concussions could have been prevented if girls' LAX players wore the helmet mandated in boys' LAX.** Among the most important findings in this study is that there are two different types of

concussion causation: Linear (ball or stick to head) and Rotational (body to body contact). A helmet is not effective at reducing damage caused by rotational but highly effective at reducing Linear concussions. This is especially important because **the opportunity to significantly reduce concussions in the girls game is evident as the cause of a majority of concussions in the girls game is ball or stick to the head.**

- *Discussion points:* **There are no peer-reviewed publications reporting evidence to support the argument of the “gladiator effect”.** Rather, a body of refuting evidence concludes **there is no increase in risk taking behavior and/or injury rates associated with use of protective equipment** (Lund and O’Neil 1986; Scott et al. 2007; Cusimano and Kwok 2010; Ouellet 2011; Haider et al. 2012; Ruedl et al. 2012; Brunner et al. 2015; Ruedl et al. 2019). The most pertinent examples include a randomized trial study which found no increase in injuries, including concussion, among high school soccer players randomized to wear headgear (McGuine et al. 2019) and a study of the eyewear mandate in girls’ LAX which concluded “overall injury rates do not indicate rougher play with introduction of protective equipment” (Lincoln et al. 2012).... The only way girls’ LAX players could exhibit the gladiator effect is if LAX coaches, officials, and policy makers allow them to violate the rules of play.

PLAYERS

Kayla Zuniga

My concussion lasted 4 MONTHS! I was struggling to pass my classes and keep up with school. My concussion lasted until the end of the year. I even had to take my finals with my home hospital teacher. The recovery process was strange. It was as if I was having to teach my brain how to process information and work the way it had before. My brain wasn't working as fast as I wanted it to and it was extremely frustrating.

I was the only one on my team that wore one and I was extremely embarrassed. But my mom wouldn't let me play if I didn't wear it, so I did, and now that I look back, I am so glad I did! the first game I got whacked in the head at least 3 times! I didn't realize how much my head got hit during a game until I started wearing the helmet. If I could go back and wear a helmet during the game I got my concussion, I would. Even today, after my recovery, I still feel like my brain isn't 100% the way it used to be.

Sophia Kofoed

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.

Becca Losch

I am living a great life but continue to feel the effects of April 24, 2012 every single day. I receive Botox injections with my neurologist every three months to manage post trauma migraines, give myself an injection once a month, take Advil and wear my icepack "hat" regularly for my daily headaches and migraines. While I never returned to contact sports, I believe being an athlete has empowered me in all areas of my life. I will continue to advocate for concussion education, awareness, and safety for athletes.

Mikayla Angus

Beyond academics, my concussions greatly changed my social life and overall mood. I was depressed for much of my junior and senior years, stand-offish towards my friends and family, and all I wanted to do was stay in my room and hide. I would ignore plans with my friends even though I desperately wanted to hang out with them and pretend things were back to normal. However, I had to adjust my definition of normal and find a "new normal." My new normal didn't have lacrosse in it and I had to find a way to be okay with that and accept the fact that I had changed throughout this experience.

I wish I could go back to before I had my concussions, because if there is even a chance that headgear is more effective in preventing concussions I would have changed over. Don't start wearing headgear after you get a concussion, be proactive and protect your head!

COACHES

We had a lot of concussions in the past... but for the past three years since we have worn headgear we had zero concussions.

Coach D, Harriton High School, Pennsylvania State Champions 2019

I am head coach of Stonington High girls lacrosse and in 2019 was the first and only team in the CT Interscholastic Athletic Conference (CIAC) to adopt mandatory usage of headgear. It was an absolute success and our team played in the CT state championship finals that season.

Jeff Medeiros, Head coach

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

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 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

Bradley Kofoed, Co-Founder, Brain Safety Alliance
Former Commissioner, Walnut Creek Warriors Youth Lacrosse
US Lacrosse Level 3 Certified Coach
Yough and High School Girls
Father of Girls Lacrosse Brain Injury Survivor