

? ? ? The most frequently asked questions about NOCSAE

We receive several inquiries daily asking about various aspects of NOCSAE standards and the practical application of certain provisions of equipment safety and performance. The following is a selection of the most frequently asked and answered questions.

Q: How often must we recondition football helmets?

A: The NOCSAE standard does not require the recertification of football helmets on any predetermined schedule or time frame, nor does it suggest any frequency or interval. Every program that has the responsibility for maintaining football equipment should have an inspection program in place to assess each helmet on a regular basis to determine which ones are in need of reconditioning and recertification. Only NOCSAE licensed reconditioners are authorized to recertify football helmets to their original condition using the NOCSAE reconditioning standard and lab guidelines. It is up to each program to determine when its helmets are in need of reconditioning.

Q: Does the NOCSAE standard require the use of specific brand name replacement parts when they are replaced in the reconditioning and recertification process?

A: No. The NOCSAE standard is a performance standard that does not require any specific parts or designs. If the helmet passes the various drop tests after reconditioning, the licensed reconditioner may recertify the helmet to its original standard.

NOCSAE Approves Catchers Helmet Standard

NOCSAE adopted a voluntary catchers helmet standard as of January 1, 1999. This standard was approved after several years of review and consideration by the Committee, with input from many sources.

NOCSAE has no authority to require compliance with the standard and does not impose an obligation for any equipment manufacturer or user to comply with the standard. Publication of the standard is a notice to regulatory bodies that oversee baseball and softball that a standard exists, should any of those bodies choose to adopt the standard or require that equipment used by its participants meets that standard. Adoption of the standard by various organizations is subject to their approval. Little League Baseball, Incorporated has adopted the catchers helmet standard.

For more information, see the FAQ on Page 2.

On the Web: www.nocsae.org

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Q: Why do I have to use equipment that meets the NOCSAE standard?

A: Although NOCSAE itself has no authority to require that its standards be followed, the various regulatory bodies that control the sport do have such authority. Compliance with NOCSAE standards is mandated in the rules and regulations adopted by such groups as the NCAA, NAIA, NFHS, Pop Warner, and many other such groups in football as well as in other sports.

Q: Isn't NOCSAE really controlled by the equipment manufacturers?

A: Not at all. NOCSAE is a nonprofit tax-exempt organization whose membership is limited to a board of directors. There are currently seventeen voting board members from all areas of sports safety, management, and regulation. There are five who represent manufacturers' interests, and the remaining twelve represent groups such as the National Association of Secondary School Principals, National Athletic Trainers Association, American College of Sports Medicine, American College Health Association, American Orthopedic Society for Sports Medicine, Athletic Equipment Managers Association, American Football Coaches Association, and the American Medical Society for Sports Medicine. The individuals representing these groups are experts in their fields, and include neurosurgeons, orthopedic surgeons, sports medicine specialists, trainers, coaches and a college athletic director. Decisions are made by equal voting and after debate and consideration of all facets of the issues at hand.

Q: What equipment is covered by the NOCSAE standards?

A: Football helmets and faceguards, baseball and softball batting helmets, baseball and softball catcher's helmets, lacrosse helmets and faceguards, and safety baseballs and softballs are all covered in various standards published by NOCSAE. These standards as well as the testing guides and lab guides are available from NOCSAE by request free of charge.

Q: When did the catcher's helmet standard come into effect, and who has adopted it?

A: The NOCSAE catcher's helmet standard was more than six years in the making. Because of the combination nature of the mask/helmet assembly, there were some problems which made the drafting of the standard more difficult. In addition, the catcher is at risk for bat impacts as well as ball impacts, so the standard had to consider both risks. After notice and a comment period, the Committee finally adopted the standard that was officially published January 1, 1999 as NOCSAE Document 024-98. Since all NOCSAE standards are voluntary, there was no requirement that any athletic group or organization follow this standard. After the publication date, Little League announced an amendment to its rules to include the requirement that all catchers wear a catcher's helmet that meets the NOCSAE standard, but they will continue to permit the use of helmets without the NOCSAE logo until the year 2001, to allow the manufacturers time to convert their various models to the NOCSAE standard. As of the date of this newsletter, both the NCAA and the National Federation of State High School Associations are placing the adoption of this standard on their rules committee agendas for consideration.

Q: How is NOCSAE funded?

A: NOCSAE receives a royalty fee from every licensee who uses our name, logo, seal, or other trademarked item when certifying or recertifying equipment. These fees are currently very small, and amount to five cents for every recertified football helmet and batter's helmet, 25 cents to 35 cents for every new football helmet. Safety baseballs and softballs are charged a royalty fee of 25 cents per dozen balls. These fees are used to fund research into many areas of sports medicine and science, and they are also used to pay for day to day operations of the organization. Since 1994, NOCSAE has funded more than \$350,000 in research grants and contracts.

Q: Does the manufacturer or reconditioner test every helmet?

A: No. It would not be feasible to test every new or reconditioned helmet. The test process is lengthy, and it requires fitting the helmet to a special drop test rig, fitting it to a specially designed human-like headform, making several equipment calibration checks to insure the accuracy of the test, and then making 16 separate drops onto a special headform, including two drops at an elevated temperature. If any of the drops result in impact values in excess of the standard values, the helmet fails. The standard requires that a statistically relevant sample number be tested, as guided by Military Standard 105-E Standard Series, or the ISO 9000 Standard Series, or the ANSI/ASQL Standard Series. These sample sizes are also applicable to recertified helmets.

Q: Do those new hockey goalie style catcher's helmets meet the new NOCSAE standard?

A: There are some that have been certified by their manufacturer to comply. These will have the NOCSAE logo and helmet icon on the shell of the helmet, although it may only be in a decal form at first. There is nothing about the design that will prevent or prohibit the helmet from passing the standard. You will need to ask each manufacturer whether their helmet meets the new standard.

If you have any other questions that aren't covered in this FAQ section, please call, write, or e-mail NOCSAE.

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NOCSAE Research Update

NOCSAE awards funds for basic scientific and/or applied research with a demonstrated relationship towards increasing our understanding of sports injury mechanisms and injury prevention through the use of protective sports equipment. Priority is given to proposals focusing on recurring injury, where the injury is either "catastrophic," "serious," and/or "costly." Awards are based upon scientific merit and upon the priorities of the NOCSAE Board of Directors. Instructions for submitting proposals can found at the NOCSAE home page <http://www.nocsae.org>. Further information may be obtained by contacting our Research Director, Dr. Trey Crisco, at (401) 444-4677, or e-mail joseph_crisco@brown.edu.

A listing of all previous grants and resulting publications can be found on the NOCSAE home page.



Recent publications supported by NOCSAE include:

Baseball Hardness as a Risk Factor for Eye Injuries.
P.F. Vinger, S.M. Duma, J. Crandall. *Archives of Ophthalmology*. Vol. 117:354-358, 1999.

An Experimental Model of Sudden Death Due to Low-Energy Chest-Wall Impact (Comotio Cordis).
Mark S. Link, M.D. *The New England Journal of Medicine*. Vol. 338: 1805-1811, 1998.

Clinical Profile of Comotio Cordis: An Under Appreciated Cause of Sudden Death in the Young During Sports and Other Activities.
Barry J. Maron, M.D., Mark S. Link, M.D., Paul J. Wang, M.D., and N.A. Mark Estes III, M.D. *Journal of Cardiovascular Electrophysiology*. Vol. 10, No. 1: 114-120, Jan 1999.



Recent and current studies funded by NOCSAE include:

Early Prediction of Severity of Closed Head Injury in Football Accidents Using Neuropsychological Testing, MRI, and Pet Scanning.
Howard H. Kaufman, M.D.
West Virginia University School of Medicine

The National Commotio Cordis Registry.
Barry Maron, M.D.
Minneapolis Heart Institute

Development of a Biological Model for Comotio Cordis: Use in Evaluating Baseball Injury and Chest Wall Protection.
Mark S. Link, M.D.
New England Medical Center Hospitals

Comparisons of Shin Guards in Preventing Tibia and Fibula Fractures in Soccer.
William E. Garrett, Jr. M.D., Ph.D.
Duke University Medical Center

Effect of Mild Head Injury on Cognition and Postural Stability.
Kevin Guskiewicz, Ph.D.
University of North Carolina at Chapel Hill

Use of Shoe Orthotics to Reduce Bone Strain Rate.
David B. Burr, Ph.D.
Indiana University School of Medicine

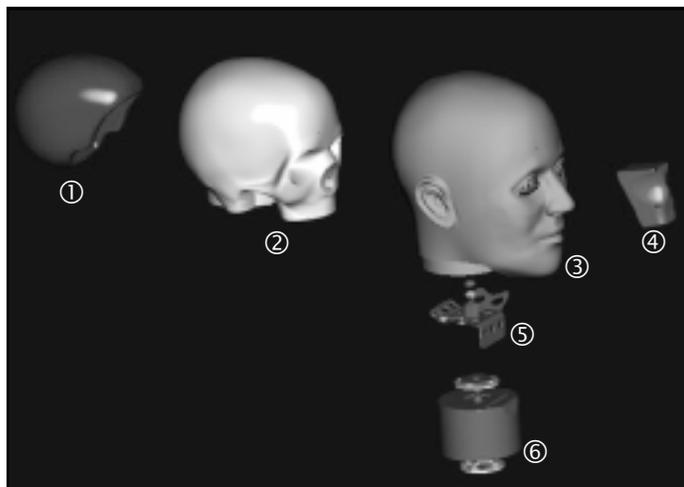
Evaluation of Eye Injuries Caused by Baseballs of Varying Hardness.
Paul F. Vinger, M.D.
Vision Performance and Safety Service, Concord, MA

Biomechanics of Wrist Guards - Efficient Usage in Preventing Forearm Injuries.
Kyu-Jung Kim, Ph.D.
Orthopaedic Biomechanics Lab, Mayo Foundation

New Headform Development

This Spring, Southern Impact Research Center began an effort to create new NOCSAE test headforms. With the original molds becoming less and less serviceable as they approached their thirtieth birthdays, the opportunity presented itself to not only recast the current design, but to improve the accuracy of the facial features, redesign some of the internal components to aid in manufacturing consistency and improve durability, make provisions for the development of an articulating jaw, and generally improve the precision of measurements taken with the headforms. Additionally, Southern Impact Research Center could develop a fully documented CAD database of each headform for use in design and development of test methods and products.

With the volunteer assistance of Dr. Paul Vinger of Tufts University, a longtime proponent of improving protective eyewear standards, and numerous head and face anthropometry studies we have created a coordinate system and dimensional database to locate head and facial features for each of the three NOCSAE headforms. Redesign of the medium headform is complete. We expect the tooling process to begin by July 1, 1999. The small and large headforms will begin their tooling phases shortly after completion of the medium headform. As soon as all sizes have been tested, the new headforms will be available, made from their new molds with all of the improvements in place.



Exploded diagram of the new headform assembly

Corrections to Directory of Licensees

The entries below are corrections and additions to the directory of NOCSAE licensees published in the Fall 1998 newsletter.

Butler Reconditioners

332 Lincoln Avenue
Box 507
Lakeview, MI 48850
Gary Jensen, Pres.
Tel: 517-523-4126
Fax: 517-352-7618
Football helmet reconditioner

Circle System Group

653 Bushkill Street
Easton, PA 18042
David Drill, Pres.
Eric Abeshaus
Tel: 800-248-0019 (toll free)
Fax: 610-253-1798
Football and lacrosse helmet reconditioner

Diamond Sports

Joe Hardy, Pres.
11130 Warland Drive
Cypress, CA 90630
Tel: 562-598-9717
Fax: 562-598-0906
Baseball/softball batters helmet manufacturer

Ego Sports Repair, Ltd.

Box 6
1804 Brock Road
Freelton, Ontario LOR 1K0, Canada
Wayne Ego, Pres.
Email: egosports@globalserve.net
Tel: 905-659-7288
Fax: 905-659-0894
Web: www.globalserve.net/~egosports/
Football helmet reconditioner

Stadium System, Inc.

61 Church Street
PO Box 940
Canaan, CT 06018
Kenneth Schopp, Pres.
Tel: 860-824-5479
Fax: 800-708-0600
Football and lacrosse helmet reconditioner

Headform Diagram Legend:

- | | |
|--------------------------|---------------------|
| ① Surrogate brain matter | ④ Frontal sinus |
| ② Anatomic skull | ⑤ Coupler interface |
| ③ Anatomic headform | ⑥ Coupler assembly |

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