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# Impact of Concussions

Cognitive baseline testing protects student athletes from getting back on the field too quickly after a blow to the head.

By Jon Roetman

**W**est Potomac linebacker Matthew Voltmer ended up on the ground on Aug. 14 and he doesn't remember how he got there.

It was a morning session during two-a-day practices at the high school in Mount Vernon, and the Wolverines were engaged in a hitting drill. A collision was the culprit, but Voltmer is uncertain of the details.

"I think we collided heads. To be honest, I don't remember the actual collision," Voltmer said. "I remember being about three feet away and then, next thing I know, I'm on my knees in front of him."

The junior got up, shook his head and got back in the drill.

Later that afternoon, between practices, Voltmer was watching TV when he realized the screen appeared brighter than usual. He didn't feel right, but he loves football and wanted to return for the team's second practice.

His mother had different ideas.

A teammate had informed Voltmer's mother of the hit her son took earlier in the day. After shining a light in his eyes and getting no response in his pupils, sign of a potential concussion, she took Voltmer to the hospital. Doctors performed a CAT scan and found a small bruise on his brain.

If Voltmer needed additional reason for not returning to the field promptly, it came three days later, when he took the ImPACT test.

**IMPACT IS A SOFTWARE** program geared toward managing the harmful effects of a concussion, including keeping an athlete off the field until he or she is fully recovered. Sustaining a second blow to the head while suffering from an initial concussion can cause second-impact syndrome, which is potentially fatal. According to the ImPACT Website, second-impact syndrome has led to 30-40 deaths in the last 10 years.

ImPACT provides a baseline by

measuring cognitive functioning through a series of recognition tests administered on a computer. Once a baseline is established, the test can be taken again for comparative purposes if an athlete has suffered a possible concussion. Data from the second test can help lead to a diagnosis and track recovery. Test results are kept at the University of Pittsburgh.

**VOLTMER, THE WEST POTOMAC** linebacker, had established a baseline when he took the test as a freshman. Two years later, the results from his second test showed a decrease in the quality brain function. Voltmer said he remembered most of what the test entailed from his freshman year, and noticed himself struggling at times when he took it a second time.

"Every single subject was lower, reaction time, memory, [performance on] everything was much worse than my baseline," Voltmer said. "In the reaction [segment] I remember there's one where you press a button if a red square shows up [and] press a button where a blue circle shows up, and I did the opposite for about two sets."

**"I think we collided heads. To be honest, I don't remember the actual collision,"**

— Matthew Voltmer, West Potomac linebacker

Voltmer agreed the results produced by taking the ImPACT test for a second time helped convince him to take the injury seriously. He sat out for about two weeks and missed the Sept. 3 season opener against Mount Vernon before returning to action.

Teammate Dustin Hess, also a junior linebacker, experienced dizziness and ringing in his ears after an Aug. 17 hit during practice. He continued to participate, but after a second blow later in the evening, he decided it was



Photo by Louise Krafft/Connection  
**Matthew Voltmer and Dustin Hess, both junior linebackers on the West Potomac football team, suffered concussions in this year's preseason practices.**

time to tell someone.

"I was feeling [dizzy] after impact, but I didn't report it until the evening because I thought I'd be all right," Hess said. "Then I came out here and practiced and I hit myself again and that was the last string. I couldn't see straight."

Hess, who also established a baseline with ImPACT testing during his freshman year, took the test two days later and produced diminished results. He also missed practice for two weeks and did not play against Mount Vernon.

Hess said waiting to report his symptoms was "stupid" and he would not try to play through symptoms if they occurred in the future.

**EVERY HIGH SCHOOL** in Fairfax County uses ImPACT testing to protect student athletes with possible concussions. Jon Almquist, athletic training program administrator for FCPS, said ImPACT provides information unattainable by the naked eye or a stan-

dard evaluation. But Almquist added ImPACT is only part of the solution in terms of managing concussions.

Almquist said schools dial 911 if convulsions or vomiting is associated with a head impact. Otherwise, athletes are given a sideline exam and monitored after a head injury to determine down which path he or she is headed. Will the athlete be able to go home after the event, or will he or she be in need of further medical attention?

A full clinical evaluation is another tool, Almquist said. This involves examining a patient's medical history and trends, primarily whether the athlete has suffered a head injury.

An ImPACT test would likely be given 24 to 72 hours after head trauma, to test how the brain is functioning.

"It's a tool in our tool box," Almquist said of ImPACT. "No one thing across the board is the answer. ... Everything has to be together. It's kind of like parts of a formula."

**"Now, the kids are so educated on head injuries that they almost become self advocates, which is good."**

— Eric Henderson, football coach

Almquist said the number of concussions recorded during the past 15 years is "much higher" than in the past, due primarily to a better understanding of concussions among medical personnel.

**WEST POTOMAC** head football coach Eric Henderson said he suffered at least 12 concussions during his football career at Fort Hunt High School and the University of Rhode Island. Henderson, who played left tackle at URI, said fighting through concussion symptoms was commonplace 20 years ago.

"When I played, yeah, you tried to suck that up," he said. "Now, the kids are so educated on head injuries and 'don't push a head injury,' that they almost become self advocates, which is good."

"... I remember blacking out in a game and playing in the second half. That's what you did: 'Oh, he's awake?' A little ammonia capsule under the nose and 'OK, there no visible blood. I think he can go back in.' That's how it was. But it was 1987. Nobody did the longitudinal studies on head injuries that people have done [recently]. ... My memory sucks. It's atrocious, and I know it's due to all the concussions. ... I can't remember stretches of games in college."

**DR. JILLIAN SCHNEIDER** of Springfield, a clinical pediatric neuropsychologist who works with ImPACT, said convincing an athlete to stay off the field while recovering from a concussion can be "challenging."

"If they talk about the importance of getting back on the field even though

they're experiencing symptoms, I'll talk about second-impact syndrome," she said. "I'll emphasize if they have another [head] injury [while recovering], their symptoms are going to be worse and they might miss a season instead of a game."

Schneider said football is the No. 1 producer of concussions among sports, adding lacrosse, hockey and boxing are among the top sports that lead to head injury. Rest is the best way to recover from a concussion, Schneider said. Patients should stay away from physical activity, which she described as anything that elevates the heart rate, and should limit cognitive stress, such as reading and studying, she said.

T.C. Williams High School in Alexandria, does not use ImPACT testing. Tanya Hecox, the school's head athletic trainer, said it's a money-related choice. T.C. Williams uses Standardized Assessment of Concussion testing.

The annual occurrence of sports-related concussions is estimated at 300,000, according to the ImPACT Website. Schneider said it's "critical" to preventing further concussion damage.

Dr. Hiram Bagy of the United Wellness Center in Herndon, and team chiropractor for D.C. United, works with ImPACT and said a benefit of the test is the concrete numbers it provides. With some concussion symptoms such as drowsiness, common in the day-to-day life of a teenager, the data helps give a clearer picture of potential problems.

Bagy referred to the ImPACT test as "invaluable" and "amazing."

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# Sportsmanship: Heart and Soul of High School Sports

Giving student-athletes the right message regarding conduct on the field of play.

By Rich Sanders

**W**hen Mark Gjormand's Madison High baseball team would meet up against local Vienna area rival Oakton in past years, the two squads would leave everything on the field. Both the Warhawks and the Cougars, under then-head coach Scott Rowland, played all-out, wanting to win the game for pride and area bragging rights.

But the best part of the meetings between the two Northern Region programs was that the two head coaches, good friends, made sure their teams played the game the right way – with hustle, determination and fair play. At game's end, Gjormand and Rowland, no matter what the outcome, were still friends. The spring season, baseball meetings between the two teams provided textbook examples of good sportsmanship and respect for one's opponent.

"For a while, we had two of the better programs around," recalled Gjormand, of going up against Rowland's teams. "We would make it clear to each other [as coaches] — 'I want to beat you and you want to beat me.' But at the end of the day, we'd sit down and eat together."

All in all, high school sports across the Northern Region, both at the public schools as well as in the private schools, exemplifies the qualities of good sportsmanship through clean, fair play, proper perspective to the role of athletics in the life of a student-athlete and the understanding that, win or lose, one is to respect his opponent and handle the outcome in a classy manner.

While the local high school athletics community has, for the most part, been an exemplary example of sportsmanship, no individual or teams are perfect in the area of "conduct becoming to a sportsman."

"I think it all starts with the coaches," said Gjormand. "So much is made out of winning and losing. We all want to win."

Practicing good sportsmanship is a daily exercise. Football players within the South Lakes High program in Reston have learned that.

"We learn about it every single day," said Kevin Ball, a senior and All-Liberty



Photo by Rich Sanders/The Connection

Langley cross country coach Gifford Kravik

District offensive tackle for the Seahawks. "Our coaches do not accept any cursing or disrespect to any adult."

Ball said failing good player conduct results in not being allowed to play in games on Friday nights.

"I always want to win, we always want to win as a team, but you want to win in the right way," said Gifford Kravik, the Langley High cross country coach.

Kravik, the former cross country coach at W.T. Woodson High School in Fairfax, said characteristics of a good sportsman include playing hard, being gracious in victory, congratulating the winning opponent after a loss and having a healthy perspective of sports.

"I stress with our kids that running is important, but not as important as your grades and not as important as your family," he said.

**Characteristics of good sportsmanship: playing hard, being gracious in victory, congratulating the winning opponent after a loss and having a healthy perspective of sports.**

— Gifford Kravik,  
Langley cross country coach



Photo by Craig Sterbutzel/The Connection

South Lakes football player Kevin Ball

**ACTIONS SPEAK** loudest when it comes to good sportsmanship. During a recent football game, South Lakes defensive back Sean Price successfully batted down a long pass intended for a Madison High wide receiver. Both players, in the closely contested game, fell hard to the ground. But Price quickly got up then reached out a hand to help the Madison player up as well. It was a small gesture, but spoke volumes in front of the large Saturday afternoon crowd.

Price's display of sportsmanship is, by and large, the rule and not the exception in high school sports.

"Some kids might not get sportsmanship right away," said Kravik. "But when they see good sportsmanship, they respond. Sometimes you have to give it a little bit of time with kids."

One reason for less than model sportsmanship is an athlete's inability to live up to his or her own expectations. Sometimes teenagers, perhaps not used to failure or losing, expect an unrealistic level of success. When such lofty measures are not realized, the result can be poor behavior on the athletic field.

"They might think anything less than a perfect performance is failure," said Jason Freeman, an associate professor of psychiatry and neuro behavior at the University of Virginia Medical School in Charlottesville. Freeman is a consultant to the UVA athletic program and also works with high school athletes. "It might feel to them that they are not meeting expectations. There is a buildup of frustration that can leak and [result in]

behaving poorly on the field."

Freeman said the key to helping such individuals is to show them perspective. Certainly, sports are an integral part of a student-athlete's life. But, Freeman helps them to realize that other areas such as academics, family and social life are at least as important as sports. Athletics, he emphasizes, is one part of their identity.

"I think all of our coaches agree with the handbooks [of sportsmanship] and the articles they see," said Francis Dall, the director of student activities (DSA) at Westfield High. "But in the heat of a moment during a game, the proof is in the pudding. What happens when you lose a game on a bad call?"

"We've got to do the best we can and show some common sense," said Dall, of coaches and school administration leaders. "Kids will follow [good examples]."

Rules of good sportsmanship at the private high schools in Northern Virginia are set by head masters and filtered on down throughout the sports leagues such as the Independent School League (ISL) for girls' sports, and both the Mid Atlantic Athletic Conference (MAC) and Interstate Athletic Conference (IAC) for boys' sports.

"Our leagues are governed by the heads of the school," said Rob Lee, the boys' athletic director at Potomac School in McLean. "Sportsmanship is paramount in their eyes. It's re-enforced continually. I hope it's made a good impression [on the athletes]. We try to make it work."

Pat Smith, who is in her 10th year as the head girls' volleyball coach at Herndon High School, said that good sportsmanship is something that lasts a lifetime.

"I tell my players, you might want to be the [team] MVP, but good sportsmanship is something that stays with you all your life," said Smith, who led Herndon to the region semifinals last year. "I tell them that regardless of your height or speed, you can always be a good sportsman."

One of Smith's former players, 2005 Herndon graduate Caitlyn Rock, earned a Fairfax County Sportsmanship Award when she was a member of the Hornets' program. Smith's son, Scott, twice earned the Hornets' Sportsmanship Award during his days as a wrestler at the school. Scott, a 2003 Herndon graduate, is currently a member Pat's volleyball coaching staff.

"Just go play," Gjormand said. "Lay it out on the field. When it's over, it's over. I'm as competitive as anyone. But sometimes you have to tip your hat in this game. It's called sportsmanship and showing a little class."