

For Immediate Release

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NOCSAE Winter Standards Meeting Update: NOCSAE Reports Progress on Shoulder Pads Research, Youth Football Helmet Standard and Headform Redesign

OVERLAND PARK, Kan. (February 9, 2022) — The National Operating Committee on Standards for Athletic Equipment (NOCSAE) convened its hybrid Winter Meeting on January 28, welcoming remote and in-person attendees in Litchfield Park, Arizona. The Standards Committee shared updates on key initiatives, including the research study on shoulder pads, the redesign of NOCSAE's headforms and advancements in criteria for the proposed youth football helmet standard. NOCSAE also shared an overview of its helmet data tracking system and anticipated next steps in the rollout of a public portal for consumers.

NOCSAE Research

As part of NOCSAE's mission to enhance athletic safety through scientific research, the board of directors established a new [RFP research funding program](#) in 2021. The purpose of the program is to request research on specific and sometimes narrow questions related to advancing standards development. For the initial research program, the RFP Committee requested proposals to evaluate if shoulder pads have a significant role related to injuries of the shoulder, chest, neck or head and to help determine whether such data is sufficient to support the development of a shoulder pad standard.

In July, the NOCSAE board unanimously approved a study that will track shoulder pad-related injuries in high school football and provide a range of video-based biomechanical data. The Prevalence and Descriptive Surveillance (PADS) study is led by principal investigators Christine L. Collins, PhD, president Datalys Center for Sports Injury Research and Prevention in Indianapolis and Jason P. Mihalik, PhD, professor of Department of Exercise and Sport Science and co-director of the Matthew Gfeller Sport-Related Traumatic Brain Injury Research Center at the University of North Carolina, Chapel Hill.

Researchers are currently gathering input from athletic trainers across the nation with a goal of including 200 schools. Participating schools are reporting head, shoulder, chest and neck injuries that are associated with player-to-player contact with the shoulder as well as a complete football shoulder pad inventory. In addition, video-based head impact biomechanical data for youth, high school and college football will be reviewed. The PADS study has been underway since August and will collect data through June 2022.



In December, NOCSAE appointed [Kim D. Barber Foss, MS, LAT, ATC, CCRP to the role of Research Director](#). Barber Foss will oversee NOCSAE's research program which has funded more than \$13 million in studies since 1994. At the Winter Meeting, Barber Foss shared updates on current research projects and recommendations moving forward. The board unanimously approved reactivating NOCSAE's small grants program to fund research studies under \$50,000. NOCSAE will share updates on criteria and deadlines for proposals in the coming months. Learn more about all of NOCSAE's research programs [here](#).

Proposed Youth Football Helmet Performance Standard

The NOCSAE Scientific Advisory Committee (SAC) and Technical Director continue to advance work on the **proposed new Youth Football Helmet Performance Standard** ([ND006-21](#)) which is still in draft status. In December 2020, the SAC recommended a two-tiered rotational testing standard to account for the differences in athletic behaviors of youth players ages 5-8 and 9-14. The recommendation included two impact velocities and two pass/fail criteria. At the Summer Meeting, the Technical Director presented testing that demonstrated two meaningful impact velocities would not be possible and recommended one pass/fail criteria for all youth helmets. Based on that update, the SAC and Technical Director have determined a 5.0 m/s impact with a pass/fail of 5,000 rad/s² will be used moving forward. Development of the proposed standard is a priority for NOCSAE and the next progress report will be shared at the Summer Meeting in July.

Nine Array Headform Redesign

NOCSAE was a pioneer in the development of variable mass biofidelic headforms that model the biomechanics of a human head, including impedance and harmonics of an actual impact. The NOCSAE headforms allow for more accurate testing of helmets and projectiles. In 2020, NOCSAE finalized plans to redesign the headforms with enhanced biofidelity and testing capabilities. The new Nine Array headform design features increased central space to accommodate expanded data collection sensors and arrays.

At the Winter Meeting, the NOCSAE Technical Director reported that molds for all headform sizes have been completed and initial durability and instrument testing for the medium headform was successful. Further instrument testing is temporarily on hold because key materials used for the headform covering are no longer being manufactured. NOCSAE expects to test new medium headforms made with alternative materials later this year. These tests will determine any adjustments needed to finalize the small- and large-size headforms.

NOCSAE Helmet Data Tracking System

Rick Perkins with Helmet Tracker shared an update on the NOCSAE helmet data tracking system which was developed to track a range of data points on individual helmets, including reconditioning and recertification status. The goal of the program is to provide consumers and sports stakeholders a way to quickly determine the status of a helmet through a simple RFID or bar code scan, or by entering the unique label number into a search portal. Currently, the system contains data for more than 1.5 million football helmets, and it is being used by reconditioners, manufacturers, governing bodies, schools and the NFL.

NOCSAE is currently evaluating options for creating a public portal on the NOCSAE website so that coaches, athletes, parents and other interested parties can directly access core helmet data for an individual helmet. The data would include the last reconditioning and recertification date as well as the name of the company that recertified the helmet. Manufacturers and reconditioners continue to add new and existing helmets to the NOCSAE data system.

Standards Updates

The Standards Committee unanimously approved a revision to the **Commotio Cordis Test Method Standard (ND200-22)** requiring specific labeling for protectors that have a removable primary protective component. Manufacturers must include a statement that the product is not compliant with the standard unless assembled in accordance with manufacturer directions. The Technical Director also discussed two modifications to the standard. The first modification clarifies the samples required for testing in section 5.2. The second modification in section 16.4 underscores that fitting and use instructions should allow the wearer to determine if the cardiac silhouette is covered by the protective component. The revised and modified version of ND200-22 will become effective in February 2023.

Other Modifications:

- The **Football Helmet Performance Specification (ND002-17m21)** was modified to add an equipment specification for the pneumatic ram test to distinguish criteria for adult and youth helmets.
- The **Baseball Performance Specification (ND027-18m21)** was adjusted to change quality control compliance criteria from Level 3 to Level 2. The change does not impact pass/fail requirements.
- The **Football Faceguard Test Method/Performance Specification (ND087-18m21)** was updated with new language to clarify test requirements based on the product design. The Technical Director also added maximum deformation and compression force values for the rigid deformation test. Faceguards can compress up to three inches or withstand 1,100 pounds of force to meet the standard.

Potential Non-Tackle Football Headgear Standard

With the rise in popularity of flag football and 7-on-7, the NOCSAE Standards Committee continues to evaluate the potential development of a non-tackle football headgear standard. The Standards Committee is reviewing available data related to head and facial injuries in non-tackle football to inform potential next steps and considering the protective value of both soft head gear protection and hard helmets.

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.

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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.