The biggest rule in soccer: no using arms and hands. So as a ball sails through the air, the easiest way a player may have to change the ball’s direction is by using his or her head. Those “headers,” however, can cause [**concussion**](https://student.societyforscience.org/article/concussion-more-%E2%80%98getting-your-bell-rung%E2%80%99)**s**, a type of brain injury.

Several sports organizations support **banning** headers from soccer games played by younger athletes — those not yet in high school. But researchers at the University of Colorado in Denver now report finding that headers are not the main problem. Most concussions that occur while playing soccer stem from **aggressive** play — bodies **colliding** with other bodies.

In a study which appeared July 13 in *JAMA Pediatrics*, **epidemiologist** Dawn Comstock and her team analyzed data from the High School [RIO](http://highschool.riostudies.com/) (an **acronym** for Reporting Information Online). This website **tracks** sports injuries among U.S. high school athletes. Last year, Comstock’s group performed a similar analysis of teen [lacrosse injuries](https://student.societyforscience.org/article/lacrosse-different-genders-same-injuries). Now they’ve focused on the more than 600,000 soccer concussions reported by athletic trainers between 2005 and 2014.

Some of the injuries (17 percent in boys and 29 percent in girls) were caused by contact with the ball or another piece of equipment. Others concussions **occurred** when a player hit the ground (13.3 percent of boys and 19.2 percent of girls). But **collisions** between two players **accounted for** 68.6 percent of brain injuries in boys and 51.3 percent of those in girls.

The researchers also looked at just those concussions due to heading — or **attempting** to head — the ball. Among boys, 30.6 percent of the concussions occurred this way. Among girls, 25.3 percent did. But only a small percentage of such injuries occurred simply from the ball contacting the head. More than half of concussions during headers resulted when two players **collided**.

Most concussions from headers happen during games, Comstock reports. That’s because two players may try to head the ball at the same time. Such “**contested**” headers rarely happen during practices, she points out. It’s aggressive play — not headers alone — behind most injuries, her team now concludes.

Soccer-related concussions also have become more common in recent years, Comstock notes. That **reflects** an **increasingly** aggressive culture of play. The best solution to reducing brain injury may not be banning headers, she says. **Enforcing** rules and **preventing** the collisions responsible for most concussions could be more effective.

These new findings provide a wake-up call that soccer officials need to improve safety. And these changes can be **instituted** without making big changes to the way the game is played. Such changes can be made to improve player health and safety and still maintain the **essence** of the game.