



## SOCCER

# Player whose career was ended takes on concussions in soccer

BY KEVIN BAXTER

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Reporting from Glendale, Ariz. — “I look completely normal, right?” a completely normal-looking Taylor Twellman says.

It’s something he asks often, and the response is always the same: nodding heads, words of affirmation, smiles.

In reality, though, Twellman is far from normal.

Three and a half years ago, the then-New England Revolution forward and former Major League Soccer most valuable player was accidentally punched in the jaw by Galaxy goalkeeper Steve Cronin while scoring on a header. Although Twellman didn’t know it then — and wouldn’t for months — he sustained a concussion on the play.

And despite appearances, he hasn’t been normal since.

Twellman played the rest of the 2008 season, but he was forced to retire two games into the 2009 season because of health problems related to the concussion. He currently works as a soccer analyst for ESPN.

“Now I’m behind the eight ball the rest of my life dealing with this” medical problem, says Twellman. “I’d still be playing. I was 28 when I got hit. I had some time left in me.”

Once among the best-conditioned players in MLS, Twellman hasn't worked out in two years to keep his heart rate down. Once among the most energetic forwards in the league, Twellman drove less than a quarter of a mile from his hotel to breakfast on this morning because he feared walking over the rock-strewn driveway.

"Any other injury doesn't take your life away. This takes your life away," Twellman says over an iced coffee at an Arizona shopping mall. "You get a knee [injury] ... you still can go to the movies. You still can play video games. You still can remember things.

"This brain injury of concussions takes your life away. We've got to stop it."

How to prevent — and treat — concussions in soccer is something MLS has spent a great deal of time and money examining as it prepares to open its 17th season next weekend.

The dangers — and damage — of concussions in football and ice hockey have been acknowledged for years. But several recent studies show soccer isn't far behind in potential medical dangers, whether for pros or young amateurs. Among high school sports, only football has a higher rate of concussions than girls' soccer, according to several studies. And the trauma can come in many ways — from heading the ball; from a collision; or, as in Twellman's case, by taking a hand, knee or elbow to the head.

That has alarmed doctors, who worry that many soccer players and coaches don't fully appreciate the risks and don't understand the symptoms of what they say is becoming a public health crisis.

"The real incidence of concussion is considerably higher than what's recognized on the [soccer] field," says Dr. Robert Cantu, a neurosurgeon and co-founder of the Sports Legacy Institute, a Boston-based group dedicated to the study, treatment and prevention of brain trauma in sports. "Most people don't think of it as being a sport with high risk of concussion. Yet it actually is."

Indeed, some studies have found that head injuries account for as many as one-fifth of all soccer injuries. And the National Institutes of Health believes the actual number may be much higher because many concussions go unrecognized.

“There’s kind of a misconception out there that a concussion means someone was knocked out. And that’s not the case,” says Dr. Michael Lipton, director of radiology research at Albert Einstein College of Medicine at New York’s Yeshiva University. “Being hit numerous times — even though each time you get hit seems like nothing — can have a cumulative impact.”

That makes the seemingly harmless heading of a soccer ball a particularly dangerous activity.

Lipton presented a very limited study last fall that used an advanced MRI-based imaging technique to show that heading a soccer ball more than 1,000 times a year, in games or practice, could cause symptoms of cognitive dysfunction similar to patients who have suffered a concussion. And while some have criticized the size and makeup of Lipton’s test group — 38 amateur soccer players with an average age of 31 — many medical professionals say the results are alarming and demand further study.

But the results were not surprising. Consider the case of Jeffrey Astle, who played for 10 seasons with West Bromwich Albion of the English Premier League, developing a reputation as a formidable header. Astle died of degenerative brain disease a decade ago at age 59, and the coroner ruled in an inquest that the repeated minor trauma of heading a soccer ball — damage consistent with the chronic traumatic encephalopathy (CTE) seen in U.S. football players — caused his death.

“It was Jeff’s job that killed him,” Astle’s widow, Lorraine, said. “I know Jeff wasn’t the first to die as a result of heading [soccer] balls.”

Yet many top-level players continue to ignore the risks. Abby Wambach, the second-leading international scorer in U.S. history, flatly dismissed the threat of concussions.

“None of us are really focused on that kind of study,” she said. “I feel OK. I love what I do. I don’t think it’s harmful to me or my body. There’s obviously some risks that you take playing anything or doing anything, and that’s what we all assume when we step on the pitch.”

MLS and the U.S. Soccer Federation are taking a different approach. Both have sought the counsel of Dr. Ruben J. Echemendia, a clinical neuropsychologist who implemented the detailed concussion treatment [program in the NHL](#). “We need to understand how these injuries are occurring in soccer and if there is anything we can do to mitigate it without fundamentally altering the nature of the game,” says Echemendia, who chairs the MLS’ nine-member Concussion Protocol Committee.

One easy solution, he says, would be to officiate the game more tightly. Others, such as Twellman, have suggested adding new rules, including limiting the use of elbows.

“An elbow can give you more of a concussion than heading a ball,” says Connor O’Leary, a senior midfielder at El Camino High in Woodland Hills. “I’m more afraid of an elbow.”

According to various studies, high school players, and those at lower grade levels, are among the soccer athletes facing the greatest risk of injuries because their bodies are not fully developed and the quality of competition and instruction varies widely.

“It’s important that parents are aware that their kids can and do get concussions playing soccer. So if they have concussionlike symptoms at home, question the kid,” Cantu says.

Last month Cantu’s institute called for a strict limit on the number of times youth football players could be hit during a season, both in practice and competition. Little League baseball already enforces a pitch limit to reduce the stress on young arms. And

USA Hockey this year raised the age a player can check an opponent from 11 to 13 while outlawing blows to the head.

Twellman wants the same concept applied to headers in soccer — both in games and practice.

“Why, at ages 6 [through] 11 — when your brain is still developing — why are we heading the ball?” asks Twellman, who says he had seven diagnosed concussions between the ages of 12 and 28. “Have you ever gone to an under-11 game? How many times do they head the ball? Rarely.

“You go to the practice [and] the dads, the coaches, put the ball in the air. What are we doing? I’m not worried about the pro game so much as I am these youth. We’ve got to help these kids and help these parents.”

Cantu, meanwhile, wants headers banned completely for players younger than 14. Either approach, Twellman says, could protect players by forcing them to concentrate more on dribbling and handling the ball with their feet.

“All of our youth will be playing with the ball on the ground,” says Twellman, who has taken to his new cause with the fervor and conviction of a preacher. He started a foundation — ThinkTaylor — as a resource for education, support and fundraising aimed at eliminating sports-related brain injuries.

Twellman said he conducted an experiment recently, visiting hospital emergency rooms in three states and complaining of classic concussion symptoms — dizziness, nausea, headaches and vomiting. None of the medical personnel treating him recognized the possibility of concussion.

Echemendia wasn’t surprised. “Although there has been significant improvement in the recognition of this injury, even among medical professionals there exists a fairly

significant number who are not up to date,” he says.

Which is why Twellman made three presentations on concussions in January at the National Soccer Coaches Association of America convention in Kansas City. And he has partnered on campaigns with MLS and U.S. Soccer and regularly exchanges emails with players and the parents of young players.

“People do not get it,” says Twellman. For “how many 10-year-olds is [soccer] going to become their job? The percentage is so low you can’t even get into it. How many of them want to be a doctor? Want to be a fireman? But they’ve got headaches. They’ve got nausea, dizziness, vertigo and they’re under 15 years old. Come on.

“I don’t want anyone to be me. I’m 30 years old, and I’ve got to deal with this serious, serious injury for the rest of my life. If I knew what I know now in 2008, I might still be playing.”

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