NOCSAE Summer Standards Meeting Update: NOCSAE Reports Progress on Youth Football Helmet Standard and Advances Shoulder Pads Research

The Committee also shared updates on the development of new headforms for testing and continued discussions on a potential standard for non-tackle football

OVERLAND PARK, Kan. (July 28, 2021) — This year’s National Operating Committee on Standards for Athletic Equipment (NOCSAE) Summer Standards Committee Meeting was held virtually and in-person in Miami, Fla., on July 23. At the meeting, the Standards Committee shared updates on the Request for Proposal (RFP) regarding shoulder pads and the proposed Youth Football Helmet Standard, took voting action on athletic equipment safety standards for a range of sports and advanced discussions on a potential non-tackle football helmet standard.

RFP on Shoulder Pads

Dr. Robert Cantu, NOCSAE vice president and representative of the American College of Sports Medicine, provided an update on NOCSAE’s new RFP research funding program and RFP for shoulder pads issued in February. The NOCSAE RFP Committee asked to receive proposals that evaluated if shoulder pads are a significant mechanism of injury to the shoulder/chest/neck or head and to help determine whether such data is sufficient to support the development of a shoulder pad standard or if additional research is warranted.

The RFP Committee has evaluated and strongly recommended a proposal from 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. The proposal will track shoulder pad-related injuries in high school football and provide additional biomechanical data beyond the RFP criteria. The NOCSAE board of directors unanimously approved the recommendation during the board meeting Friday afternoon.
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). 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 includes two impact velocities and two pass/fail criteria. Youth helmets would have to comply with both criteria to pass. The technical director is scheduled to conduct further testing once the new NOCSAE headforms are available in August. The SAC will reconvene to evaluate the findings and continue to discuss and finalize recommendations for the proposed standard.

Effective Date for Revisions to Commotio Cordis Test Method

The Standards Committee continued discussions and responded to questions and comments about approved revisions to the Test Method and Performance Specification Used in Evaluating the Performance of Protectors for Commotio Cordis (ND200-21). These included updates to terminology and technical specifications for impact area and load cell locations to facilitate better testing of multiple size protectors. The revisions were approved at the January 2021 meeting, but implementation was suspended to allow resolution for some procedural issues related to notice. The Standards Committee approved an effective date of January 31, 2023 for ND200-21. Manufacturers may choose to comply with these revisions before that date.

Update on Nine Array Headform Redesign

Technical Director Elizabeth McCalley provided an update on continuing work on the Nine Array headform redesign. As discussed in the winter meeting, NOCSAE finalized a CAD design aimed at improving the biofidelity of headforms. The redesign is intended to improve the testing capabilities of the headforms through increased central space to accommodate multiple types of data collection sensors and arrays.

Design files were submitted to the mold maker in early spring 2020 but the development process was delayed when the company pivoted to manufacturing PPE during COVID19. The process is now back on track and NOCSAE expects the first medium headform scheduled to be delivered in August. Initial testing will determine any adjustments needed to finalize the small- and large-size headforms.

Additional Standards Updates

The Standards Committee approved a modification to the Pneumatic Ram Test Method (ND081-18am21) that added new technical specifications and a modification to the Laboratory Procedural Guide for Certifying Newly Manufactured Protectors for Commotio Cordis (ND201-21) that clarifies fitting and positioning instructions. The Committee also voted to reaffirm the following standards, confirming each would stay in its current form.

- Standard Performance Specification ND043-11m16 for Recertified Lacrosse Helmets
- Standard Performance Specification ND035-11m16 for Newly Manufactured Hockey Face Protectors
- Standard Performance Specification ND032-11m16 for Recertified Ice Hockey Helmets
- Standard Performance Specification ND030-11m16 for Newly Manufactured Ice Hockey Helmets

Finally, the Standards Committee will continue to discuss the development of an ND000 specification, a potential complement to ND001. ND001 is a standard test method specification describing laboratory equipment and basic requirements pertinent to testing headgear/equipment. Deviations, additions, or both, to this test method are specified as required in the appropriate NOCSAE standard performance specifications.
Potential Non-Tackle Football Headgear

The Standards Committee continued discussions concerning the possible development of a standard for non-tackle football headgear for flag football and 7v7. As non-tackle football grows in popularity, NOCSAE is considering the potential need for head gear and face protection. There is very little data as to the type, frequency, and severity of head and facial injuries in non-tackle football, and NOCSAE is taking steps to review and confirm the existing data in advance of the Winter Standards Committee Meeting in January.

Review of Standards Adoption Process

Executive Director Mike Oliver shared a clarification on NOCSAE’s standards adoption process. Specifically, Oliver provided context on how the public comment period works for both new and revised standards, noting each allows a minimum of thirty days for public input. Oliver also discussed how effective dates for new and revised standards are determined and noted licensees have a minimum of twelve months to comply with approved revisions. NOCSAE is an ANSI Accredited Standards Developer and follows the ANSI essential requirements for due process to ensure fairness, transparency and consensus. More information on the process is available here.

Recognizing NOCSAE Research Director, Fred Mueller, Ph.D.

After 15 years of dedicated service to NOCSAE, Fred Mueller, Ph.D. is retiring. During his tenure with NOCSAE, Fred managed 359 full grant applications, ultimately funding 40 grants totaling $8,435,000. Mueller significantly elevated and advanced NOCSAE’s program and the organization’s contribution to athletic equipment research, understanding of injury risk threshold and athlete safety. NOCSAE Executive Director Mike Oliver noted, “Fred has carried the banner in the research area with incredible skill and a humble attitude. We are grateful for his service and wish him the best as he begins his next chapter.”

No stranger to achievement, Mueller was honored in 2016 with a Lifesaving Research Award from the Korey Stringer Institute for his exceptional dedication as the former director of the National Center for Catastrophic Sport Injury Research at the University of North Carolina, Chapel Hill. He is also a recipient of the National Federation of State High School Associations’ Award of Merit. In recognition of Mueller’s contributions to sports safety, NOCSAE made a donation to Mueller’s Gathering Place, an outdoor garden created and dedicated to honor Mueller at the University of North Carolina, Chapel Hill. Mueller was a faculty member at UNC for 41 years and chaired the Department of Exercise and Sports Science from 1995-2005.

More information on all NOCSAE standards 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.