

Dear New Yorker:

The football season is upon us!

According to the National Federation of State High School Athletic Associations, approximately 1.1 million high school students currently play tackle football and 3.5 million children between the ages of six and fourteen play in youth football leagues. In New York State, there were upwards of 35,600 high school football players in 2012 – 2013. The number of youth players was far greater.

These high participation rates, combined with our increased understanding of the concussion risks associated with football, has athletes, parents and coaches concerned. In response, legislators, schools, scientists, equipment manufacturers and the entire football community are all striving to reduce the risk of injury associated with the game.

Over the years, claims have been made that particular helmets reduce the risk of concussion. However, a recent study of high school football players suggests that specific brands of helmets and helmet age may not be associated with a lower concussion risk. Remember that *no helmet can prevent a concussion*. In addition, head impact research conducted on adult helmets can not be extrapolated to youth.

Reducing the risk of concussion is not “all about the helmet!” The number of concussions may be reduced significantly with modifications to the way the game is practiced and played.

In New York State, the Concussion Management and Awareness Act became effective on July 1, 2012. This Act mandates training for coaches, physical education teachers, school nurses and athletic trainers and requires that any student suspected of a concussion be removed from play until seen by a doctor and given medical clearance.

My office is providing this information to help increase understanding among athletes and their parents of the health and safety risks associated with football and to update New Yorkers on the current efforts to help reduce that risk.

Sincerely,

Eric T. Schneiderman

## **YOUTH FOOTBALL SAFETY**

According to the National Federation of State High School Athletic Associations, approximately 1.1 million high school students currently play tackle football and 3.5 million children between the ages of six and fourteen play in youth football leagues. In New York State, there were upwards of 35,600 high school football players in 2012 – 2013. The number of youth players was far greater (National Federation of State High School Associations, High School Athletics Participation Survey).

### **What is the risk of head injury from football?**

Head injury, including concussion, is a serious concern for football players of all ages. Although most research on head impacts and football have been conducted on high school, college and professional football players, the risk of injury from concussion is also a serious concern for young players.

Children have weaker neck and chest muscles than older players, with their necks under-developed relative to their head size. The effect of cumulative low magnitude hits on children's developing brains is not known.

There is currently little research evaluating head impacts among youth football players. A 2012 Virginia Tech study of 7 and 8 year old footballers revealed that youth players more frequently sustained low magnitude blows to the head, but also recorded impacts with severity levels comparable to those found in collegiate football ... even though youth players have less body mass and play at slower speeds.

### **What is a concussion and what are the symptoms?**

A concussion is a type of brain injury that is caused by a blow to the head or body. A sudden movement or hard hit may jar or shake the brain, causing injury if it hits the skull. The symptoms of concussion may vary from individual to individual and may even appear days later. The most common symptoms are headache, dizziness, visual disturbances and difficulty concentrating. A concussion can also cause nausea and sensitivity to light and sound. Some people may feel exhausted, sad, irritable and nervous after suffering a concussion. Multiple concussions may result in serious brain injury. Once a person suffers a mild traumatic brain injury, he or she is more likely to sustain another one and the recovery period may be longer.

Concussions are often under-reported by football players for a variety of reasons. Players often don't recognize the signs and symptoms of concussion and consider having "their bell rung" or being "dinged" as an expected consequence of playing the game. Others may not report concussion symptoms because they fear being removed from playing the game.

### **Are there concussion-specific safety standards for football helmets?**

There are currently no helmet safety standards that are concussion-specific. Current football helmet performance standards are voluntary industry standards created by the National Operating Committee on Standards for Athletic Equipment (NOCSAE). These standards were created to prevent skull fractures, and do not address the risk of concussion.

NOCSAE standards require impact testing of approximately 2-3 percent of all new football helmets. The helmets are subjected to extremely high forces that could cause a skull fracture or other intracranial injury. NOCSAE testing does not address the less severe forces that may cause concussion or the effect of rotational impacts to the jaw area and do not distinguish between the age of the player.

Although the testing helps to identify models that may need to be recalled, it does not identify individual helmets that need to be replaced. A helmet that meets NOCSAE standards must bear a seal stating “meets NOCSAE standards” and a standard warning label.

NOCSAE has announced that it will pursue new testing measures to consider concussions, with a separate standard for youth and high school helmets.

### **Can certain helmets reduce the risk of concussion more than others?**

There is currently little research evaluating impact conditions for youth players. Concussion risk reduction claims made about helmets designed for adult players may not be relevant to youth players. A recent study of high school football players suggests that specific brands of helmets and helmet age may not be associated with a lower concussion risk. Remember that *no helmet can prevent a concussion*. Claims or representations that a particular helmet is anti-concussive or concussion proof can be misleading and even dangerous. Reliance on promotional claims about this technology may give players and parents a false sense of security, which could lead a player to taking more risks.

In 2011, researchers at Virginia Tech first developed a rating system for adult football helmets. The most protective helmets were ranked with five stars. However, it is important to understand that this ranking system is “a theoretical calculation” that is based on a “probabilistic analysis of impact exposure and injury risk.” Additionally, the helmet safety findings were based on collegiate players wearing large adult helmets and cannot be extrapolated to youth. There is no indication that a large size in one model will test the same as a medium or small or youth size in the same model.

NOCSAE has cautioned players and parents not to form decisions on the safest and most effective football equipment based on over-reliance of *any* single individual data point, rating or measurement, including the Virginia Tech STAR rating system. Doing so may lead to inaccurate conclusions that one helmet brand or model has a measurably higher level of concussion protection than another for a particular athlete.

Some manufacturers are promoting after-market “add-ons” to helmets to reduce the risk of concussion, including liners, padding, bumpers, pads and other enhancements. On August 7, 2013, NOCSAE issued a statement reminding leagues, coaches and parents that adding additional liners, padding, bumpers, pads, coverings or electronic devices that, regardless of the truth of such claims, devices that attach to the outside of the helmet changes the model, by definition, and may void NOCSAE certification.

### **Are there safety standards for used football helmets?**

Used helmets may be reconditioned and recertified for use, but there are no state or federal regulations requiring that this be done. NOCSAE’s voluntary safety standards recommend that helmets be inspected at least every two years. NOCSAE also recommends that organizations adopt a program of helmet inspection and reconditioning based on a number of factors, including but not limited to the age and size of players, the severity of helmet usage, and ages of helmets. Some schools recondition and recertify their football helmets every year or every two years, but they are not mandated to do so. In addition, manufacturers may premise warranty coverage upon reconditioning and recertification of helmets every one to two years.

There were twenty-three NOCSAE-licensed reconditioners. National Athletic Equipment Reconditioners Association (NAERA), the trade association for this group, estimates that its members certify approximately 1.8 million reconditioned football helmets each year. NAERA estimates that thousands of youth helmets are re-used every year that, if inspected, would not meet the NOCSAE standard. Reconditioners completely disassemble the helmet and its parts. Everything is cleaned, sterilized, inspected for cracks and buffed. The shell is repainted. Worn parts are replaced with either new or other used parts. Reconditioning does not address the foam padding, which may degrade over time.

NOCSAE impact tests are only performed on 2 - 4 percent of all helmets sent for reconditioning. The reconditioners share the results of the testing with NOCSAE and the manufacturers. After a helmet has been recertified for use, the reconditioner affixes a seal stating that the helmet “has been recertified according to the procedures established by the NOCSAE standard.”

There are currently no state or federal regulations limiting the lifespan of helmets and NAERA members will recondition any helmet that is less than ten years old. Parents should always inquire about the age of their child’s helmet.

Unfortunately, there is no guarantee that a reconditioner will follow the NOCSAE testing protocol. Furthermore, compliance with the NOCSAE standards does not guarantee that the helmet will be “as good as new.” A number of high school teams have reported that some reconditioned helmets bearing the NOCSAE seal were returned in poor condition. Some lacked harness cables, had improperly attached face masks and incorrect padding. Since helmets are completely disassembled and then reassembled with either new or used parts, newer helmets may be refitted with padding and parts from an older helmet.

## **Proposed Federal Safety Standards for Youth Helmets**

On May 22, 2013, the Youth Sports Concussion Act of 2013 was introduced in Congress (HR 2118). The goal of the proposed legislation is to reduce sports-related concussions in youth. The legislation authorizes the Consumer Product Safety Commission (CPSC) to make recommendations to protective equipment manufacturers regarding voluntary standards and whether they should be adopted to: (1) reduce the risk of sports-related injury for youth athletes wearing protective equipment, (2) improve the safety of reconditioned protective equipment, and (3) modify protective equipment warning labels. The proposed legislation would make it unlawful to sell or offer for sale in interstate commerce, or import into the United States for such purposes, athletic sporting equipment for which the seller or importer makes any false or misleading claim with respect to the safety benefits of such item.

This Act would provide the state AGs with a right of action in Federal Court, with prior written notice to the FTC.

## **New York State Concussion Management and Awareness Act**

In September of 2011, the New York State Concussion Management and Awareness Act was enacted [NY Education Law § 305(42)(a)]. The law's provisions took effect July 1, 2012. This Act requires parents of student-athletes to sign a permission slip before their children can participate in practice or games. In addition, any student suspected of a concussion must immediately be removed from play and obtain medical clearance before returning to play. The Act also requires coaches, physical education teachers, school nurses, and athletic trainers to undergo biennial concussion training to help them recognize the symptoms of mild traumatic brain injuries.

## **How can the risk of concussion be minimized?**

Although the age, condition, type and fit of the helmet are extremely important factors, reducing the risk of concussion is not "all about the helmet." The number of concussions can be significantly reduced with modifications to practice format and an emphasis on penalty enforcement.

Reducing the number of hits is instrumental in reducing risk of concussion because of the cumulative risk from repeated hits. A recent head impact study conducted at Virginia Tech revealed that most of the highest head impacts among youth players occurred during football practices. Reducing the number of live practices reduces the risk of concussion because players have less hard-hitting head-to-head blows. The Ivy League colleges have already modified their practice schedules to limit the number of full-contact practices to two per week. Likewise, Pop Warner has announced rule changes limiting the amount of contact in practice and forbidding drills that involve full-speed head on blocking and tackling that begins with players lined up more than three yards apart. Pop Warner's new rules affect hundreds of thousands of youth players.

In addition, players need to be trained to focus on technique that minimizes head to head hits. Coaches and referees must strictly enforce penalties against head to head hits.

Players, parents and coaches must be trained on the symptoms of concussions and the risks. Recognizing the signs of concussion and removing the player immediately is extremely important. New York State law requires that players be removed from play until they are asymptomatic for a minimum of 24 hours and have written approval from their physician to return to play. Too many players return to the game too soon, which increases risk of sustaining another concussion.