

For Immediate Release

Media Contact:

Terry Hoffmann

terry.hoffmann@fleishman.com

M: 310-614-3531

NOCSAE Winter Standards Meeting Update: NOCSAE Advances Headform Redesign and the Proposed Youth Football Helmet Standard

OVERLAND PARK, Kan. (Jan. 28, 2023) — The National Operating Committee on Standards for Athletic Equipment (NOCSAE) convened its Winter Meeting on January 27 in Litchfield Park, Arizona. The Standards Committee discussed advancements for the proposed youth football helmet standard and reported progress on the advanced Nine Array Headform redesign. The Committee also continued to evaluate the potential development of a headgear standard for non-tackle football and discussed updates to 2023 NCAA and NFHS rules for lacrosse stick designs.

NOCSAE Appoints New Technical Director

At the Winter Meeting, NOCSAE appointed Elizabeth McCalley, BSBME, as the organization's new Technical Director, effective immediately. McCalley has worked closely on NOCSAE testing protocols and standards developments for more than 16 years and has been instrumental in NOCSAE's work on the performance standard to protect against commotio cordis ([ND200-22m22](#)), the Nine Array Headform redesign, and is involved in all other aspects of NOCSAE technical programs related to testing and assessment of equipment. She holds a degree in biomedical engineering from the University of Tennessee and has worked with the team at Southern Impact Research Center since 2007. Dave Halstead, who served as NOCSAE's Technical Director for more than 28 years, has been named Technical Director Emeritus.

Scientific Advisory Committee Report

Dr. Robert Cantu, MA, MD, FACS, FACSM, FAANS, NOCSAE Vice President, Chair of the Scientific Advisory Committee and Representative of the American College of Sports Medicine, shared an update on NFL concussion protocols and developments at the 6th International Consensus Conference on Concussion in Sport held in Amsterdam in October 2022. International experts gathered at the conference to assess the latest research related to concussions and brain injuries in sports and establish protocols for treatment and diagnosis. Dr. Cantu, who served on the leadership group for the conference's scientific committee, shared insights on key considerations that will shape a new international consensus statement on concussions, which is expected to be released later this year in the British Journal of Sports Medicine.



Proposed Youth Football Helmet Standard

The NOCSAE Scientific Advisory Committee (SAC) and Technical Director continue to advance work on the proposed Youth Football Helmet Performance Standard ([ND006-21](#)). For more than 10 years, NOCSAE has funded research to better understand the need for a unique standard on football helmets designed for youth. At the NOCSAE Winter Meeting in January 2020, the Standards Committee voted to formally begin the development of such a standard. NOCSAE continues to refine key criteria and testing protocols for the new standard and anticipates the Standards Committee will move to finalize the standard within the next year.

To clarify the level of play for the new standard, NOCSAE revised the definition of youth football as follows: *football played at a level below high school*. In addition, the Standards Committee voted to approve the following updates to the proposed standard:

- Removing one of the two highest level drop test impacts (17.94 ft/s). One impact each at ambient and high temperature is adequate to assess helmet performance at impact velocities that are extremely rare in youth football.
- Eliminating pneumatic ram testing for helmets that fit large headforms due to an inappropriate anatomical combination that puts excessive stress on the Hybrid III youth neck surrogate which connects the large headform to the testing apparatus. Pneumatic ram testing will still be required for helmets fitting small and medium headforms.
- Clarifying that the 3.5-pound weight limit for youth helmets with a faceguard will only be required for helmets that fit the small headform.

The Technical Director also shared updates on the status of youth-specific impactor ram equipment needed for necessary round-robin testing. Currently, Southern Impact Research Center is the only facility that has equipment needed for the required testing. The Technical Director will begin round-robin testing among multiple accredited testing laboratories and manufacturer test labs, once supplies have been received and shipped out to other facilities.

NOCSAE Standards Updates

The Standards Committee also voted on the following modifications to NOCSAE standards:

- Language for **the Standard on Corrosion Testing and Performance Specifications** ([ND015-15m23](#)) was amended to clarify the definition of “set of hardware.”
- **Test Methods for Evaluating the Performance Characteristics of Headgear/Equipment** ([ND001-17m23](#)) were modified to include a “1-inch dimension” clarification in the Front Boss impact location description which had been inadvertently removed in section 19.4.
- The **Pneumatic Ram Test Method** ([ND081-23](#)) was modified to clarify the required test data acquisition filtering specification and sampling rates referenced in other related documents.

Under NOCSAE’s rules, all standards which have not had action taken for five years **must be submitted to a Reaffirmation** vote. The Standards Committee voted to reaffirm these standards in their current form:

- Lacrosse Helmet Performance Specifications ([ND041-15m18](#))
- Lacrosse Face Protector Specifications ([ND045-17m17b](#))
- Field Hockey Ball Performance Specifications ([ND069-14m17](#))
- Soccer Shin Guard Testing Methods and Performance Specifications ([ND090-06m18](#))

Headform Innovation: Update on Nine Array Headform Redesign

NOCSAE was a pioneer in the development of variable mass biofidelic headforms. Because they are designed to model the biomechanics of a human head, including the impedance and harmonics caused by an actual impact, NOCSAE headforms allow for more accurate testing of helmets and projectiles. In 2020, NOCSAE finalized plans to redesign its headforms for enhanced biofidelity and testing capabilities by accommodating internal placement of state-of-the-art impact acceleration data collection arrays.

At the Winter Meeting, NOCSAE's Technical Director reported on the status of the new headforms and upcoming milestones in their development. The redesigned headform molds were delivered to the Southern Impact Research Center in November 2022. After testing and analysis, the Technical Director ordered additional updates to the manufacturing process to ensure consistency in headform parts. An initial set of three headforms has been ordered and comparative tests will be conducted before the new headforms are shared with other interested parties. The Technical Director anticipates NOCSAE will be able to order headforms for other labs in the coming months and will provide a status report at the 2023 Summer Standards Committee Meeting.

Potential Non-Tackle Football Headgear Standard

The Standards Committee continues to evaluate the potential development of a non-tackle football headgear standard in response to the rise in popularity of flag football and 7-on-7. At the 2022 Summer Meeting, NOCSAE Research Director, Kim Barber Foss, presented findings from her PhD dissertation study on non-tackle football that indicate the majority of injuries in the sport are minor, with 25% occurring to the head and face. The data also demonstrated that 75% of all injuries were related to some form of contact in a limited contact sport. Key considerations for NOCSAE include whether a soft or hard helmet is appropriate, and if the helmet should be designed for single impact or multi-impacts. As a next step in assessing the need for a standard, NOCSAE will gather input from leading governing bodies and leagues in non-tackle football and share these findings at the 2023 Summer Standards Committee Meeting.

Interested parties are invited to submit comments and questions to NOCSAE Executive Director Mike Oliver at mike.oliver@nocsae.org.

Information about all NOCSAE standards and future Standards Committee meetings is available at nocsae.org. The next NOCSAE Standards Committee Meeting will be held in Chicago, IL, on July 21, 2023.

###

About NOCSAE

NOCSAE, the National Operating Committee on Standards for Athletic Equipment, is an independent and nonprofit standards development body with the mission to enhance athletic safety through scientific research and the creation of performance standards for athletic equipment. Formed in 1970, 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, gloves and facemasks, baseball and softball batter's and catcher's helmets, baseballs and softballs, ice hockey helmets, soccer shin guards, lacrosse helmets and facemasks, and polo helmets. NOCSAE is comprised of a board of directors representing stakeholders from a number of groups – including consumer and end users, equipment manufacturers and reconditioners, athletic trainers, coaches, equipment managers, and academic and sports medicine associations. 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. For more information, please visit www.nocsae.org.