A blow to the brain

concussion awareness: new regulations & how a former athlete is championing the cause

By John Boccacino

thletes spend countless hours perfecting their craft, from pre-season workouts to grueling in-season practices, all with an eye on excelling when it counts: during games. But sometimes athletes can be their own worst enemy, especially when it comes to the sensitive decision of playing through an injury or sitting out and allowing the body proper recovery time. The dilemma of playing through pain or properly rehabbing from an injury becomes even more important for student-athletes dealing with head injuries and concussions.

As competitors, athletes will often push their bodies as far as they can, determined to do whatever it takes to experience onfield success. But in the case of concussions, which, according to the latest national data available from the Centers for Disease Control (CDC) affect more than four million people under the age of 19, returning to the playing field before being properly cleared carries extra harm.

The CDC estimates that roughly 300,000 sports and recreation-related concussions occur each year, and the frequency of concussions and traumatic brain injuries (TBI) has doubled over the last decade. Data from a 2011 study reported by the American Journal of Sports Medicine, indicates that concussions are increasing by 15 percent annually among high school athletes. Student-athletes with concussion-like symptoms are at an increased risk for future brain damage, as the survey claims these athletes can be as much as three to

six times more likely to suffer a subsequent concussion in the days and weeks following the initial injury. In New York, roughly 51,000 children under the age of 19 were taken to the emergency room for treatment of a potential traumatic brain injury, with approximately 3,000 of those athletes being hospitalized for treatment.

Increased Awareness

Dr. Mark Mirabelli is a family physician who was trained in sports medicine. Since his arrival at the University of Rochester Medical Center in January of 2007, Mirabelli has focused on athletes who suffer sports concussions. Dr. Mirabelli, along with Dr. Jeff Bazarian and Dr. Jim Swenson, has coordinated a collaborative effort between the neurosurgery and orthopedic departments to form the University of Rochester Medical Center's Sports Concussion Program, which works closely with the athletic training staffs at five area colleges and more than 20 area high schools.

"There has been a significant increase in awareness among the general public and the medical profession for what a concussion is, and how it is treated," Mirabelli says. "The issue of concussions used to be an orphaned medical problem, where not a lot of people paid attention from a physical or medical standpoint. But through a series of unfortunate incidents with professional athletes, more patients have become aware of the problem and doctors have realized this affects more than just a small segment of the population. It's not as though more people are getting concussions, but more people are able to realize they have a concussion, and know that there are resources out there for them. The important thing is they get seen and evaluated before returning to their sports."

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Considering the high number of concussions among young athletes, New York recently took measures to ensure athletes across the state are both properly diagnosed and receive the appropriate treatment for concussion-like injuries. Given the serious repercussions of playing through a concussion, there must be added emphasis placed on properly diagnosing concussions the first time, so athletes don't place themselves in harm's way and risk sustaining a second, potentially more damaging concussion when they return to the playing field.

Championing a Cause

Former middleweight boxer and current concussion awareness advocate Ray Ciancaglini was heavily involved in the recent passing of the Concussion Management and Awareness Act, a state law that requires school districts to have a policy in place for dealing with head injuries. For Ciancaglini, a Geneva native and Romulus resident, the issue of properly diagnosing concussions is emotional, and one that hits close to home. As a successful boxer from 1966-1972, Ciancaglini experienced tremendous fighting success, never suffering a knockdown during his seven-year career while posting a 31-9-4 record in 44 career bouts.

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 Ray Ciancaglini, former middleweight boxer and current concussion awareness advocate But whenever he addresses current athletes during his frequent visits across the region, the 61-year-old Ciancaglini has a more pressing story to tell than reminiscing about a particular knockout win in the ring. He's focused on raising awareness of concussions among athletes, and the dangers of not recognizing when one has suffered a concussion. As a result of numerous concussions, each day Ciancaglini must take medications to help control his tremors and his persistent headaches.

"No one should have to suffer through what I'm going through as a result of not properly treating a concussion," says Ciancaglini, who has experienced headaches since he was 16 and lives with dementia and persistent tremors. "We have to protect athletes from themselves, and concussion prevention is so easy. If you get your bell rung, you have to be honest about the symptoms, get it properly addressed and wait until a doctor examines you before returning to action. If you start thinking you're tough and can battle a concussion, that's when you'll run into big problems. I challenged my concussion, but I got beat and I live with that fact every day of my life."

Management, Awareness & ImPACT Testing

Sarah Hillman, a member of both the soccer and lacrosse teams at Keuka College, was among the 350 student-athletes captivated by Ciancaglini's

speech in the middle of October. Hillman, a senior, estimates she has suffered three concussions in her sports career, the first coming during a soccer practice her junior year at Keuka. In a subsequent contest, Hillman's head smacked into an opponent's head, and instantly, she knew something was wrong. "I had a headache, I was dizzy, and bright lights and loud noises bothered me a lot more than usual," recalls Hillman. Hillman later suffered a third concussion and her soccer and lacrosse careers were cut short.

Under the new Concussion Management and Awareness Act, every coach, athletic trainer, nurse and gym teacher will have to complete an approved course on concussion management. Any athlete believed to have sustained a concussion must immediately be removed from athletic activities, and will not be cleared to resume play until he or she has been symptom-free for 24 hours and has been evaluated by and received written and signed authorization from a licensed physician. In addition, all schools are encouraged to devise a written concussion management policy that stresses the school's commitment to reduce the risk of head injuries.

The school district's medical director must formulate a procedure and treatment plan for those thought to have suffered traumatic brain injury, as well as a sufficient plan for educating nurses, certified athletic trainers, coaches and gym teachers on the dangers of concussions.

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Before any student-athlete with a sustained concussion can return to action, he or she first must pass an ImPACT test, a baseline test that studies the brain while measuring an athlete's symptoms, verbal and visual memory, processing speed and reaction time. During the preseason, student-athletes take the ImPACT test to establish baseline standards for their brain's cognitive abilities. After an athlete sustains a head injury, they once again take an ImPACT baseline test to compare their current brain capacity with their preseason test results. Included in the analysis of an athlete's cognitive functions are an assessment of attention span, memory recall, attention time, non-verbal problem solving and reaction time.

After Hillman's second concussion, she traveled to Rochester to see Dr. Jeff Bazarian with the University of Rochester Medical Center's Sports Concussion Program. After the 20 minute ImPACT test, Hillman's brain didn't show any lingering symptoms indicative of a concussion, so she was cleared to resume sports activities, including the six-day return to play protocol that serves as a gradual transition to get back onto the field. "I did not feel (like I was) rushed to return at all, I actually had felt a lot better than I had in a while," says Hillman, an adolescent mathematics education major at Keuka who played on the Storm's soccer team for four years, and the lacrosse team for three years. "But I felt that my team needed me, and that I was letting my team down by not being able to play. I lost one of the only things that had ever been there every day for me for more than 16 years."

In Our Schools

Locally, there are 119 schools and tens of thousands of athletes that compete in Section V at the middle and high school level. Scott Morrison, the longtime athletic director for Webster Thomas High School, estimates Webster Thomas has 1,800 athletes who play a sport each year between the middle and high school level. During each sport's pre-season, Morrison says both parents and athletes receive educational concussion awareness materials that detail concussion symptoms, list national and state data about concussions and also outline the necessary steps required to return to the playing field following a head injury. The Webster district's athletics website, like many other school districts in Section V, contains a link with helpful information about concussions. Webster's link is

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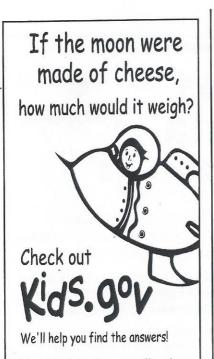


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Morrison says high-impact collision sports such as football, hockey, soccer and cheerleading are among the sports with the highest number of concussions. "I think we've seen more concussions over the recent years. We have bigger, faster and stronger athletes, and that can create an added injury risk," says Morrison, who played high school hockey and who currently serves as Section V's ice hockey coordinator. "Skaters can now go 7-10 miles-per-hour faster than they did back when I played, which definitely contributes to more concussions. We're now at the stage where people realize the seriousness of concussions, and they know it's not worth the risk to come back when you're not ready. We should never stop investigating how to play the games safer."

Ciancaglini, who has spoken at hundreds of high schools and colleges, has a clear message to today's athletes: even if you are the most competitive person in the world, ignoring concussion symptoms or attempting to play through a concussion will only harm your future, and that's a big price to pay for winning a game. "It's always better to err on the side of caution," Ciancaglini says. "If it turns out a mistake was made and you didn't suffer a concussion, you made the right choice sitting out and you can live with erring on the

side of safety. But boy, if you make the mistake of playing with a concussion and then suffer another injury to the head, that's something you'll never forgive yourself for. I would trade all of my wins in the ring to be free of these headaches and tremors." That's a passionate message that resonates well, wherever Ciancaclini travels

Hillman was a self-described wreck listening to Ciancaglini's suffering, knowing how difficult it was for her to forgo her senior year of sports after her third concussion. "There are so many people out there who are extremely unaware of the dangers that can be associated with concussions, and who would jump right back in the game, regardless," says Hillman, who adds she's concerned student-athletes will cover up their symptoms to avoid missing out on playing time. "All I could think about was how that could have been me. Mr. Ciancaglini made me realize that I have a lot of life left to live, and as long as I take what the trainers and doctors say seriously, everything will be okay."

John Boccacino is a frequent contributor to Rochester Area & Genesee Valley Parent Magazine. He lives in Webster, NY and reported on sports and local news for more than 6 1/2 years with the Democrat and Chronicle newspaper. He is currently the Director of Sports Information for Keuka College.



