

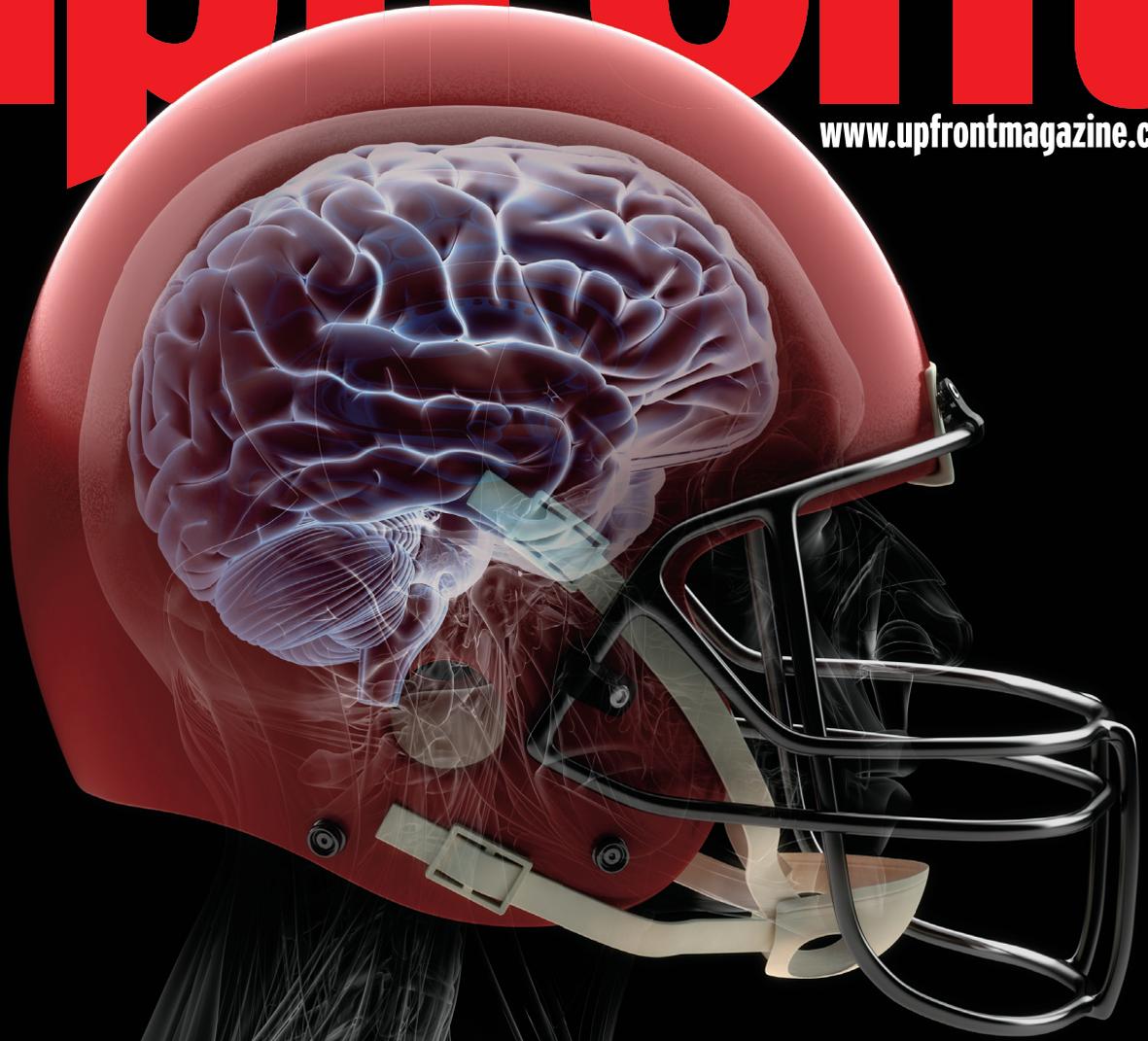
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IS FOOTBALL JUST TOO DANGEROUS?

A special report on football and concussions p. 14

PLUS: Teddy Roosevelt's Football Rescue

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 SCHOLASTIC



HARD



KNOCKS

Football is one of America's most iconic sports. But is it just too dangerous?

BY GABRIEL CHARLES TYLER

Bryce Monti was about to make a routine tackle when he knocked heads with one of his teammates and fell onto the football field at Hortonville High School in Hortonville, Wisconsin.

"When I got back up, I saw two scoreboards," he recalls of the 2014 game. "I was out of it completely."

Monti, then a 17-year-old Hortonville junior, says he knew the helmet-to-helmet collision was a hard hit. But he shook it off and played the rest of the game. He had no idea that he'd sustained a concussion until his parents took him to the emergency room later that night.

Monti followed the doctor's orders and sat out a game. But eager to help his team, he returned after a week and quickly sustained another concussion. A year later, he's still struggling with painful headaches and he faces the possibility of permanent brain damage.

"I wanted to get back out there, not only for myself, but for my team," Monti says. "I never really thought going back would cost me in the long run."

His story, which received a lot of local media attention, is just one example of the recent

public spotlight on football and the repeated head trauma that's a routine part of the game. The National Football League (NFL) for years denied there was a link between the sport and brain damage, but in 2009, it acknowledged publicly for the first time that concussions suffered while playing football can lead to long-term negative health effects. Last year, the NFL revealed that it expects nearly a third of retired players to develop permanent brain impairments.

Medical researchers at Boston University recently confirmed that 88 of 92 former NFL players who donated their brains for research suffered from chronic

traumatic encephalopathy (C.T.E.), a brain disease induced by repetitive head trauma and linked to depression, aggression, impulse-control problems, memory loss, and dementia. Several former players—all found to have had C.T.E.—have committed suicide, and hundreds more continue to suffer from irreversible brain damage.

Concern over concussions has filtered down from the NFL to colleges, high schools, and youth leagues, with more parents becoming fearful of a sport that's long been tied

'I don't think my life will ever be the same.'

—BRYCE MONTI



Aledo High School battles Brenham High School in Texas, 2014

MATT STRASEN/AP IMAGES (ALEDO HIGH SCHOOL); SCIENCE PICTURE CO/GETTY IMAGES (HELMET); ALEXIS HYDE (BRYCE MONTI)

 Watch a video about football and concussions at upfrontmagazine.com

to community pride and tradition. A recent Bloomberg Politics poll found that 50 percent of Americans wouldn't want their sons to play football.

"Football is at a crossroads," says Jodi Balsam, a sports law professor at Brooklyn Law School in New York. "And that crossroads is about convincing the next generation of players and their parents that the game is safe to play and that the rewards of playing outweigh the risks."

Football has always been a sport known for hard tackles and rough play, making injuries inevitable (see "How We Got Football," p. 18). A typical high school football player receives about 650 hits to the head per season, according to research conducted by the University of Michigan's NeuroTrauma Research Laboratory. In 2014, more than 9,500 concussions were reported among high school football players in the U.S. At least eight high school football players have died so far this year, according to the National Center for Catastrophic Sport Injury Research, but, in some cases, factors other than football might have contributed to the deaths.

Playing Through Pain

Although sports-related concussions among young people in the U.S. have been on the rise in general (see "It's Not Just Football," facing page), football has the highest rates of catastrophic head injuries. Some argue that players have long been conditioned to play through pain, often heading back onto the field even with blurred vision, ringing in the

ears, or unsteady steps. That attitude—what experts call football's "culture of resistance"—has been ingrained in even the youngest players.

"It's a culture where the idea is to man up, to not let your teammates or coach down, and play with your symptoms," says Frederick P. Rivara, a pediatrician at the University of Washington's Seattle Children's Hospital.

In recent years, lawmakers and sports organizations have attempted to address concerns about concussions and to make sure players are better protected. All 50 states and Washington, D.C., have passed laws mandating how players with head injuries are treated. Many require the immediate removal of anyone suspected of having sustained a concussion and clearance from a qualified medical professional before the player can return to the field.

Washington State—the first state to enact a youth-sports concussion-safety law, in 2009—has taken a very tough line, requiring student athletes, parents, and coaches to complete a concussion-training education program each school year.

The NFL has teamed up with USA Football, the sport's national governing body, to sponsor the "Heads Up Football" initiative, which emphasizes safer tackling techniques, concussion recognition and response, and proper equipment fitting.

"USA Football's techniques and protocols are cutting-edge," says Chris

Haddock, the head football coach at Centreville High School in Clifton, Virginia, and a USA Football trainer. "Coaches at all levels are seeing the results of better tackling and fewer concussions."

But critics say more can be done to safeguard players, especially younger athletes whose brains are still developing.

"We're barely halfway there in terms of dealing with this issue, and young players are the key," says Gregg Easterbrook, a sports columnist and the author of *The King of Sports: Football's Impact on America*. "Nobody thinks that football will ever be risk-free, but there's a lot that can be done to make it safer."

The love of football still runs deep across America. In many towns, especially in rural and suburban areas, it's more than just a sport. The games are events that bring families together and build community pride. Star football players are often local heroes.

"Football really instills a sense of pride in the kids who play and [in] their communities," says Amy McGahan, whose 15-year-old and 12-year-old sons play on their schools' football teams in Cleveland, Ohio. "It's where people can come together."

But as more has become known about the debilitating effects of repeatedly getting whacked in the head, a number of high schools around the nation have been debating whether having a football team is worth the risk. Several schools in Missouri,

The love of football still runs deep across America.

HOW MANY G'S? Average G-forces* from a . . .

. . . roller coaster plunge

5g



SOURCE:
THE UNIVERSITY OF
MICHIGAN SCHOOL
OF KINESIOLOGY

. . . heavyweight boxer's punch

58g



. . . football hit that leads to a concussion

100g



IT'S NOT JUST FOOTBALL

Football is getting lots of attention over concussions, but it's not the only sport facing questions about head injuries. In soccer, the technique of heading—when players use their heads on the ball instead of their feet—is one of the leading causes of head injuries in youth sports. Girls' soccer has the highest concussion rate after football (see below) and twice that of boys' soccer. Researchers say girls generally have smaller neck muscles than boys, making them more susceptible to concussions. Last month, the U.S. Soccer Federation, the sport's national governing body, banned heading for players under age 11 and limited its use for those under 14. The new rules resulted from a class-action lawsuit filed by concerned parents.

Using her head:
Gorham High School against Thornton Academy in Maine



BRAIN INJURIES High school sports with the highest concussion rates (per 100,000 athletic exposures*)	1. Football (TACKLE)	2. Girls' Soccer (OUTDOOR)	3. Ice Hockey	4. Girls' Basketball	5. Boys' Lacrosse
	94	80	63	43	42

*An athletic exposure is defined as one athlete participating in one practice or game.

SOURCE: NATIONAL HIGH SCHOOL SPORTS-RELATED INJURY SURVEILLANCE STUDY, 2014-15 SCHOOL YEAR

New Jersey, and Maine have done away with football altogether because of safety concerns and low student interest.

At Maplewood Richmond Heights High School near St. Louis, Missouri, the school board cut the football team in June because fewer than a dozen players had signed up for the fall 2015 season. It was the second year in a row the school's football team failed to attract enough students.

Dawson Cordia, 17, a junior at the school who plays for the varsity soccer team, told the *Saint Louis Post-Dispatch* that many people, especially parents, struggled to accept that the school no longer had a football team.

"It kinda hit the community really hard at the beginning," Cordia said.

'I Feel Extremely Protected'

Most schools are still fielding teams, but some players are thinking much more about the hits they take.

"It's kinda scary looking at it in the news and seeing all the side effects," says Jack Sides, a 17-year-old football player at Highland Park High School in

Dallas, Texas. "But there's new technology and better rules implemented in the game, so I feel extremely protected."

For now, many experts say, the best way to make football safer is through more rule changes that mandate fewer full-contact practice sessions and reduce the number of blows to the head. Robert Cantu, a clinical professor of neurosurgery at the Boston University School of Medicine and an expert in concussion research, has advised parents not to allow their children to play tackle football until they're at least 14 years old. Research has shown that kids who begin playing tackle football before age 12 are more likely to develop thinking and memory problems as adults.

Terrell Fletcher, who spent seven years as a running back for the San Diego Chargers, agrees with Cantu. He didn't play tackle football until high school and made sure his oldest son did the same.

"Boys will be boys. They're going to push each other to the ground," he says. "But I didn't see the need to have it done intentionally at such a young age."

Fletcher says more-stringent policies, better equipment, and education efforts have indeed made football safer. But players like Bryce Monti who've already suffered repeated concussions wish they'd better understood the consequences of heading back into the huddle too soon.

Monti, now 18, suffers from post-concussion syndrome, which includes symptoms like constant headaches, nausea, and memory problems that can persist for months or years.

"I can take medicine for the symptoms," Monti says, "but there's nothing they can give me to make them just go away."

He sat on the sidelines during the entire 2015 football season, and plans to attend the University of Wisconsin-Whitewater next fall. Although he's learned to manage his symptoms, he wishes his daily headaches would go away.

"I feel like I just got a concussion last week," Monti says. "I don't feel like my life will ever be the same because of them." •

With reporting by Jan Hoffman of *The Times*.



HOW WE GOT **FOOTBALL**

The game that exploded in popularity after the Civil War grew so violent it was nearly banned. Then President Theodore Roosevelt stepped in to rescue it. BY VERONICA MAJEROL

A football crisis was consuming America.

In 1905, at least 18 high school and college boys died playing the sport, and more than 150 were seriously hurt. At the time, protective gear was rarely worn, and the game's loose rules permitted gang tackles and pileups that led to countless concussions and broken limbs and spines. There were passionate cries to ban the sport, met with equally ferocious shouts supporting football and its virtues. One of the game's most powerful fans was President

Theodore Roosevelt. A firm advocate of the "strenuous life," he believed in the game's ability to make men out of boys. But by 1905, he also understood that it would need to be reformed if it had any chance of surviving.

"Football is on trial," he told a group of Ivy League college presidents at the White House that year. "Because I believe in the game, I want to do all I can to save it."

To understand how football arrived at that crisis point in 1905—and how it has since evolved into America's most popular sport, with a record 114 million fans

tuning in to the Super Bowl last January—it's important to first understand where football comes from. Some experts say the game is as old as humankind, with traces of it evident in prehistoric societies.

A 'Primal Game'

"Football is a primal game," says Sally Jenkins, author of *The Real All Americans*, which charts football's history. "It's existed ever since Celtic invaders* were kicking around the skulls of the defeated armies."

The more modern incarnation of football traces to early 19th-century England. Playing soccer with his schoolmates one afternoon in 1823, a 16-year-old named

 **Download President Roosevelt's 1893 essay about football at upfrontmagazine.com**

*The Celts dominated Northern Europe from 750 B.C. to 12 B.C. and often clashed with Greek and Roman warriors.

CASUALTIES OF 'THE FOOTBALL SEASON OF 1905.

TOTAL DEATHS, 19.	CAUSES OF DEATH.	TOTAL INJURED, 137.
High school players.....10	Body blows.....4	College players.....78
College players.....3	Injuries to spine.....3	High school players.....39
Girl players.....1	Concussion of brain.....6	Grade schools.....7
Other players.....5	Blood poisoning.....2	Athletic clubs.....7
17 years old or under.....10	Other causes.....4	All others.....6

The football season, which ended practically yesterday, only a few games throughout the country being reserved for Thanksgiving week, has produced more than the average number of casualties. The list given here includes details of 19 deaths and 137 injuries, but of course is in no respect complete. It is taken from records kept by "The Tribune" and supplemented by reports of casualties published in various sections of the country.

The injured list merely reflects the aggregate of miscellaneous accidents. A full list of players who were injured at some time during the season would sum up close to 1,000, and then would include only the injuries of a really serious character. In hundreds of cases those injured have been with internal effects that, judging from the statistics of

Chicago Sunday Tribune article from 1905; modern sources use slightly different statistics.



‘Because I believe in the game, I want to do all I can to save it.’

—PRESIDENT THEODORE ROOSEVELT

William Webb Ellis caught the ball and ran with it toward the opponent’s goal. It violated soccer’s rules, but it also gave birth to a new game called rugby—a direct ancestor of American football.

By the mid-19th century, rugby-like versions of “football” were sprouting up at Ivy League campuses in the northeastern U.S.—rough-and-tumble games with few rules and little uniformity among the various schools. It was the dawn of the industrial age, and the notion that sports trained young men to be strong physically and morally—an English concept known as “muscular Christianity”—was taking hold in the U.S. The idea became even more widespread after the Civil War (1861-65). In the absence of real combat, sports became a new proving ground for men, with baseball, boxing, and football exploding in popularity.

“There’s sort of this pervasive anxiety about manliness from the 1870s through the Victorian era [1837-1901],” says Jenkins. “Football evolves partly because there’s a big concern that young men are spending too much time in parlors, that the world is becoming too mechanized and urbanized, and that there needs to be some artificial means of training young men in games of power.”

By the late 1870s, football had gained the reputation of a “blood sport,” according to John J. Miller, the author of *The Big Scrum: How Teddy Roosevelt Saved Football*. “Instead of helmets, the men went bareheaded or put on [ornamental] stocking caps,” he writes. “They did not use pads. . . . Ordinary roughness frequently turned to violence as players

heaved each other to the ground, threw elbows, and piled on top of one another.”

A social and political movement to ban football, which began in the 1870s, reached a boiling point in 1905. *The New York Times* criticized football’s trend toward “mayhem and homicide.” Prominent politicians condemned the sport.

“There was not a boy in the game who did not run the risk of receiving an injury that would send him through life a hopeless cripple,” Congressman Charles Landis of Indiana said in 1905 after watching a game. “Should an alleged sport that necessitates taking such chances receive the sanction and encouragement of sane and sensible people?”

Meeting at the White House

President Roosevelt, who fell in love with football as a boy, decided to intervene. A sickly child who grew up in New York City, he never actually played football. But he believed the game built character and was happy to see his son Teddy Jr. play for Harvard. (Teddy Jr. sustained a broken nose and a deep gash that required stitches.) In response to the football crisis the nation faced, Roosevelt invited the presidents of Harvard, Yale, and Princeton—then the big three football schools—to the White House.

Roosevelt demanded that they commit to creating new rules to make the sport safer, or the government would outlaw the sport. The college presidents agreed to address the wanton brutality. They soon joined with other schools to form the precursor to the N.C.A.A. (National Collegiate Athletic Association), which

made key rules changes. One of the most important was allowing the forward pass.

“It opened up the game, so you didn’t have everyone massed into these running plays right at the line,” says Mark Bernstein, author of *Football: The Ivy League Origins of an American Obsession*.

The changes helped appease football’s critics and pave the way for the sport’s rise to mass popularity. But the question remains as to whether those reforms—or any other safety measures, including the pads and helmets used today—can really protect football players from serious injuries like concussions (see “Hard Knocks,” p. 14).

And yet for all the problems with the sport, Jenkins says, there’s little sign that Americans want to let go of football—a game that to many feels ingrained in the nation’s DNA.

“The concussion crisis hasn’t killed audience interest in the game,” she says. But “it’s made everyone queasier.” •