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Football Practices Pose More Concussion Risk Than Games, Study Suggests

The report will fuel the longstanding debate about safety in college football, but changes do not appear to be imminent.

By Alan Blinder

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College football players sustained far more concussions during practices than they did in games, medical researchers reported on Monday, a finding certain to add to the yearslong debate about regulating training regimens across the sport.

Much less clear is whether the college sports industry will nationalize safety reforms like those adopted by the N.F.L., which limits the number of full-contact practices per season, or some college conferences. But with the N.C.A.A. and its members facing urgent decisions on other fronts, including the coronavirus pandemic, far-reaching new rules may not be imminent.

The authors of the new study, published in JAMA Neurology, a peer-reviewed journal, found that 72 percent of the concussions they reviewed over five college football seasons happened during practice. And although preseason training accounted for about one-fifth of the time the researchers studied, they found that nearly half of the concussions occurred during that period.

Changes to the rules that govern games, they wrote, "are an important component to protecting athletes during competition," but they asserted that revisions to training activities before and during the season "could lead to a substantial reduction" in concussions.

"The biggest surprise was the extent of the data, not just the trend of the data," said Dr. Michael A. McCrea, the study's lead author and a professor of neurosurgery at the Medical College of Wisconsin, where he is co-director of the Center for Neurotrauma Research.

"Most people, scientists or not, are aware that there's more full-contact activity in the preseason than in the regular season, so I'm not sure the trend of that finding is a surprise," he continued. "But maybe the magnitude of it."

In an editorial also published in JAMA Neurology on Monday, two other experts on brain injuries described the study's findings as "shocking," particularly given statistics about concussions and head impact exposure, known as H.I.E., during contractually regulated practices in the N.F.L.

Professional teams may hold no more than 14 padded practices during the regular season. In the N.F.L.'s 2019 regular season, less than 7 percent of concussions happened during practices, according to league data.

"Concussions in games are inevitable, but concussions in practice are preventable," the experts, Dr. Robert C. Cantu and Christopher J. Nowinski, who were not authors of the McCrea-led study, wrote in their editorial. "Practices are controlled situations where coaches have almost complete authority over the H.I.E. risks taken by players."

Even as they acknowledged that the N.C.A.A. had issued recommendations and pressed for wider changes, they noted tartly that "guidelines are not rules."

In a statement on Monday evening, Mark Emmert, the N.C.A.A.'s president, said that the findings "provide new information for our members to modify rules while continuing education efforts for college athletes across the country."

Just last month, Emmert said the association had "made wonderful strides around concussion protocols," perhaps a reference to a 2015 mandate that every school in a Power 5 conference annually submit its concussion guidelines for review by a national committee. (That procedure has been waived during the coronavirus pandemic.)

During his address at the N.C.A.A. convention, Emmert, without elaboration, urged adding "some teeth to our health and safety protocols" and said there should be a system that "holds each other accountable for the commitments we make to promote and advocate and conduct those protocols."

The association's powerful Division I Football Oversight Committee is expected to review the results of the new study next month. Shane Lyons, the committee's chairman and the athletic director at West Virginia, said Monday that the panel would "translate important, emerging research data into policies and recommendations that further our focus on football safety."

But the N.C.A.A.'s rule-making process can be grueling and lengthy, and few sports enterprises are as sprawling and disjointed as Division I college football. Although the N.C.A.A. caps practice time and enforces rules around matters like transfers and recruiting, the conferences that play football within Division I have enormous day-to-day power and set policies that can vary from one league to the next.

In 2016, for instance, the Ivy League — which plays in the Football Championship Subdivision, not the Football Bowl Subdivision that draws most of the money and attention — banned full-contact hits during all regular-season practices. The rule stands alone, the editorial noted, almost five years later.

The N.C.A.A. itself has often stuck with what it describes as "recommendations" to combat concussion risks, including that three days of practice each week during the regular season should involve no or minimal contact. The N.C.A.A.'s approach, the study's authors asserted, "have had a limited effect in reducing preseason concussion incidence."

The findings that were published on Monday were long in the making. In the study, conducted at six Division I schools that participate in a research consortium partly funded by the N.C.A.A. and the Pentagon, 658 football players wore helmets outfitted with accelerometers.

By the end of the 2019 season, when the study concluded after recording more than 528,000 head impacts across five seasons, 68 of the monitored players had sustained concussions. The researchers tracked players at Air Force, Army, North Carolina, U.C.L.A., Virginia Tech and Wisconsin. Spring practices were not included, McCrea said.

Crucially, researchers have found variances in head impact exposures among individual players, even among teammates playing the same position, McCrea said.

"Certain teams practice different than other teams, and certain players play different than other players," McCrea said.

Beyond any overarching strategies that could emerge, he said, athletes should engage in more localized efforts to try to reduce risks.

"There's shared responsibility here: on the scientists who produce the evidence, on policymakers, on institutions and coaches and players," he said. "I think we all have a responsibility."

Alan Blinder travels the country covering college sports and is based in Atlanta. In his previous role as a national correspondent, he reported from more than two dozen states. He joined The Times in 2013. More about Alan Blinder

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