



HARD KNOCKS: Concussions are more serious than previously thought and are treated that way by high schools

By Jim Correale
Assistant Sports Editor

REGIONAL (Oct 5): On the opening kickoff of the Westbrook High School football team's scrimmage against Massabesic in late August, Anthony Cook charged down the field in pursuit of the opposing kick returner. Before he could get there, the junior was blindsided by a blocker and went down hard. Cook got up, but was unsteady on his feet. On the sideline – as he was attended to by Kristin Ryan, the Westbrook trainer – Cook talked of getting back in the game and scoring a touchdown. That night, he was taken for a CAT scan.

Cook, however, remembers none of this. All of the details from that night are missing from his memory, right up until 5 a.m. the next morning.

"I remember waking up and saying, 'What happened to me?' Cook said. "My mom told me everything and I said, 'Oh my god. I can't believe this.'"

Cook had suffered a mild concussion, sometimes referred to as a "ding" or "getting your bell rung." According to the Centers for Disease Control and Prevention, more than 300,000 Americans receive concussions or similar brain injuries each year, most of them high school and college athletes.

In recent years, as research has shown that concussions are more serious and their effects longer lasting than previously assumed, many of those who work with student-athletes – coaches, trainers, school nurses, athletic directors and doctors – are responding in ways that reflect a deeper understanding of this seriousness.

"It's truly a brain injury," said Dr. William Heinz, a specialist at Orthopedic Associates of Portland, "and we don't take chances with brain injuries."

Today, the accepted definition for a concussion, according to Heinz, is "a mild traumatic brain injury." The function of the brain is altered in some way, though there is usually no structural damage.

"A CAT scan or MRI are completely insensitive to it. Nothing shows. It looks completely normal," Heinz said. "Well, the kid's not normal."

Cook certainly didn't feel normal after his concussion.

"I was not myself during the first week," he said. "I was very lightheaded and I got headaches once in a while. I knew where I was and what was going on, but I felt like I was floating around a little bit."

Cook also said, and Ryan confirms, that there was a change in his temperament. He said that he "got angry really quick." Sometimes that anger was directed toward Ryan, who was, to Cook's thinking, the person preventing him from rejoining his team.

Such a change in character can be one of the symptoms of a concussion. Elaine Conant witnessed that up close when her son, Jon, was a goalkeeper in his senior year at Windham Christian Academy and got knocked unconscious by a knee to the teeth. It was his second concussion within two weeks and the fourth of his life.

"My easygoing son had a change of personality," said Conant. "He couldn't function in class. He was in a fog."

Conant has seen a "fair amount" of concussions in her job as a nurse at Bonny Eagle High School, including three in the first month of this year's fall sports season. Because

of her personal experience, she is tuned into the consequences of a hit to the head. "It has a huge effect on school work and then begins to affect self-esteem," Conant said. "(The students) don't feel the same. They turn into someone they don't recognize." Ursula Vollkommer, the former athletic trainer at Bonny Eagle, now at Waynflete, said there were six students in her eight years with the Scots that had to stop playing sports altogether.

"You see how it affects their lives – grades, personal life and personality," Vollkommer said. "There were 'A' students who could no longer function at school."

Though Jon Conant's injuries happened just seven years ago, he said that while on the sideline he was asked, "How many fingers am I holding up?" by someone trying to decide how badly the young man was hurt.

Today schools and medical professionals are using much more sophisticated tools to assist them in diagnosing concussions and deciding when, and if, athletes should be allowed to return to action.

In the spring of 2000, when Vollkommer heard about a software program that would allow her to measure students' brain function, she talked to Heinz about it.

The program is called Immediate Postconcussion Assessment and Cognitive Testing (or ImPACT), and it's used by 400 high schools and 150 colleges around the country, as well as the National Football League and National Hockey League. ImPACT "measures brain processing, such as speed, memory and visual motor skills," according to the web site of the University of Pittsburgh Medical Center, where the system was developed.

After using the program, Vollkommer said, "I really started to see that students say they are fine when there are other things going on."

ImPACT is "a neuropsych testing platform," said Heinz. It provides hard data for trainers, school nurses and doctors who are trying to determine the extent of an athlete's injury and, as a result, what course of action to take.

After a pilot program at Bonny Eagle proved successful, the doctor went to the boards of directors at Orthopedic Associates and HealthSouth Portland and convinced them to purchase copies of the software for local high schools.

Testing team members in the pre-season is the ideal way to use the program, which puts the students through a series of words, letters, colors, shapes and symbols to gauge brain function. However, even if athletes are not "baselined," Heinz said the program has been developed to the point where it will compare the injured student to normal levels. When dealing with concussed athletes, objective data is needed because, for several reasons, the teenagers themselves are not the best source of information. Young athletes are likely to misrepresent the way they are feeling because there is pressure, from themselves and others, to get back into the game.

More than that, however, a concussion can affect a person's judgment, so the injured athlete may believe that he or she is fine, even if that's not the case.

Another factor, which has only been understood in recent years, is that the concussion's symptoms may take a couple of days to manifest. The old format of staying out of play for 15 minutes, or until the initial dizziness wears away, is not only unreliable. It's dangerous.

"Even those little things we thought were 'dings' develop over the next several days into a functional impairment," said Heinz. "And we can show that their memory, their processing speed, their reaction time are all decreased after a 'ding.' And so the current thinking is that you no longer let anyone go back after any kind of brain injury."

The good news is that the average concussion usually clears up in a week or so.

Throughout that time, Heinz works with athletic trainers and school nurses, who test the students – five to ten a week – and then confer via telephone with the doctor, who notes that it is important that the student not participate in any physical activity while his brain is healing.

"They don't go to the weight room, they don't do cardio training, they don't do anything.

They focus on not falling behind in their studies," he said. "And we do serial testing until their symptoms are gone and their numbers are back where they should be."

Even after that, Heinz and the trainer or nurse work out a return schedule so that the student eases himself back into action.

For reasons that doctors aren't sure of, those who sustain a concussion are at risk to have another. Whether it's the way some people play a sport or the way individual brains are wired isn't clear. What is clear is that a receiving a concussion while a previous one is still healing is extremely risky.

So-called "second-impact syndrome" causes the brain to swell in a matter of minutes and the outcome can be fatal.

When Jon Conant returned as goalkeeper just two weeks after being concussed in a collision with an opponent, it was clearly much too soon. In fact, having banged his head pretty good while bike riding at age 12 and suffering a concussion during the previous baseball season, it's likely that the first soccer concussion should have ended his playing days. The last one certainly did.

"The rest of my senior year was in a surreal fog," he said. "I lived in that for the rest of high school."

For a while it wasn't clear whether Conant would be able to graduate with his class. He did, but then needed to take a year off before he felt well enough to attend college.

"I couldn't stay awake. People might think you're lazy and unmotivated, but it takes all your energy just to function. I wish I had a gaping flesh wound so people could see it, but it's all internal."

Programs like ImPACT give school staff and healthcare professionals a window into the brain to see exactly how its function has been affected, and now that it's clear that concussions aren't to be handled casually, most are giving such injuries the attention they deserve.

"Coaches have become much more receptive," said Neil Carroll, the athletic trainer at Scarborough High School, where's he's seen four concussions so far this season.

"You live and die by whatever the athletic trainer says," Lake Region High School athletic director Todd Sampson said. "Under no circumstances can a coach influence what a trainer says. If the trainer says the kid is done, then that kid is done."

At Windham Christian Academy, Principal Roy Mickelson, noting that Jon Conant's return to the soccer field was approved by a doctor, said that today his school reacts with "more diligence and awareness" to such injuries.

Dr. Heinz believes that the single most important step toward dealing with concussions properly is for schools to have a full-time trainer. In fact, copies of ImPACT were furnished to schools with the stipulation that they have a full-time trainer or nurse working directly with students.

"Don't spend money buying new uniforms every year," said Heinz. "Spend the money and get an athletic trainer. More than anything that will help prevent these kinds of injuries and get them taken care of correctly."

As long as athletes participate in sports there is a risk of being injured, but a collision on the playing field should not be something that upends a young person's life.

"I feel mostly healed now," said Conant, seven years later, "but I'm not allowed to play contact sports ever."

Advertisement



Close

Print