

Can the 'right' helmet prevent concussions?

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While many football helmet and mouth guard manufacturers claim that their equipment will lessen impact forces and reduce concussion risk, neither a specific brand nor a higher cost were associated with fewer concussions in adolescent athletes, according to an abstract presented Monday, Oct. 28 at the American Academy of Pediatrics (AAP) National Conference and Exhibition in Orlando.

"Our preliminary findings suggest that neither any specific brand of football helmet nor custom mouth guards result in fewer concussions in kids who use them," said lead co-investigator Margaret Alison Brooks, MD, MPH, FAAP. "Despite what manufacturers might claim, newer and more expensive equipment may not reduce [concussion](#) risk. So is it worth the significant extra cost to families and schools?"

Each year, approximately 40,000 sport related concussions (SRC) occur in U.S. high schools. In the abstract, "Association of Helmet Brand and Mouth Guard Type with Incidence of Sport Related Concussion in High School Football Players," researchers tested various mouth guard brands, including custom-fit mouth guards, and new and older [football helmets](#).

The study involved 1,332 [football players](#) at 36 high schools during the 2012 football season. Players completed a pre-season demographic and injury questionnaire, and athletic trainers recorded incidence and severity of SRC throughout the year.

Helmets worn by players were manufactured by Riddell (52 percent), Schutt (35 percent) and Xenith (13 percent). The helmets were

purchased in 2011-2012 (39 percent), 2009-2010 (33 percent) and 2002-2008 (28 percent). Mouth guards worn by players included generic models provided by schools (61 percent) and specialized mouth guards (39 percent) custom fitted by dental professionals or specifically marketed to reduce SRC.

A total of 115 players (8.5 percent) sustained 116 SRCs in 2012. There was no difference in SRC rate based on the type of helmet worn, or the year the helmet was purchased. Concussion severity (based on the number of days lost from play) was no different for players wearing Riddell, Schutt or Xenith helmets. The SRC rate for players who wore a specialized or custom-fitted mouth guard was higher than for players who wore a generic mouth guards.

Properly maintained and fitted [helmets](#) remain important to prevent skull fractures and scalp lacerations in [football players](#), said Dr. Brooks. However, "because the brain is floating freely inside the skull, I think most experts doubt whether it is possible to ever develop a helmet design that can prevent concussion."

More information: To view the abstract, "Association of Helmet Brand and Mouth Guard Type with Incidence of Sport Related Concussion in High School Football Players," go to [aap.confex.com/aap/2013/webpro ... ress/Paper22211.html](http://aap.confex.com/aap/2013/webpro...ress/Paper22211.html)

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