

The concussion conundrum: Young Novato High football player uses his head after brain injury

Zuri Berry

Article Launched: 09/02/2007 06:15:05 PM PDT

Click photo to enlarge



HEALTH FIRST: Former Novato High JV football player Travis Blow, 16, suffered... (IJ photo/Alan Dep)

- <
- 1
- 2
- >



ONE TOO MANY hits can end any athlete's career, but if they are strung together, they can end a life.

Travis Blow was dangerously close to Second Impact Syndrome, a condition caused by subsequent concussions that can potentially kill those it plagues.

He was a football player for Novato High's junior varsity team as a linebacker last year until a string of concussions, and finally a knee injury, kept him from playing the sport.

In summer 2006, he was attending a football camp in Dublin. It was so hot, sweat was dripping off of him, he recalled.

While he was running drills, Blow took a crushing hit from a 300-pound lineman that knocked the 5-foot-8 inch, 150-pounder flat on his back. It rung his bell, but the sophomore linebacker

Audio slideshow



[Watch and listen](#)
to Travis Blow
and Dr. Eric
Freitag chime in

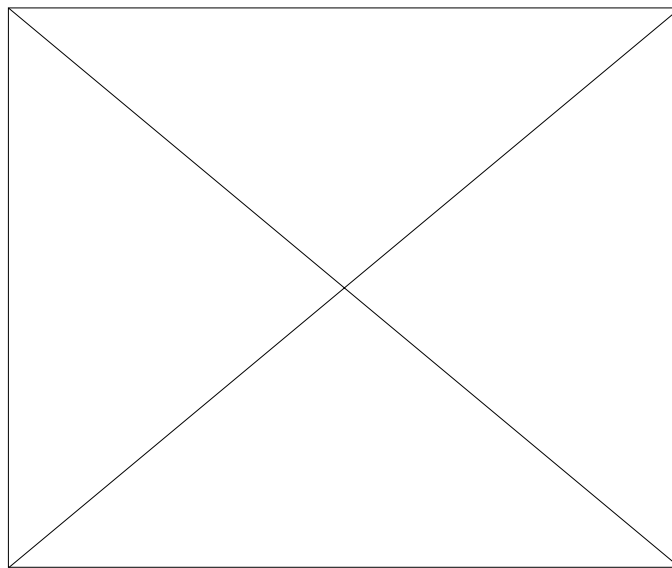
on concussion management..

shrugged off the hit and returned to play the next practice.

As tough and determined as Blow was that day, he should have never been so quick to step back on the field. His action was the first step towards SIS, a killer of 50,000 people every year.

Less than a month later, it happened to Blow again. He was in two-a-day practices for the junior varsity team at Novato and was working on drills again when he took another big hit from a fellow teammate. This time, the hit was so violent he was

Advertisement



knocked out cold. When he was roused, he was slow to answer any questions.

He got up, staggered and fell again. The 16-year-old fell unconscious temporarily while his coach rushed him to the emergency room.

"It was the last play of practice," Blow said. "I couldn't stand up. I just turned over and fell on my back. Everything went blurry and I was really slow to answer."

Blow gathered himself, avoiding treatment, and returned to the playing field in the next two games. That's when his mom stepped in.

"(His) second concussion was the really bad one," said Travis' mother, Susan, who kept a diary of his symptoms and recovery. "It was a horrendous experience. His whole personality changed after that. He was sick all the time after that in the morning. At that time, we didn't know it was symptoms of a concussion. The neurologists said the symptoms could last for six to nine months."

Numbers don't lie

According the Centers for Disease Control and Prevention, there are approximately 3.8 million sports-related traumatic blow injuries in the United States every year - a dramatic increase from previous studies. But before

this year, only people who visited a doctor or became unconscious were diagnosed with concussions. Certainly, many others were never recognized.

Of the millions recorded last year, an estimated one-third were among high school athletes.

"Other researchers outside of CDC estimate that a sports- and recreation-related (traumatic brain injuries), that involves a loss of consciousness may account for only between 8 and about 19.2 percent of these types of cases," CDC spokeswoman Gail Hayes wrote in an e-mail. "Assuming that TBIs with loss of consciousness account for only 8 percent of all sports and recreation-related TBIs, we believe that a more accurate estimate would be that as many as 3.8 million sports-related traumatic brain injuries occur each year."

For Blow, it was obvious something was wrong, but not so obvious that he had suffered a mild concussion the first time around. Any number of signs should stand out to a coach, parent or player: Dizziness, confusion, loss of memory, clumsiness, headache, nausea, sensitivity to light or noise, fuzzy vision and loss of consciousness. Whether these symptoms are reported or withheld is also a major problem for health educators and doctors alike.

"Athletes lie," said Dr. Eric Freitag, the San Rafael-based doctor who helped evaluate Blow's recovery. "As a kid you don't realize how serious it might be."

Freitag, a neuropsychologist at the Marin Neuropsychology Center and head of the office's Sports Concussion Management program, says athletes don't want anything to keep them off of the field. His office utilizes the most preventive and best evaluation of concussion management, the ImPACT test.

The ImPACT test is a series of evaluations, designed to check an athlete's cognitive skills and symptoms in order to determine when the athlete should return to the field, if at all. It tests its subject's memory and reaction speed with a number of questions in different categories, ranging from design to colors and words. It is a memory-based test that requires the subject to focus his or her cognitive skills, the chief indicator of concussion recovery and management.

The concept behind the test is to take out the subjectivity behind the evaluation of concussions. With a baseline test, which is a starting snapshot of the brain prior to physical activity, doctors have a record of what the normal state of an athlete's brain looks like and can therefore determine, in post-concussion status, how much time is needed for recovery.

Undoing misinformation

Athletes have been known to underreport symptoms in order to hasten their return to the playing field. But underreporting of symptoms is the leading cause of an athlete's susceptibility to another concussion and diagnosis of SIS.

"I'm one of those kids that broke their legs and kept riding their bike," Blow said. "I've never stopped for anything."

Blow, as much as he wanted to stay on the field and play through his physical symptoms, finally was forced on the sideline by a knee injury suffered during a school fight.

"I couldn't play," he said. "I didn't have a choice."

Blow had already dismissed his first doctor who recommended he never play football again because of the concussions. It wasn't until later that he visited Dr. Freitag and learned about the seriousness of the concussions.

"(The first doctor) said, 'Honestly, if you don't want to lose brain cells and you want to keep how smart you are you shouldn't play anymore,'" he recalled. "But I said, 'Oh well, all I have is sports.' It keeps me out of trouble. I wanted to go back to football."

Many more people still don't fully understand what concussions are and the risks associated with them.

As defined by the Center for Injury Prevention and Control, a concussion or traumatic brain injury, is any head injury that disrupts the normal flow of the brain. Frequent or multiple concussions can cause someone to be susceptible to SIS.

"A lot of parents and coaches, even physicians are practicing under old assumptions and we're seeing some mismanagement of these injuries," Freitag said. "And we're finding with just a little bit of education there will be less dire consequences of these injuries."

With such alleged mismanagement of these injuries in the early 1990s, Dr. Mark Lovell of the University of Pittsburgh Medical Center concocted the ImPACT test to utilize newer technology and make concussion management easier and more affordable.

"The inspiration really was there was a huge need to be able to evaluate athletes after concussions," Lovell said. "The old way was very time consuming. It was about the time computers were becoming more comfortable. I was doing a lot of professional sports work and doing long evaluations one-on-one. I knew that high schools would never be able to do that, nor larger groups of athletes."

What you have now is a test that is relatively affordable (\$50) and effective, but will likely be more complex in the future.

"We're doing very elaborate brain scanning using MRIs and other technology like that," Lovell said. "The only problem with doing things like MRIs is they're not portable."

As the lead doctor in concussion management innovation, Lovell is working on fixing that.

Clearing the fog

Confusion comes in comparing regular physical injuries to brain injuries, Freitag says.

"(A concussion) is not a physical injury," Freitag said. "There's no change to the structure (of the brain). If you have a concussion and you get an MRI, it's going to come back clean most of the time unless there's some bruising of the brain or pooling of blood."

"Where the changes go on is what we call metabolic changes. Your brain changes the way it's going to use energy and changes the way neurons are firing. Because it's a metabolic energy, any increase in metabolic energy, energy uptake in your brain, can cause symptoms. If you're not recovered from the injury and you go out to jog and you get a headache, it's because the energy requirements of your brain have increased and you're not ready to meet those demands."

Simply, an athlete can be free of physical symptoms but the cognitive signs will remain. The only way to recover from a concussion, experts agree, is time.

"Symptom-free and exertion-free," Freitag says. "The best way to recover from a concussion is rest. You have to give your brain time to heal."

In the case of Blow, he is both lucky and unlucky. He suffered a third concussion soon after the second while horsing around with his girlfriend. Being a bit too playful, he caught a knee to the head that sent him to bed and back to Freitag's office.

"There was a while I had five appointments a week," Blow said. "Three for my knee and the other two days for my concussions."

Nowadays, Blow is watching people play and helping to coach Novato's freshmen football team, eager to get back on the field. By next year, he plans to play after fully recovering from his knee injury. Freitag has cleared him to play football, but he is still being monitored. The knee injury keeps him mindful of his injuries and his mom kept his mind on recovery, but at 16 years old all he can think about is playing his sport.

About 50,000 people thought the same way.