ASTM Standardization News
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New Soccer Headgear Standard to Evaluate Head Protection Products

Minor head injuries among soccer players are more common than have been previously recognized, according to a series of recent studies. In one such study conducted by McGill University, it was found that more than 60 percent of college soccer players surveyed had concussion symptoms over the course of a single year. Another study by the National Institutes of Health estimated that 90 percent of sports-related concussions were not recognized or diagnosed.

In response to these studies, sports headgear manufacturers introduced products that were intended to reduce the risk of head injuries in soccer, but there was no published standard with which to compare or evaluate such products. Because of these studies, ASTM International Committee F08 on Sports Equipment and Facilities instructed its Subcommittee F08.53 on Headgear and Helmets to form a task group on the issue of headgear for soccer players. The result of this task group's work is new standard F 2439, Specification for Headgear Used in Soccer.

According to Dennis Piper, vice president, research and development and corporate affairs, Full90 Sports, Inc., the objective of F 2439 is to define a level of performance in laboratory testing of soccer headguards that can be related to some of the head impact situations that occur while playing soccer. "F 2439 will ensure that products, when tested in laboratory simulations of actual on-field play, perform to the level set by the engineers, medical doctors, consumer advocates and manufacturers who have participated in the work of this committee," says Piper.

Potential users of Specification F 2439 are many and varied. There are an estimated 240 million soccer players worldwide who could use the standard to be able to better evaluate available headgear products. Manufacturers will be able to use it when designing products and the medical arm of the soccer industry will be able to establish a baseline for recommending soccer head protection products based on F 2439. In addition, soccer governing bodies will be able to employ F 2439 as an educational tool, to inform their members about the potential risk reduction capabilities of headguards that satisfy the standard.

While there are two primary types of head impacts in soccer, ball-to-head and head-to-hard-object, F 2439 only addresses head-to-hard-object impacts, which are known to cause nearly all concussions that occur in soccer. "We specifically chose not to address ball-to-head impacts because of uncertainty in the mechanism and consequences of long-

term deficits that may be caused by repeated sub-concussive blows to the head," says Piper.

Piper also notes that attempting to protect against minor but potentially injurious impacts is very different than attempting to protect against major impacts that may be fatal. "Different test equipment and performance criteria had to be developed for this standard than we have used in the past," Piper says.

All interested parties are invited to participate in future work on Specification F 2439. //

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Upcoming Meeting: May 16-19, May Committee Week, Toronto, Ontario, Canada