Football Helmets Not Much Protection Against Hits to Side of the Head: Study

MONDAY, Feb. 17, 2014 (HealthDay News) -- Football helmets do little to protect against hits to the side of the head that can cause brain injury and concussion, a new study finds.

Researchers placed sensors in a crash test dummy and conducted 330 tests to determine how well 10 leading football helmets protected against brain injury during 12 mile-per-hour impacts.

The helmets were: Adams a2000, Rawlings Quantum, Riddell 360, Riddell Revolution, Riddell Revolution Speed, Riddell VSR4, Schutt Air Advantage, Schutt DNA Pro+, Xenith X1 and Xenith X2.

On average, the helmets reduced the risk of brain injury from a hit to the side of the head (rotational force) by only 20 percent compared to not wearing a helmet. The Adams a2000 offered the best protection against concussion and the Schutt Air Advantage the least, the investigators found.

In straight-on (linear) hits, the findings showed that football helmets reduced the risk of skull fracture by 60 percent to 70 percent, and the risk of brain tissue bruising by 70 to 80 percent, compared to wearing no helmet.

The findings were released Feb. 17 and will be presented at the annual meeting of the American Academy of Neurology (AAN) this spring. Research presented at medical meetings should be considered preliminary until published in a peer-reviewed journal.

"Protection against concussion and complications of brain injury is especially important for young players, including elementary and middle school, high school and college athletes, whose still-developing brains are more susceptible to the lasting effects of trauma," study co-author Dr. Frank Conidi, director of the Florida Center for Headache and Sports Neurology and an assistant clinical professor of neurology at Florida State University College of Medicine, said in an AAN news release.

"Biomechanics researchers have long understood that rotational forces, not linear forces, are responsible for serious brain damage including concussion, brain injury complications and brain bleeds. Yet generations of football and other sports participants have been under the assumption that their brains are protected by their investment in headwear protection," said Conidi, who is vice chair of the AAN's sports neurology section.

The U.S. Centers for Disease Control and Prevention has more about sports concussions.

Read more at http://www.philly.com/philly/health/sportsmedicine/HealthDay684877_20140217_Football_Helmets_Not_Much_Protection_Against_Hits_to_Side_of_the_Head__Study.html#0mqD6Sfdhw0Afq2P.99