

## NEWS

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### **Statement from the National Operating Committee on Standards for Athletic Equipment Regarding 2013 Virginia Tech Star Rating System**

"The National Operating Committee on Standards for Athletic Equipment (NOCSAE) supports and encourages the scientific research being done by Virginia Tech in the very important area of concussion protection for athletes in all sports, and particularly in football. There are, however, very important limitations in the STAR ranking system as recognized by the experts at Virginia Tech. NOCSAE believes that many parents, players, coaches, and athletic directors are unaware of these limitations. Unless the limitations of the STAR ranking system are considered, the potential exists for players, parents, coaches, and administrators to overemphasize the role of the helmet in protecting against concussions. This overemphasis increases the likelihood that less attention will be given to other steps that have a more immediate and much greater impact on concussion reduction.

"According to the The Virginia Tech Helmet Ratings™ STAR website FAQ which can be found at <http://www.sbes.vt.edu/pdf/FrequentlyAskedQuestions2013.pdf>:

- Only adult-size large helmets were evaluated. There are no data to support applying the same ratings to other sized helmets of the same model, including youth football helmets. No adult X-Large, Medium, Small, X-Small or any youth-size helmets were tested.
- The STAR value itself is a *theoretical* calculation that is based on a probabilistic analysis of impact exposure and injury risk at the collegiate level.
- There are a near infinite number of ways to test helmets (varying temperature, impact location, helmet size, drop height, etc.), and, therefore, generalizations were made so that the helmets could be tested in a practical manner. Helmets were not tested under game conditions. For example, air bladder fitting and protection systems were not inflated to achieve fit, even though the NOCSAE standards require that manufacturer fitting instructions be followed.

"According to an independent statistical review of the scores and categories upon which the STAR number is based, there is no significant statistical difference between helmets in the 5 STAR, 4 STAR, and 3 STAR categories.

"NOCSAE is concerned that some helmets in the 2013 STAR rating, without a change in design or materials, were moved from a 3 STAR rating to a 5 STAR rating after being retested, but not all brands/models were retested. Another helmet model retested in 2013 went from a 4 STAR to a 3 STAR with no design changes. If all helmets had been retested, it appears reasonable to believe that other helmets also may have moved into and out of different STAR categories.

"A concussion in football is a very complex event involving different and changing forces, linear and rotational accelerations, helmet fit, player position, impact duration, player concussion history and overall health, and potentially even genetics. The Virginia Tech Helmet Ratings™ system approaches the very broad and complex issue of concussion protection from a narrow vantage point of linear accelerations only and does not address other biomechanical variables such as rotational accelerations, particularly where rotational accelerations precede the linear acceleration in a hit. The consensus of scientific experts agree that rotational accelerations are involved in many, if not almost all, concussive events, although no correlated injury threshold for rotational accelerations has been found.

"NOCSAE urges parents of athletes and athletes to get all the facts about football helmets and concussion protection. The safety of young athletes is too important to rely on only one partial measurement of helmet performance."

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*For the most reliable information regarding helmets and concussion and injury protection and prevention, NOCSAE encourages athletes and parents to carefully review:*

- *Hang tags that come with all new football helmets that address the helmet's abilities and limitations*
- *Informational booklets developed by manufacturers that contain critical information about the helmet's abilities and limitations*
- *Warning information that is prominently and permanently affixed to the exterior of every helmet*
- *Free downloadable resources created by the Centers for Disease Control regarding concussion recognition, response and prevention. Those resources can be found at [www.cdc.gov/concussion/sports/](http://www.cdc.gov/concussion/sports/)*

*For more information, please visit [www.nocsae.org](http://www.nocsae.org).*

#### *About NOCSAE*

*NOCSAE, the National Operating Committee on Standards for Athletic Equipment, is an independent and nonprofit standard-setting body with the sole mission to enhance athletic safety through scientific research and the creation of performance standards for protective equipment. Formed in 1969, NOCSAE is a leading force in the effort to improve athletic equipment and, as a result, reduce injuries. NOCSAE efforts include the development of performance and test standards for football helmets and facemasks, baseball and softball batters and catchers helmets, baseballs and softballs, ice hockey helmets, soccer shin guards, lacrosse helmets and facemasks and polo helmets. NOCSAE is comprised of representatives from a number of groups which have an interest in athletic equipment – including manufacturers, reconditioners, athletic trainers, coaches, equipment managers, sports medicine and consumer organizations. These diverse interests have joined forces in an attempt to arrive at a common goal of reducing sports-related injuries. NOCSAE is a nonprofit, charitable organization supported by individuals and organizations with an interest in athletics.*