

Testimony of

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Committee on Education and Labor
United States House of Representatives

On

The Impact of Concussions on High School Athletes

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Good morning, Mr. Chairman and Members. Thank you for holding this important hearing on the impact of concussions on high school athletes. My name is Sarah Rainey. I am a freshman student/athlete at West Potomac High School in Alexandria, Virginia. I am still recovering from a concussion that I sustained on April 12, 2010, during a high school varsity soccer match. My concussion ended my soccer season and has significantly impaired my ability to keep up with my school work. I appreciate this opportunity to share my experience with the Committee.

Soccer – The Beautiful Game.

My sport and passion is soccer. I have been playing organized competitive soccer since I was seven. In addition to being a starter on my high school varsity team, I play for a top club team and have been in the Virginia Youth Soccer Association's Olympic Development Program (ODP) for several years. I have played in competitive soccer matches from North Carolina to Rhode Island and in five European countries. I am a good youth player and hope to play in NCAA Division I in college. Although I'm only fourteen, I have a lot of playing experience and believe that I can speak knowledgeably about the risks of soccer at the highest youth and high school level.

Soccer is the fastest growing sport in America. According to US Youth Soccer, there are now over three million registered players ages 5 to 19 playing youth soccer in the United States. Although I don't know the numbers, soccer is now a major high school sport. Soccer is often called "The Beautiful Game" by its players and fans because of the free flowing non-stop action. However, despite the increase in popularity of the sport in the United States, many people still don't appreciate how physical the game is and that there are significant risks of injury to players. My attending emergency room physician was in that group of people. He told me how he didn't think my injury was likely to be serious because it is very rare that a player would get a concussion playing soccer. About twenty-minutes later, he was proven wrong, when a high school teammate of mine came into his ER with a concussion from the same high school game. I know that these numbers are not statistically significant, but out of the 18 girls on my high school varsity team, 2 of us have concussions now, and 3 others have sustained concussions within the past year. On my U-15 club team, 3 out of 15 players have had concussions within the past year, including me. My point is that it's not only football or hockey or some of the more obvious contact sports where players have risks of sustaining concussions. Also, girls play just as hard and are also at risk, not just the boys.

The High School Game

Soccer is governed by an international organization called FIFA (Federation Internationale de Football Association). FIFA establishes the laws of the game. U.S. youth soccer and high school soccer use modified FIFA rules. Because the Committee is holding this hearing on the impact of concussions on high school athletes, I assume your legislative authority must include some oversight and governance of high school athletics.

I can't speak to other high school sports, but I have a few observations about high school soccer. Soccer has developed primarily as a club sport in the United States. Most of the youth players start playing in non-school-related clubs and leagues in their elementary school years. Fairly early on, players choose to pursue either travel/elite soccer or recreation/house league, depending on their skills and commitment to the sport. By high school age, the player development and competition at the top divisions within the travel soccer leagues is generally at a higher skill level and more advanced than that of the high school leagues. I'm not saying that high school soccer isn't good quality. I loved playing on my high school team and making varsity and starting as a freshman was a great source of pride to me. There are lots of strong high school soccer programs. However, my point is simply that the technical skill level and depth of player rosters on top level travel teams generally exceed those of most high schools.

In addition to the greater variance of technical abilities among high school soccer players, there is also a larger variety of ages, sizes and fitness levels among high school players. In club soccer, both travel and house leagues, players compete against other players their same age. In travel soccer, teams are also grouped into divisions according to the team's skill level. For example, I play for a U-15 (under 15) girls team in Division 1 of the Washington Area Girls Soccer League. This past season, to expand our competition, my

club team played in the U-15 girls Premier Division of Region I which was comprised of the top 16 teams in our age group from Virginia to Maine. Thus, in club play, I play against girls my age or younger and at my skill level. By contrast, on my varsity high school team, I started as a freshman and played against players up to four years older than me. I loved playing for my high school, but there is a much bigger variance in the players competing against each other in high school soccer games and, because of this, the game is different.

Because of the big difference in age, size and technical skill levels of high school soccer players, I think there is a greater risk of injury to players in the high school game than in the most competitive club leagues. However, I don't have any statistics to back up my claim; I'm simply stating my observation from my personal experience as a player. One of the most important things I think this Committee might do is to require the recording, reporting and tracking of serious injuries, including concussions. In addition to playing soccer, I also qualified as a youth soccer referee. In the youth game, most leagues require referees to submit a game report. I am not a high school referee, but I assume there is a similar existing game report requirement. In the youth leagues, officials have to report the score and any cards (disciplinary actions) that were given. However, in my experience, there is no requirement to record or report player injuries. It seems to me that it would not be too burdensome to modify the existing game report to add a check box and short description to record any injuries that were serious enough that a player had to be removed and could not return to the match. I don't know if anybody really knows with any accuracy the frequency that concussions occur in high school sports. I think it would be important and not too costly or burdensome to monitor. Then once you had a good handle on the magnitude of the problem, you could figure out how best to manage it.

In addition to simply recording and reporting concussions and other injuries, I think there should be more awareness, training and education about the risks of concussions. I've learned first-hand that concussions are something that need to be taken very seriously. In soccer, there are generally 3 officials, a center referee and two assistant referees (sometimes called "linesmen."). The officials' primary responsibility is to ensure the safety of the players. It is not an easy job. Unfortunately, often the crowd and even some coaches and players give the referee a hard time. As a result, there is a shortage of soccer referees and, more specifically, good soccer referees. As I mentioned, I am not a qualified high school referee, but I have studied the FIFA laws and I am a qualified youth referee. There may be some different training for high school officials, but my experiences with referee training is that the courses focus on teaching the laws of the game and the mechanics of officiating.

FIFA has established 17 laws governing the game of soccer. Law 12 covers fouls and misconduct. The law lists certain fouls (e.g., kicking, tripping, jumping at, striking, pushing, etc.) and then leaves it to the discretion of the referee to determine if a player commits any of the offenses in a manner "considered by the referee to be careless, reckless or using excessive force." Obviously, there is a lot of subjectivity in the application of the laws of the game. Unfortunately, although soccer is gaining in

popularity, many of the referees at the high school and youth level did not play the sport at a high level, if at all, and they don't always have a good feel for what is dangerous play. Since the referee's primary function is player safety, I'd like to see the soccer referee training and education include more on sport-specific risks and injury prevention - not just how to call a foul and restart the game, but more in-depth training and education on how keep control of the match to prevent dangerous play while at the same time not blowing the game dead for every trifling offense. Too often referees needlessly penalize meaningless perceived technical offenses, but then completely miss calling dangerous play. In my case, the player blindsided me in the head as I was sprinting full-speed tracking a flighted ball. I never saw the hit coming. I sustained a concussion, was knocked unconscious, and my season was over. The defender played me not the ball. It was a clear and dangerous foul. The same defender gave another of my teammates a concussion in the same game. The referee made no call in either case. Clearly, the officiating crew failed to recognize and appropriately deal with this player's dangerous play.

In addition to better educating the officials, I would recommend mandatory training for high school coaches, trainers and players about concussions. Even though concussions are getting a lot of press lately in the NFL, I'm not sure there is a very good understanding about the risks and impacts of concussions in other sports. I know that I had no idea how debilitating getting a concussion could be until I got one. Hindsight is twenty-twenty, but I realize now that I never should have gone back in the game after I was knocked out. It was a division game and the score was tied. There were two minutes left in regulation, we had good momentum and it seemed that we might get the win. Even though I was practically carried off the field, I was put right back in the game, after a quick sip of water. I ended up playing the rest of the game and two additional overtime periods. I don't really remember it. Fortunately, I didn't sustain any more major blows during the rest of the game. Even though I was dazed, I wanted to get back in and help my team so I told the trainer, coach, and my dad who had come down out of the stands that I was OK to play. I know now that I wasn't OK and that we collectively made the wrong decision in the heat of battle.

The Academic Impact of My Concussion

The biggest shock regarding sustaining and recovering from my concussion has been the huge impact it has had on my ability to think. I never thought it would actually hurt to think. I like school. I want to attend a good college and get an advance degree. Before the concussion, I earned straight A's and had a 4.5 weighted GPA. Now, over a month after my concussion, I'm still behind and struggling to complete my school work. Despite me working as hard as I am able, and with my parents' help, my latest progress report includes a couple of "F"s, and a "D." I am determined to get my grades up, but it is going to take a lot of hard work, a lot of patience and understanding from my teachers, and some luck to get back to straight "A"s. I sometimes now have to use a calculator to do simple arithmetic. It takes me three times as long to do anything. I have to keep re-writing everything and my spelling is worse than normal. I can't seem to remember facts and dates. My head still pounds when I try to read small type for more than about 15-20 minutes at a time. Bright lights bother me and I am over-sensitive to noises. I never

realized how much fidgeting, finger-tapping and chair moving goes on in my high school classes. Even some of my teachers' lectures, when they change the inflection in their voices to emphasize a point, can leave me feeling sea-sick. Even when my head is not pounding, I always feel like I am wearing a compression head band.

I knew that I wouldn't be able to play sports for a while after getting a concussion. I've had a number of other injuries, bumps and bruises, sprained ankles and even a season-ending MCL sprain. I was prepared to be sidelined, although I thought I would have been back playing by now. That's why I am a little perturbed by the CDC's concussion slogan, "It's better to miss one game than a whole season." I understand their intent, but I think they minimize the seriousness of concussions by making it sound like you just need to take a game off and then you'll be good to go. I've already lost my whole high school, club and ODP seasons, including tournaments and camps.

My ACE Care Plan

The great news is that everybody is helping me. My parents took me to the emergency room immediately after the game. Then they researched about concussions online and called everybody they knew to educate themselves about what to do. My parents took me to Children's National Medical Center and I am lucky to be being treated by Dr. Gioia who is the Director for the Safe Concussion Outcome, Recovery & Education (SCORE) Program and one of your expert witnesses testifying at today's hearing. I have now been evaluated by Dr. Gioia and his staff three times since sustaining the concussion. Each visit, he compares my progress against a baseline impact test I took at my high school before the season started. I think it is very important and helpful to have a good baseline to measure recovery. One of the most helpful tools for me has been my individualized Acute Concussion Evaluation (ACE) Care Plan. After evaluating my progress, Dr. Gioia prepares a detailed report on my current symptoms with specific recommendations, including special accommodations that I still need to cope with the challenges of school. For example, I am supposed to take breaks during and in between classes when my headaches start. My teachers have been notified that I am still impaired and am not able to keep up with the regular pace of my advanced classes and have been requested to adjust my homework and exams schedule.

My teachers, coaches, and school counselor have been tremendous in helping me. My school counselor has initiated a temporary individualized special education plan for me, called a Section 504 Plan, that formalizes many of Dr. Gioia's recommended accommodations from the ACE Care Plans. Without the expertise of my doctor, and the understanding of my parents and educators, and their willingness to work together to help me, I know that I would go from a straight-A student to a failing student because of my concussion.

Of all my soccer injuries, the concussion has been the most challenging. For one, it is not an obvious injury. I look fine. I am not on crutches, in a cast or wearing a brace. You can't see a concussion. I also don't think most people have as much knowledge about a concussion and how debilitating it can be and that the effects can last so long. Everybody bumps their head from time to time. Plus, I think that there are different

levels of concussions and that some are worse than others and some people may just take longer to get over them. So as time goes by, I suspect that it is harder for a lot of people to believe that you are still significantly impaired. In addition to concussions being somewhat of an invisible injury, it is worse because it not only keeps you from playing sports, it's a brain injury, and you need your brain for school and everyday life activities. Unlike even a serious ankle or knee injury, a concussion also affects your ability to think. As a high school student athlete, having my ability to think impaired has been a serious disability.

In Conclusion

A concussion can have a serious impact and consequences for high school athletes. I have the best care possible from a leading concussion doctor, a great team of teachers, counselors, coaches, school administrators and supportive parents. I was a straight "A" student and, despite the best help possible, I am now failing several classes over a month after sustaining a concussion in a high school soccer game.

I recommend that the Education Committee use its authority and oversight jurisdiction over high school athletics to require the recording and tracking of sports-related concussions, to develop new and support existing awareness, training, education and treatment programs for concussions (like SCORE). I think high school sports officials, coaches, trainers and players should be required to learn more about concussions. The Committee may also want to study the appropriateness of requiring protective headgear to prevent or minimize the occurrence of concussions. In soccer, FIFA only requires players to wear shin guards, and that requirement only became compulsory in 1990. There will be strong differences of opinions whether protective headgear works or not, and even if it does, whether there is sufficient evidence that it should be mandated for the high school game. My dad already told me that I'll be sporting some new headgear when I return to play, so I won't be waiting for an act of Congress to make that equipment decision. Additionally, I don't know if it is already a law or not, but I think that high school athletes should be able to have an individual education plan (like the 504 Plan I have) to formalize necessary temporary accommodations at school for the duration of their impairment.

Thank you again for this opportunity to share my personal experience on the impact that a concussion is having on me as a high school athlete.