



**Testimony of
Gerard A. Gioia, PhD
Chief, Division of Pediatric Neuropsychology
Director
Safe Concussion Outcome, Recovery & Education (SCORE) Program
Children's National Medical Center**

**SB 771
Education - Student-Athletes – Concussions
Senate Education, Health, and Environmental Affairs Committee
Maryland General Assembly**

March 9, 2011

Children's National Medical Center (Children's National) is pleased to support Senate Bill (SB) 771, "Education - Student-Athletes – Concussions." Children's National commends Chairperson Conway for her leadership in introducing this bill, which would 1) educate coaches, student-athletes, parents, and other key school personnel about the nature and risk of concussions; 2) based on this training, require automatic removal from play (game or practice) of the student-athlete with suspicion of any concussion signs or symptoms; and 3) require that the student-athlete suspected of suffering a concussion to receive written clearance from an appropriate licensed healthcare professional with training in concussion evaluation and management before returning to the field of play, among other provisions.

Children's National Medical Center, a 283 bed not-for-profit academic medical center, is located in Washington, DC, but serves the pediatric health care needs of the broader Washington metropolitan region. Located just three miles from the Maryland border, Children's National annually devotes nearly 60% of its inpatient care to children from Maryland. With five outpatient centers in Maryland and specialty care services provided in eight Maryland locations, Children's National is proud to be one of the largest providers of high quality pediatric primary, specialty and emergency care to Maryland's children and families.

Children's National is pleased to be an integral part of Maryland's world-class trauma system. Designated by the Maryland Institute for Emergency Medical Services Systems (MIEMSS) as one of the state's two Level I Pediatric Trauma Centers, Children's nearly 60 percent of Children's trauma cases originate in Maryland. In fact, for the past two

years, Children's National has treated more pediatric trauma cases than any other hospital in the state.

Children's National has long been an advocate for child safety and injury prevention and has implemented programs in the region to raise awareness among parents. Safe Kids Worldwide, the first national advocacy organization solely dedicated to pediatric injury prevention, was founded by Children's National in 1987.

The SCORE Program

Children's Safe Concussion Outcome, Recovery & Education (SCORE) Program evaluates, monitors, and manages the care of children and adolescents with concussions (also known as a mild traumatic brain injury (TBI)). The SCORE program is the only program in the greater Washington metropolitan region that specializes in the evaluation and management of concussions in children. Of the total patient population served in the SCORE Program, more than 55 percent of the children treated have been Maryland residents. In 2010, Children's National treated 1300 children in its concussion clinic, of which 60% were from Maryland. Children from Bethesda, Rockville, Potomac, and Silver Spring constitute a significant number of the patients seen at the clinic.

About Traumatic Brain Injuries

The number of traumatic brain injuries (TBI) that occur to children annually in Maryland continues to be significant. In 2000, according to the Brain Injury Association of Maryland:

- Eleven percent of all injuries to children 14 years and under were TBI-related injuries;
- More than 16 percent of all injuries in the 15 to 24 year age group were TBI-related injuries;
- More than 18 percent of all injury-related deaths in children 14 years and under were TBI-related injuries; and
- Twenty-five percent of all injury-deaths in the 15 to 24 year age group were TBI-related injuries.

When it comes to concussions, children and teens require different treatment, according to recently published consensus recommendations by the *International Concussion in Sport Group*, an international panel of experts, of which I am a member. I played a key role in delineating the differences between children, adolescents and teens, and adult athletes. We published these new guidelines in the May 2009 issue of *The British Journal of Sports Medicine*, recommending that children and teens be removed from play if any concussion sign or symptom is exhibited, strictly monitored, and activities restricted until the child or teen is fully healed. These restrictions include no return to the field of play, among others.

For children and adolescents, the guidance strongly reiterates several key points for coaches, parents, and physicians:

- Injury to the developing brain, especially repeat concussions, may increase the risk of long term effects in children, so no return-to-play until completely symptom free.
- No child or adolescent athlete should ever return to play on the same day of an injury, regardless of level of athletic performance.
- Children and adolescents may need a longer period of full rest and then gradual return to normal activities than adults.

The Medical Case

Delayed identification of concussions, and inappropriate return to play has many serious functional consequences for the student-athlete and family. We see this unfortunate story play out in our clinics week in and week out, largely because parents say that “we didn’t know” and that there is no consistent, systematic application of established rules and guidelines.

The functional effects of a concussion on the student-athlete are wide ranging, affecting their thinking and learning (e.g., concentration, memory, speed of thinking - and therefore school performance), and social and emotional functioning (e.g., emotional irritability). The student-athlete also typically experiences physical pain and/or significant fatigue. This is debilitating and disabling for a child’s learning and social interactions. Thus, any preventable disability must be a priority.

The majority of student-athletes who suffer these adverse effects must also live with the long-term effect of these injuries throughout their lives. The length of time for a full recovery following concussive TBI – and of functional impairment – varies from days to months. For most, it takes at least several weeks. Second injuries result in significantly greater amount of time of these functional effects (i.e., longer recovery time) or worse (death, permanent disability). This has happened to many times within the United States over the past several years. We cannot have this happen to one of our student-athletes in Maryland.

Not only is this an emotional strain for families, but it is also a significant economic cost, as families will struggle to care for these children throughout their lives. In addition, injuries that affect children’s brains will limit the amount of their future earnings because they will be limited in the number of careers that they can choose. This is all because the parents, children, and coaches “didn’t know” about the nature of these injuries.

Student-athletes, parents, coaches, school personnel must be informed systematically about these injuries to reduce the length of time of adverse effect on the child’s life. Systematic and accountable application of established rules for removal / protection and return to play must be instituted. SB 771 will provide for this.

The Zackery Lystedt Law

In May 2009, the Washington State Legislature became the first state to enact legislation regarding youth concussions and returning to athletic competition. The new law, known as the Zackery Lystedt Law, prohibits youth athletes suspected of sustaining a concussion from returning to play without a licensed healthcare provider's approval. The law is named for Zackery Lystedt, who is a teenager from Seattle who suffered second impact syndrome and a severe brain injury while playing football in 2006. His parents are committed to ensuring that what happened to their son does not happen to another student-athlete in the United States. Education about concussions and the implementation of the current guidelines about removal from play, and return to play – the very elements of the Lystedt Law and SB 771 - are important steps toward this end.

The Lystedt Law, which is the most comprehensive return-to-play law in the United States for athletes under 18, directs school districts to develop information and policies on educating coaches, youth athletes and parents about the nature and risk of concussions, including the dangers of returning to practice or competition after a concussion or head injury. All student athletes and their parents/guardians in Washington also are required to sign an information sheet about concussion and head injury prior to the start of each season. The Lystedt Law, as with SB 771, mandates this program – a necessary step to ensure accountable implementation of a universal, systematic concussion education and management program.

Essential Issues for SB 771

SB 771 is simply this – **A statewide universal emergency response system to protect the brains of student-athletes.** The following illustration helps to clarify the focus of this bill. If you were to go out tonight to dinner with your mother or father, wife or husband, children or friends – and one of them began to breathe irregularly, sweat profusely, and clutch their chest, you would not be asked to diagnose a cardiac arrest. Instead, your job would be to engage the emergency medical response system – calling 911. The medical system would then take over – diagnose the problem, treat it, and determine when your loved one could return to daily activity. HB858 is the 911 system for concussion response in youth sports.

Ned Sparks and the MPSSAA is to be commended for initiating the voluntary concussion awareness campaign for public high school sports this past fall. This was a good start – and we need to now extend our efforts further to bring universal rules and procedures for awareness, recognition and response to suspected concussions at all levels of youth sports – high school and non-scholastic youth sports. Currently, there is no consistent, systematic education and training about concussions, resulting in inconsistent application of established rules and guidelines to remove a player, and when they may return.

SB 771 asks to educate the key people to engage the emergency response system when a young student-athlete exhibits suspected signs and symptoms of a brain injury, a concussion. When in Doubt, Sit Them Out! SB 771 allows the return of the student-

athlete only when cleared by the appropriate licensed health care professional with the proper training in concussion evaluation and management. The school system is responsible for developing an implementation plan to educate the key people to engage the emergency response system. It is not responsible for the medical evaluation or follow up. The coach is responsible for allowing the return of the injured student-athlete back to practice or games, only after he/she receives proper written medical clearance.

SB 771 is about universal application of a concussion recognition and response system to safeguard the brains of the student-athlete: There should be no question or debate – When it doubt, Sit them out. But when pressures fall upon student-athletes, coaches, and parents, they may ignore this safety rule. This law makes this safety rule explicit. It reinforces the point made by Roger Goodell, Commissioner of the NFL in May 2007 – “At no time should competitive issues override medical issues. Safety comes first.”

Conclusion

Children’s National Medical Center is committed to policies that improve the health and well-being of the children we serve. In fact, it is part of Children’s National’s mission to improve health outcomes for children regionally, nationally and internationally. As such, Children’s National Medical Center respectfully urges the Committee to give a favorable report to SB 771. We must put an active program of concussion education in place in addition to mandating compliance with the current medical guidance for removal and protection of injured student-athletes and proper return to play. This law is a proactive step that will safeguard the student-athletes in the state of Maryland, and reduce the risk of long-term effects of sports-related concussions. We are committed to bring the resources of SCORE concussion team and my relationship with the CDC to assist Maryland in putting this necessary Concussion Recognition and Response system in place.