

THE IMPACT OF CONCUSSIONS ON HIGH SCHOOL ATHLETES: THE LOCAL PERSPECTIVE

FIELD HEARING

BEFORE THE

SUBCOMMITTEE ON HEALTHY
FAMILIES AND COMMUNITIES

COMMITTEE ON
EDUCATION AND LABOR

U.S. HOUSE OF REPRESENTATIVES

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THE IMPACT OF CONCUSSIONS ON HIGH SCHOOL ATHLETES: THE LOCAL PERSPECTIVE

Monday, September 13, 2010
U.S. House of Representatives
Subcommittee on Healthy Families and Communities
Committee on Education and Labor
Washington, DC

The subcommittee met, pursuant to call, at 11:10 a.m., at Suffolk County Community College, Ammerman Campus Selden, New York, Hon. Carolyn McCarthy [chairwoman of the subcommittee] presiding.

Present: Representative McCarthy.

Also present: Representative Bishop of New York.

Staff Present: Helen Pajcic, Associate-Education Policy; Joanna Serra, office of Representative Bishop; and Kim Zarish-Becknell, Policy Advisor.

Chairwoman MCCARTHY. A quorum is present. The hearing of the House Committee on Education and Labor Subcommittees on Healthy Families and Communities on the Impact of Concussions on High School Athletes: The Local Perspective will come to order.

Before we begin I would like everyone to take a moment to ensure that your cell phones and Blackberrys are on silent.

I now recognize myself followed by Congressman Bishop for an opening statement.

I would like to welcome our witnesses to this hearing on student concussion safety.

As a nurse for over 30 years, I have seen firsthand the damage that can occur as a result of concussions in our young people.

Today we will examine how concussions, experienced by high school athletes on the playing field, are impacting their academic well-being and their quality of life.

We will also learn more about how schools and the medical community can provide appropriate management and support for these young athletes.

One of the key priorities of the Healthy Families and Communities Subcommittee has been looking at how we can help students stay safe and protected in school.

But in this subcommittee's first hearing, we are looking at what happens on the athletic field where many school injuries do occur.

When a student suffers a concussion, a serious chain reaction can occur both on the field and in the classroom.

On the playing field, concussions impose significant health risks to the students.

While few states have laws, regulations or guidelines around concussions in high school athletics, the issue is gaining traction.

In fact, there is a bipartisan bill currently pending in the New York legislature supported by both Republican Senator Hannon from Garden City and Democratic Senator Johnson of Port Washington.

Recently, Suffolk County also passed a resolution on this important issue.

High school athletes are at greater risk of sports-related concussions than college or professional athletes because their younger brains are more susceptible to injury.

While we do not have Nassau or Suffolk County data, the New York State Department of Health reports that between 2006 and 2008, more than 23,000 school-aged youths in our state visited the emergency room department for hospitalized concussions with the cost of their medical care approaching \$480 million.

Nationally, in the last three school years, 400,000 concussions were reported in high school athletes.

And, according to a recent Government Accountability report, this could be a low estimate.

Studies show that the prevalence of sport-related concussions is much higher than has been reported.

In fact, a recent study by the doctors at the Veterans Affairs Medical Center in Bedford, Massachusetts and the Boston University School of Medicine found that New York Yankee's famous slugger Lou Gehrig might not have had Lou Gehrig's disease.

These findings confirm a long-suspected connection between motor disease such as Lou Gehrig's and head trauma experienced in collision sports and in combat.

A concussion, unlike a sprain or a broken bone, is not easily detected.

90 percent of concussions occur without the loss of consciousness.

Concussions can cause a range of symptoms from altered mental status to physical symptoms such as headaches or dizziness to emotional changes like irritability and difficulties sleeping.

The number and type of symptoms vary widely with each person.

But unless a student takes time off from the field after suffering a concussion, he or she may be prolonging their recovery, and their success in school may suffer.

Unfortunately, we also know that the symptoms of concussions are not only difficult to detect, but they are not always taken seriously.

I have had too many parents in my lifetime say to me, “

It's only a concussion.” That couldn't be further from the truth.

In the sports injury community, there is a saying “When in doubt, sit it out.”

But a recent study shows that many students return to play much too soon.

This is a problem that isn't limited to student athletes. College and professional athletes also feel pressure to compete and stay in the game.

What we see here is that pressure to play is overriding medical concerns, and potentially increasing a risk of student's academic failure.

As we will learn more about today, failing to sit it out after a concussion can negatively affect students in the classroom, sometimes causing symptoms to become worse when trying to focus on their schoolwork.

Any parent can tell you that participating in sports doesn't just get the kids moving; it gives them skills that will come in handy in school, on the job and throughout their lives.

During my school years I played field hockey, basketball and volleyball, and those experiences gave me a sense of confidence and teamwork, both of which are very, very important.

You have to remember, I went to school a long time ago, and to be very honest with you, having young women practice or play in sports was not the top-rated agenda item of our schools. That has changed today, and in my view, it has changed for the better.

Our goal today is to make sure that our kids can continue to participate in sports safely and continue to reap the benefits of athletic involvement both on and off the playing field.

Early intervention and response, through the proper evaluation and management of concussions, will lessen the effects of this potentially life-threatening injury.

I look forward to hearing from our witnesses today about what schools could be doing better to help support high school athletes, as well as the testimony on the effects of concussions on student achievement.

Awareness and education hold the key to any solution.

As the Committee continues our work on reorganizing the Elementary and Secondary Education Act, we must give serious consideration to the testimony before us today and determine how Congress can best move forward to prevent and treat concussions in our students.

I want to thank you all for being here, and I look forward to your testimony.

Right now I would like to introduce my colleague who also sits with me on the Education and Labor Committee, Tim Bishop, who represents this area.

Tim?

[The statement of Mrs. McCarthy follows:]

**Prepared Statement of Hon. Carolyn McCarthy, Chairwoman,
Subcommittee on Healthy Families and Communities**

I'd like to welcome our witnesses to this hearing on student concussion safety.

As a nurse for over 30 years, I have seen firsthand the damage that can occur as a result of concussions in our young people.

Today we'll examine how concussions, experienced by high school athletes on the playing field, are impacting their academic well being and quality of life.

We'll also learn more about how schools and the medical community can provide appropriate management and support for these young student athletes.

One of the key priorities of the Healthy Families and Communities Subcommittee has been looking at how we can keep students safe and protected in school.

But this is the subcommittee's first hearing looking at what happens on the athletic field, where many school injuries occur.

When a student suffers a concussion, a serious chain reaction can occur both on the field and in the classroom.

On the playing field, concussions can pose significant health risks to students.

While few states have laws, regulations or guidelines around concussions in high school athletics, the issue is gaining traction.

In fact there is a bipartisan bill currently pending in the New York legislature, supported by both Republican Senator Hannon from Garden City, and Democratic Senator Johnson of Port Washington.

Recently, Suffolk County also passed a resolution on this important issue.

High school athletes are at greater risk of sports-related concussions than college or professional athletes because their younger brains are more susceptible to injury. While we do not have Nassau or Suffolk County data, the New York State Department of Health reports that between 2006 and 2008 more than 23,000 school aged youths in our state visited the emergency department or were hospitalized for concussions annually with the cost of their medical care approaching four hundred and eighty million dollars.

Nationally, in the last three school years, 400,000 concussions were reported in high school athletes. And according to a recent Government Accountability Office report, this could be a low estimate.

Studies show that the prevalence of sport-related concussions is much higher than reported. In fact, a recent study from doctors at the Veterans Affairs Medical Center in Bedford, Massachusetts and the Boston University School of Medicine, found that New York Yankee's famous slugger Lou Gehrig might not have had Lou Gehrig's disease. These findings confirm a long-suspected connection between motor disease such as Lou Gehrig's and head trauma experienced in collision sports and combat. A concussion, unlike a sprain or a broken bone, is not always easily detected. Ninety percent of concussions occur without loss of consciousness. Concussions can cause a range of symptoms, from altered mental status to physical symptoms such as headaches or dizziness to emotional changes like irritability and difficulty sleeping. The number and type of symptoms vary widely for each person. But unless a student takes time off the field after suffering a concussion, he or she may be prolonging their recovery and their success in school may suffer.

Unfortunately, we also know that the symptoms of concussions are not only difficult to detect, but are not always taken seriously. Many times we hear "oh, it's just a concussion."

In the sports injury community, there is a saying: "When in doubt, sit it out." But a recent study shows that many students return to play too soon. This is a problem that isn't limited to student athletes. College and professional athletes also feel the pressure to compete and stay in the game. What we see here is pressure to play is overriding medical concerns and—potentially—a student's academic future. As we will learn more about today, failing to "sit it out" after a concussion can negatively affect students in the classroom sometimes causing symptoms to become worse when trying to focus on schoolwork. Any parent can tell you that participating in sports doesn't just get their kids moving—it gives them skills that will come in handy in school, on the job and throughout their lives.

During my school years I played field hockey, basketball, and volleyball and those experiences gave me a sense of confidence and teamwork which is so important. Our goal today is to make sure that our kids can continue to participate in sports safely—and continue to reap the benefits both on and off the playing field.

Early intervention and response, by the proper evaluation and management of concussion will lessen the effects of this potential life threatening injury I look forward to hearing from our witnesses today about what schools can be doing better to help support high school athletes, and testimony on the effects of concussions on student achievement.

Awareness and education hold the key to any solution. As the Committee continues our work on reauthorizing the Elementary and Secondary Education Act, we must give serious consideration to the testimony before us today and determine how Congress can best move forward to prevent and treat concussion in our students.

Thank you all for being here and I look forward to your testimony.

Mr. BISHOP. Thank you very much.

I will start by thanking my friend, Chairwoman McCarthy, for holding this field hearing here in the First Congressional District of New York, and to all of you welcome to the First Congressional District of New York.

Let me also thank our witnesses, for each of them being here today to share their thoughts and experiences about this important issue.

As an avid sports fan, a father of two high school athletes and as an athlete myself, this is an issue of great concern to me.

Concussions occur when there is a severe blow or motion to the head that causes the brain to move rapidly.

Many are well aware that professional athletes suffer concussions and that the consequences of these concussions can be severe, but what most do not know is that concussions are even more prevalent for high school athletes.

Student athletes are even more susceptible to head injuries than professionals because their brains are still developing. Unfortunately, unlike other types of injuries, concussions are not visible and often go unnoticed.

When concussions are undiagnosed, they can affect a student's performance both on and off the field, as we will hear from one of our witnesses.

In many ways, concussions are more severe than other injuries causing lingering physical and emotional pain.

Students who suffer concussions often have physical side symptoms like headaches, but later report having difficulty concentrating and trouble sleeping, often affecting their academic performance.

A recent Government Accountability Office report found that concussions are severely under-reported by schools, and we have no real way of telling just how many occur each year.

Last year the Suffolk County Legislature passed a resolution to approve the safety in youth sports and increase the awareness of the dangers of head injuries.

The resolution requires Suffolk County-contracted youth sports agencies to provide parents with information on youth sports and concussions.

The resolution also aims to prevent children suspected of suffering from concussions to resume play until they are medically cleared. Oftentimes, coaches do not know that the athlete is suffering from a concussion, and the athlete continues to play, causing further damage.

In addition, the resolution requires youth sports agencies to develop a plan to address possible or actual head injuries.

While I applaud Suffolk County for addressing the issue of head injuries and think this will be helpful in raising awareness, more must be done.

Currently, there is no Federal law to protect or educate students and their parents about the dangers and warning signs of concussions.

At a time when we are encouraging all students to become more active and participate in organized sports, we must also take the steps necessary to ensure their safety.

As Congress continues to work on reauthorizing the Elementary and Secondary Education Act, I hope that we can take the recommendation of our witnesses into consideration and determine how best Congress can address this issue.

Thank you, again, all for being here, and I look forward to hearing your testimony.

Chairwoman MCCARTHY. Thank you, Mr. Bishop.

Pursuant to Committee Rule 12(a), any member may submit an opening statement in writing at this time which will be made part of the permanent record.

Without objection, all members will have 14 days to submit additional materials or questions for the hearing record.”

First of all, I would like to briefly introduce our distinguished panel of witnesses with us here today. The complete bios of the witnesses will be inserted into the record.

Mr. Bishop, will you introduce the first two witnesses?

Mr. BISHOP. We have a very distinguished panel this afternoon of five.

It is my honor to introduce our first two witnesses. The first is Dr. Hayley Queller.

Dr. Queller is a primary care sports medicine physician for Orthopedic Associates of Long Island, LLC in East Setauket, New York.

Dr. Queller has a dual board certification both in internal medicine and pediatrics from Christiana Health System in Delaware.

After completing her primary care training, she continued her training by completing a fellowship in primary care sports medicine.

Through her training, she had a particular interest in concussion management. She recognized the importance of appropriate education, recognition and treatment of sports-related concussions. Dr. Queller recognized a lack of comprehensive concussion programs in the area when she moved to Suffolk County, and she was determined to initiate a concussion management program targeting high school athletes.

In 2010 she, along with her colleagues at Orthopedic Associates of Long Island, started such a program in many of the local high schools. This program includes baseline neurocognitive testing, post concussion evaluation/treatment and return to play decision making. The goal is to increase the awareness of concussion management and to make return to play as quick and as safe as possible for the athletes in the community.

Welcome.

Dr. QUELLER. Thank you.

Mr. BISHOP. Our second witness will be Craig LoNigro.

Craig is a certified athletic trainer and holds a bachelors of science degree from Hofstra University in exercise physiology with a minor in athletic training, and a masters degree with distinction from Hofstra University in education specializing in physical education and health.

Mr. LoNigro is a physical education and health teacher and certified athletic trainer at Comsewogue High School here in Suffolk County.

He serves as the director and founder of the Suffolk County High School Athletic Trainers Association as well as being a member of the Suffolk County Section 11 Safety Committee.

He has served as a certified athletic trainer on almost every level of competition from NCA Division 1, 2 and 3, professional Lacrosse and soccer, and as an intern with the New York Jets football club.

He has worked at the international level as the head athletic trainer for the US men's Lacrosse team, who captured the world championship in 2003.

Mr. LoNigro also provides services to many charitable organizations like the Boomer Esiason Foundation for Cystic Fibrosis and the Suffolk County Police Athletic League.

Mr. LoNigro has taken a sincere interest in the area of cervical spine injuries and concussion management in athletics and presents educational information and seminars on these topics to the youth leaders of Long Island.

Mr. LoNigro has also been coordinating medical coverage in athletic training services in many of the large competitive athletic events and tournaments from all over the tristate area for the last 20 years in an effort to keep the fields of Long Island a safer place.

Thank you for being here.

Mr. LONIGRO. Thank you.

Chairwoman MCCARTHY. Thank you, Mr. Bishop.

Our next witness is Caitlin Monaghan.

Caitlin is a graduate of Garden City High School and recently of Georgetown University. She was a varsity soccer player during high school and will share her story about her experience with concussions and their aftermath.

Mr. Caster is a former wide receiver and tight end, playing 13 seasons in the league. He has been a strong advocate on this issue and has worked locally with groups such as the Head Injury Association of Long Island.

Our final witness is Mr. Courtney Hall.

Mr. Hall is a co-founder and managing director of Hillcrest Venture Partners, a venture capital firm.

He was the starting center for the NFL San Diego Chargers where he was a captain, four-time Pro Bowl 1st Alternate, and he captained the Chargers to the 1994-95 Super Bowl.

He also founded EXACT Sports, a company that performs assessments of the athletic, psychological and neurocognitive abilities of high school and collegiate athletes.

Welcome to all of our witnesses. I really, really appreciate you taking the time out to be here.

For those of you who have not testified before Congress before, let me explain the lighting system. We have five minutes, five minutes for the witness, five minutes for the members of Congress.

The green light when you first start speaking will go on. Then it will turn yellow. You have one minute to finish up. Then you have red, which means we ask you to finish up your thought.

Being that it is just Mr. Bishop and I, I have been known to be lax at times on allowing the witness to expand. That is what we are here for, and if there is no time constraints on your side or with Mr. Bishop, that is the way I will run this particular hearing.

Please make sure when you are speaking, make sure the microphone is on, and make sure it is close to you so not only are you speaking to us, but you are speaking to the people behind us.

We now will hear from our first witness.

Dr. Queller?

**STATEMENT OF HAYLEY QUELLER, M.D., ORTHOPEDIC
ASSOCIATES OF LONG ISLAND**

Dr. QUELLER. Good morning, Mrs. Chairwoman, Mr. Bishop, members of the committee and fellow speakers.

I want to thank you for inviting me to speak to you today about concussion management in the high school athlete. Like the other witnesses testifying today, I have a strong interest in improving concussion awareness and management in the local community.

I am honored to have the opportunity to discuss this important topic with you today, and I look forward to being part of the process as the Committee improves the safety of our high school athletes.

Reinforcing what Dr. Gioia had testified about in previous testimony in May down in Washington, DC, a concussion is a functional rather than a structural disturbance of the brain after a direct or indirect blow to the head. The developing brain of adolescents is much more susceptible to this metabolic disturbance when compared to adults.

From a clinical standpoint a concussion may present with physical, emotional or cognitive disturbance.

Unfortunately, these injuries are notoriously missed and highly under-reported.

Early recognition of this injury is paramount to the appropriate treatment and safety of the high school athlete.

Without appropriate diagnosis, student athletes are at risk of significant untoward effects, including the fatal second impact syndrome, as well as other psychological, emotional and cognitive deficits in the future.

There is data to support, however, that once the student athlete has fully recovered from a concussion, the concussed athlete will have no permanent sequelae.

The fact that we are all gathered here today proves to me that we are all in agreement that it is essential to establish a gold standard for the management of concussion in the high school athlete.

My colleagues at Orthopedic Associates of Long Island and I have drafted a concussion management protocol that we feel is comprehensive and safe for our high school athletes. The program includes community-wide education, baseline neurocognitive testing, prompt recognition, conservative treatment, and a safe return to play of the concussed athlete.

We feel that the most important aspect of the concussion management protocol is the education of our community. This education must include the recognition of signs and symptoms, the importance of treatment, as well as understanding the potential long term sequelae should the injury be inappropriately treated.

Getting out of the warrior mentality of the past is essential. Instead of being encouraged to hide their symptoms, athletes should feel comfortable and be encouraged to report their symptoms.

Initially, this education goal can be achieved by using prepared materials from the CDC including Heads Up Concussion in High School Sports and Know Your Concussion ABCs.

My colleagues and I have lectured at local high schools and at hospitals with excellent response.

We would like to specifically target local physicians, as these are the practitioners that are sought to treat these patients to make return to play decisions. The local physicians must all be on the same page when it comes to concussion management so as to have consistency in treatment and safe return to play.

There are vast educational opportunities for these practitioners to learn the most up-to-date information on concussion management.

As a next step, we have been involved in baseline neurocognitive testing of high school athletes in four local high schools. Over the recent years, this testing has become an objective tool that can be used to identify a concussion, monitor improvement, and help student athletes get back onto the field in a safe manner.

My goal is to have baseline testing for all contact and collision sports for the high schools in Suffolk County.

Until baseline testing is available for all athletes, however, normative data can be used to help in returning these athletes to play.

Another key component of concussion management is the proper initial treatment of the head injury. At the high school level, if there is any suspicion at all of a head injury, the student should be removed immediately from play. When in doubt, sit them out. The student athlete should be kept out of play and should not be allowed to return until evaluated by medical personnel knowledgeable in the treatment of concussions.

The clearance should come from somebody who has continuing education in concussion management.

It is important to recognize that the athlete should then be re-evaluated within the first 48 to 72 hours after the injury as symptoms often develop in this initial post-concussive period.

Once diagnosed with a concussion, the treatment should include physical and cognitive rest. I think we can all agree that a student athlete should be restricted from physical exertion until they are symptom free.

Additionally, these students should be restricted from any cognitive activity that may exacerbate their symptoms. This may include keeping the student out of school until their symptoms resolve.

As for physical exertion, students should be brought through a five-step return to activity protocol including light aerobic activity, followed by sports specific exercise, non-contact drills, full contact practice and, finally, full competition, assuming their symptoms do not return.

Until the student athlete is symptom free at rest, symptom free with both physical and cognitive exertion and have a normal neurocognitive examination, I do not allow these students to return to play.

In collision sports and in those athletes who have had prolonged symptoms or recurrent concussions, performing neurocognitive testing after physical exertion to ensure that their symptoms do not return may be beneficial.

In summary, it is absolutely essential that there be a comprehensive concussion management program established in all high schools, as well as in all youth sports.

Without such a program, we are putting our youth at risk of experiencing long-lasting emotional, physical and academic deficits.

To ensure that such programs are created, the first step must be community-wide education.

Injury prevention, early identification and appropriate management are the principal components to ensure the safe return of our high school athletes back to their sports activities.

Thank you very much for allowing me to speak on this extremely important topic.

Chairwoman MCCARTHY. Thank you very much.

[The statement of Dr. Queller follows:]

**Prepared Statement of Hayley C. Rintel Queller, M.D.,
Primary Care Sports Medicine, Orthopedic Associates of Long Island**

Biography

Dr. Hayley C. Rintel Queller is a Primary Care Sports Medicine physician for Orthopedic Associates of Long Island, LLC in East Setauket, NY. Dr. Queller has a dual board certification in both Internal Medicine and Pediatrics from Christiana Care Health System in Delaware. After completing her primary care training, she continued her training by completing a fellowship in Primary Care Sports Medicine. Through her training, she had a particular interest in concussion management. She recognized the importance of appropriate education, recognition and treatment of sports related concussions. Dr. Queller recognized a lack of a comprehensive concussion program in the area when she moved to Suffolk County and was determined to initiate a concussion management program targeting high school athletes. In 2010, she, along with her colleagues at Orthopedic Associates of Long Island, LLC, started such a program in many of the local high schools. This program includes baseline neurocognitive testing, post concussion evaluation/treatment and return to play decision making. The goal is to increase the awareness of concussion management and to make return to play as quickly and as safe as possible for the athletes in the community.

Testimony

Good morning Mr. Chairman, members of the committee and fellow speakers. I want to thank you for inviting me to speak to you today about concussion management in the high school athlete. Like the other witnesses testifying today, I have a strong interest in improving concussion awareness and management in the local community. I am honored to have the opportunity to discuss this important issue with you today and look forward to being part of the process as the committee improves the safety of the high school athletes in our area.

Reinforcing what Dr. Gioia stated in previous testimony, a concussion is a functional rather than structural disturbance of the brain after a direct or indirect blow to the head. The developing brain of adolescents is more susceptible to this metabolic disturbance when compared to adults. From a clinical standpoint, a concussion may present with physical, emotional or cognitive disturbance. Unfortunately, these injuries are notoriously missed and under-reported. Early recognition of this injury is paramount to the appropriate treatment and safety of the high school athlete. Without appropriate diagnosis, student-athletes are at risk of significant untoward effects including the fatal "second impact syndrome," as well as, other psychological, emotional and cognitive deficits in the future. There is data to support, however, that once the student-athlete has fully recovered from a concussion, that the concussed patient will have no permanent sequelae.

The fact that we are all gathered here today proves to me that we are all in agreement that it is essential to establish a gold standard for the management of concussions in the high school athlete. My colleagues at Orthopedic Associates of Long Island, LLC and I have drafted a concussion management protocol that we feel is comprehensive and safe for our high school athletes. This program includes community-wide education, baseline neurocognitive testing, prompt recognition, conservative treatment, and safe return to play of the concussed athlete.

We feel that the most important aspect of concussion management is in the education of the community (athletes, parents, coaches, school nurses, referees, teachers, etc). This education must include the recognition of signs and symptoms of concussion, as well as, the importance of treatment and the potential long-term sequelae should the injury be inappropriately treated. Getting out of the "warrior"

mentality of the past is essential. Instead of being encouraged to hide their symptoms, athletes should feel comfortable and encouraged to report their symptoms. Initially, this goal can be achieved using prepared materials by the CDC (“Heads Up Concussion in High School Sports” and “Know Your Concussion ABCs”). My colleagues and I have lectured at local high schools and hospitals with excellent response. We would specifically like to target local physicians as these are the practitioners that are sought to treat these patients and make return to play decisions. The local physicians must all be on the same page when it comes to concussion management so as to have consistency in treatment and safe return to play. There are vast educational opportunities for these practitioners to learn the most up to date information on concussion management.

As a next step, we have been involved in baseline computerized neurocognitive testing of athletes in 4 high schools. Over recent years, this testing has become an objective tool that can be used to identify a concussion, monitor improvement and help get student-athletes back onto the field in a safe manner. My goal is to have baseline testing for all contact and collision sports for the high schools in Suffolk County. Until baseline testing is available for all athletes, however, normative data can be used to help in return to play decisions.

Another key component of concussion management is proper initial treatment of the head injury. At the high school level, if there is any suspicion of a head injury, the student athlete should be removed from play; **WHEN IN DOUBT, SIT THEM OUT**. The student-athlete should be kept out of play and should not be allowed to return until evaluated by medical personnel knowledgeable in the management of concussions. This “clearance” should come from a medical professional who has continuing education in concussion management. It is important to recognize that the athlete should be re-evaluated 48-72 hours after their injury as symptoms often develop in the initial post-concussive days.

Once diagnosed with a concussion, the treatment should include physical and cognitive rest. I think we can agree that the student-athlete should be restricted from any physical exertion until they are symptom-free. Additionally, these student-athletes should be restricted from any cognitive activities that may exacerbate their symptoms. This may include keeping the student-athlete out of school according to their symptoms. As for physical exertion, they are brought through a 5 step return to activity starting with light aerobic activity, followed by sports-specific exercise, non-contact drills, full contact practice and finally, full competition. Until the student athlete is 1) symptom-free at rest, 2) symptom-free with exertion (both physical and cognitive) and 3) have a “normal” neurocognitive examination, we do not allow these athletes to return to play. In collision sports and in those athletes that have prolonged symptoms, performing neurocognitive testing after physical exertion to ensure deficits do not return with activity may be beneficial.

In summary, it is absolutely essential that there be a comprehensive concussion program established in all high schools, as well as, all youth sports. Without such a program, we are putting our youth at risk of experiencing long-lasting emotional, psychological and academic deficits. To ensure that such programs are created, the first step is community-wide education. Injury prevention, early identification and appropriate management are the principal components to ensure the safe return of our high school athletes back to their sports activities. Thank you for your support on this extremely important topic.

Chairwoman MCCARTHY. Next we are going to hear from Mr. Craig LoNigro.

STATEMENT OF CRAIG LONIGRO, ATHLETIC TRAINER, PHYSICAL EDUCATION AND HEALTH TEACHER, COMSEWOGUE HIGH SCHOOL

Mr. LoNigro. Thank you.

Chairwoman McCarthy, Congressman Bishop and other distinguished guests, my name is Craig LoNigro. I am a Certified Athletic Trainer, Physical Education and Health teacher at Comsewogue High School here in Suffolk County.

As a father of two athletes and an athlete myself, as well as a health care professional, I am passionate about safety in youth sports.

Thank you for allowing me the opportunity to speak on behalf of the National Athletic Trainers Association, the Suffolk County High School Athletic Trainers Association, today about the athletic trainer's role in concussions and concussion management.

As you may know, athletic trainers are health care professionals who collaborate with physicians to optimize activity of participation and participation of patients.

Athletic training encompasses the prevention, diagnosis and intervention of emergency, acute and chronic medical conditions leading to impairment, functional limitations and disabilities.

All athletic trainers have at least a bachelor's degree in athletic training from an accredited college or university, and 70 percent of our membership has a master's degree or higher.

Certified athletic trainers must pass a national certification, and in most of the 47 states where they are licensed or otherwise regulated, the national certification is required for licensure.

Athletic trainers maintain this certification with required continuing medical education. We work under the medical scope of practice and under the direction of physicians and adhere to a national code of ethics.

Although this issue of concussions in sports has received a great deal of attention in the media of recent months, it is not a new problem. Athletic trainers have been caring for concussed athletes and warning of the dangers posed to them by this unique injury for years.

The NATA represents over 35,000 certified and student athletic trainers. As athletic trainers and health care professionals specializing in team sports, we are the first line of defense in the prevention, diagnosis and emergency treatment of head trauma and other athletic-related injury.

While much focus has been given to players in the NFL, the National Football League, it is important to remember that high school athletes represent the single largest segment of football players in the country and account for the majority of sports-related concussions. In a given year, between 4 and 6 percent of high school athletes sustain concussions corresponding to an estimated 43 to 67,000 injuries annually.

In fact, there are five times as many catastrophic football injuries among high school athletes as per college athletes.

Estimates indicate, however, the true incidence of injury is much, much higher. Some research suggests that more than half of the high school athletes who suffer concussions do not report their injuries to medical personnel.

Even when faced with these disturbing trends and the fact that 7 million students participate in high school sports in the United States, the NATA estimates that only about 42 percent of the public high schools in American have access to an athletic trainer. In fact, the NATA also estimates that across the country, the ratio of students to athletic trainers is 2,678 to 1.

Furthermore, some studies have also shown that 50 percent of second impact syndrome incidents, as Dr. Queller had mentioned, result in death.

Other startling statistics may include female high school soccer athletes suffer almost 40 percent more concussions than males, 29,000 annually.

Female high school basketball athletes suffer 240 percent more concussions than males, 13,000 annually.

It is not just a condition related to football; it is with all sports.

Concussion symptoms such as headache and disorientation may disappear within 15 minutes, but 75 percent of those tested 36 hours later still had problems with memory and cognition.

I have been a certified athletic trainer for just over 20 years and have been fortunate to have had the opportunity to be involved in athletics on every level.

As an athletic trainer, it is my obligation to pay attention to every play of every game so that I may be able to see the injury happen, the injury occur, know the severity and know the mechanism.

I have personally witnessed an athlete sustain a head injury in a big game against a rival team. While the athlete and the coaches, for that matter, wants this player to return to the field, it is my job to make the assessment about what is best for the athlete and the health of the player.

As an athletic trainer, one of my more difficult responsibilities of my job is to tell an athlete that they cannot play in a game that they have worked so hard to prepare for.

It is my job as well to educate the athlete and the coaching staff to realize the severity of the issues in hopes of preventing more serious or fatal repercussions.

It is my job to convince the athlete, his or her parents and the coaching staff, that if action is not taken swiftly, we could be dealing with a much bigger issue than losing a game. Sometimes this process is simple, and sometimes it is as big a battle as the game itself.

The NATA has developed some recommendations on addressing head injuries in football. Those recommendations include using the Graded Symptom Checklist, which is distributed within the NATA's position statement Management of Sports-Related Concussion. This treatment tool can help determine whether a concussion has occurred, the severity of the injury, and whether a player is fit to return to play.

Athletic trainers or physicians who suspect that an athlete has suffered a concussion can use this checklist to evaluate a player both at rest and during physical exertion.

In response to the national youth sports safety crisis in America, the NATA has spearheaded the Youth Sports Safety Alliance, an initiative to raise awareness, advance legislation and improve medical care for young athletes.

This call to action includes: Ensuring that the youth athletes have access to health care professionals who are qualified to make assessments and return to play decisions, ensuring pre-participation physicals before play begins, and recognizing the difference in pain and injury and working towards the elimination of the culture of playing through pain without any type of assessment.

In consultation with the NATA Secondary School Athletic Trainers Committee, the NATA Government Affairs Committee and the

NATA Federal Legislative Council, the NATA has developed a set of principles surrounding the issue of concussion management and possible future legislation.

The NATA's principles include the following: One, increasing student athletes access to certified athletic trainers is the first step in helping to prevent concussion and manage concussions once they occur. Legislation should incentivize schools and school districts to increase the accessibility of an athletic trainer to their student athletes.

Number two, conduct baseline testing of student athletes prior to engagement in contact sports, which will provide the greatest opportunity to ensure accurate assessment of a player's condition after sustaining a concussion.

Educating parents, coaches, teachers and other stakeholders about the signs and symptoms of concussions is critically important.

Programs such as the CDC's Heads Up program are important tools, and at the same time, concussion education and awareness programs should not provide a false sense of comfort that non-medical professionals are able to diagnose and treat concussions. Rather, the focus should be to educate the stakeholders about making the proper referral in the event that the signs and symptoms of a concussion are present in a student.

State task forces that may be established to develop and implement state plans for concussion management should hopefully include representatives of the state's athletic training association, the state's athletic association, medical society and the Department of Ed.

Athletic trainers serve as the lynchpin medical professional who seeks input from all members of the concussion management team regarding the return to play decision.

The athletic trainer's standard practice is to ensure involvement of a team comprised of the student athlete, family/parent, the treating physician and school personnel such as the coach, school nurse and teachers in their approach to concussion management with respect to the decision about return to play.

The athletic trainer is responsible for coordinating the school's emergency action plan, concussion testing programs, medical coverage and more. In the absence of an athletic trainer, these responsibilities often fall to an unqualified non-medical personnel.

Currently the New York State legislature is considering several bills of important. First is SB 6297, which would provide athletic training and institute regulations for management of head injuries.

We are very appreciative that the legislature has collaborated with the New York State Athletic Training Association on this bill.

Recently as well, AB 10890 was introduced. This bill would require the Commissioner of Education to establish minimum standards for training coaches and set qualifications of health care providers for making return to play decisions.

The NATA has also endorsed Representative Bill Pascrell's Concussion Treatment and Care Tools CONTACT Act, of which Chairwoman McCarthy is a co-sponsor.

The NATA applauds the creation of national guidelines to address the prevention, identification, treatment and management of

concussions in school-age children, including return to play decisions, which are included in the bill.

I greatly appreciate the opportunity to participate in this hearing and offer the National Athletic Trainers Association as well as the Suffolk County High School Athletic Trainers Association as a resource to you and other members of the subcommittee as we work and move forward to address this important issue facing the youth of our nation.

Thank you.

Chairwoman MCCARTHY. Thank you.

[The statement of Mr. LoNigro follows:]

**Prepared Statement of Craig LoNigro, M.S., ATC, Athletic Trainer,
Comsewogue High School**

Chairwoman McCarthy, Congressman Bishop and other distinguished guests, my name is Craig LoNigro. I am a Certified Athletic Trainer, Physical Education and Health teacher at Comsewogue High School here in Suffolk County, New York. As a father and health care professional, I am passionate about safety in youth sports.

Thank you for allowing me the opportunity to speak on behalf of the National Athletic Trainers' Association (NATA) today about the athletic trainer's role in concussion management.

As you may know, ATs are health care professionals who collaborate with physicians to optimize activity and participation of patients. Athletic training encompasses the prevention, diagnosis, and intervention of emergency, acute and chronic medical conditions leading to impairment, functional limitations and disabilities.

All ATs have at least a bachelor's degree in Athletic Training from an accredited college or university, and 70% of our membership has a master's degree or higher. Certified ATs must pass a national certification exam. In most of the 47 states where they are licensed or otherwise regulated, the national certification is required for licensure. ATs maintain this certification with required continuing medical education. They work under a medical scope of practice and under the direction of physicians and adhere to a national code of ethics.

Although the issue of concussions in sports has received a great deal of attention in the media in recent months, it is not a new problem. Athletic trainers have been caring for concussed athletes and warning of the dangers posed by this unique injury for years.

The NATA represents over 35,000 athletic trainers (ATs). As athletic trainers and health care professionals specializing in team sports, we are the first line of defense in the prevention, diagnosis and emergency treatment of head traumas and other athletic injuries.

NATA has a long history of working with research experts to explore the prevention and proper treatment of head injuries. In July 2009, NATA released a study in the Journal of Athletic Training entitled Head Impacts During High School Football: A Biomechanical Assessment. The study revealed that high school football players sustain greater head accelerations after impact than do college-level football players, which can lead to concussions and serious cervical spine injuries. Further, the study urged high school coaches to teach proper tackling techniques in order to reduce the risk of head and neck injuries among athletes.

While much focus has been given to players in the National Football League (NFL), it is important to remember that high school athletes represent the single largest segment of football players in the country and account for the majority of sport-related concussions. In a given year, between four and six percent of high school football athletes sustain concussions, corresponding to an estimated 43,200 to 67,200 injuries annually. In fact, there are five times as many catastrophic football injuries among high school athletes as college athletes. Estimates indicate, however, the true incidence of injury is likely much higher. Some research suggests that more than half of high school athletes who suffer concussions do not report their injuries to medical personnel. Even when faced with these disturbing trends and the fact that 7 million students participate in high school sports in America, the NATA estimates that only 42 percent of public high schools in America have access to an athletic trainer. In fact, NATA estimates that across the country, the ratio of students to athletic trainers is 2,678 to 1.

According to a New York Times article (Sports Imperative: Protecting Young Brains, August 24, 2009), "at least four American high school students died last

year from football head injuries. Most suffered from what is called second-impact syndrome, a rare but catastrophic dysregulation of brain activity that can occur when a young player sustains another hit before the brain has recovered from an earlier concussion. In nearly all cases, such tragedies can be prevented if the symptoms of concussion are recognized and heeded, giving the injured brain time to fully heal.”

Furthermore, studies also show that fifty percent of second impact syndrome incidents result in death. Other startling statistics include:

- Female high school soccer athletes suffer almost 40% more concussions than males (29,000 annually). *Journal of Athletic Training*, July—September 2003
- Female high school basketball athletes suffer 240% more concussions than males (13,000 annually). *Journal of Athletic Training*, July—September 2003
- 400,000 brain injuries (concussions) occurred in high school athletics during the 2008-09 school year. Compliance with return to play guidelines following concussion in US high school athletes, 2005-2008
- Concussion symptoms such as headache and disorientation may disappear in fifteen minutes, but 75% of those tested 36 hours later still had problems with memory and cognition. *Journal of Athletic Training*, July—September 2003
- 15.8% of football players who sustain a concussion severe enough to cause loss of consciousness return to play the same day. Center for Injury Research and Policy, The Research Institute at Nationwide Children’s Hospital, Dr. Dawn Comstock

Addressing the Issue Locally

I have been a certified athletic trainer for just over 20 years. I have been fortunate to have had the opportunity to be involved in athletics at every level of competition, including youth league programs like the distinguished Suffolk County Police Athletic League (PAL), as well as high school and middle school programs. On the international level, I served as the Head Athletic Trainer for the USA World Championship Mens’ Lacrosse team in 2003. On the professional level, I served as the head athletic trainer for both professional lacrosse and soccer here on Long Island. My college education from Hofstra University culminated in an internship with the New York Jets Football Club medical staff as a student athletic trainer.

As an athletic trainer, it is my obligation to pay attention to every play of every game so that I may be able to see an injury happen and know the severity. I have personally witnessed an athlete sustain a head injury in a big game against the rival team. While the athlete (and the coaches for that matter) wants to return to the field, it is my job to make the assessment about what is best for the health of that player. As an athletic trainer, one of the more difficult responsibilities of my job is to tell an athlete that they cannot play in a game that they have worked so hard to prepare for.

It is my job to educate the athlete and the coaching staff to realize the severity of issues, in hopes of preventing more serious or even fatal repercussions. It is my job to convince the athlete, his/her parents and the coaching staff that if action is not taken quickly, we could be dealing with a much bigger issue than losing a game. Sometimes this process is simple, and other times it is as big of a battle as the game itself.

NATA’s Recommendation on Addressing Head Injuries in Football

The NATA has developed recommendations on addressing head injuries in football. Those recommendations include using the “Graded Symptom Checklist,” which is distributed within NATA’s position statement “Management of Sport-Related Concussion.” This treatment tool can help determine whether a concussion has occurred, the severity of the injury and whether a player is fit to return to play. Athletic trainers or physicians who suspect that an athlete has suffered a concussion can use the checklist to evaluate a player both at rest and during physical exertion.

In response to the national youth sports safety crisis in America, the NATA has spearheaded the Youth Sports Safety Alliance, an initiative to raise awareness, advance legislation, and improve medical care for young athletes. This call to action includes:

- Ensuring that youth athletes have access to health care professionals who are qualified to make assessments and return to play decisions;
- Ensuring pre-participation physicals before play begins; and
- Recognizing the difference in pain and injury and working toward the elimination of the culture of “playing through pain” without assessment.

NATA’s Recommendations for Concussion Legislation

In consultation with the NATA Secondary School Athletic Trainers’ Committee, the NATA Government Affairs Committee and the NATA Federal Legislative Council, NATA has developed a set of principles surrounding the issue of concussion

management and possible future legislation. NATA's principles include the following:

- Increasing student athletes' access to a certified athletic trainer is the first step in helping to prevent concussions and manage concussions once they occur. Legislation should incentivize schools and school districts to increase the accessibility of an athletic trainer to their student athletes.
- Conducting baseline testing of student athletes prior to engagement in contact sports provides the greatest opportunity to ensure accurate assessment of a player's condition after sustaining a concussion. Funding should be made available to schools and school districts to conduct appropriate baseline testing for symptoms, cognitive function and balance.
- Educating parents, coaches, teachers and other stakeholders about the signs and symptoms of concussions is critically important. Programs such as the Centers for Disease Control and Prevention's (CDC) "Head's Up" program are important tools. At the same time, concussion education and awareness programs should not provide a false sense of comfort that non-medical professionals are able to diagnose and treat concussions. Rather, a focus should be to educate stakeholders about making a proper referral if the signs and symptoms of a concussion are present in a student.
- State Task Forces that may be established to develop and implement state plans for concussion management should include representatives of the state's athletic training association, athletic association, medical society, and Department of Education.
- Athletic trainers serve as the lynchpin medical professional who seeks input from all members of the concussion management team regarding the return to play decision. Athletic trainers' standard practice is to ensure involvement of a team comprised of the student athlete, family/parent, treating physician and school personnel such as the coach, school nurse and teachers in their approach to concussion management with respect to a decision about return to play. The athletic trainer is responsible for coordinating the school's emergency action plan, concussion testing program, medical coverage and more. In the absence of an athletic trainer, these responsibilities often fall to unqualified, non-medical personnel.
- Although the best case scenario is for a school to have access to an athletic trainer on faculty or staff, in the absence of a licensed or certified athletic trainer, the treating physician should make return to play decisions in consultation with school personnel, the student athlete and his/her family.

Other State and Federal Legislative Initiatives Related to Head Injury

Currently, the New York state legislature is considering several bills of importance. First is SB 6297, which would provide training and institute regulations for management of head injuries. We are very appreciative that the legislature has collaborated with the New York State Athletic Training Association on the bill language.

Recently, AB 10890 was introduced. This bill would require the Commissioner of Education to establish minimum standards for training coaches and set the qualifications of health care providers for making return to play decisions.

Finally, head injury awareness legislation, SB 8420 and AB 11605, has been introduced.

The NATA has endorsed Representative Bill Pascrell's Concussion Treatment and Care Tools (ConTACT) Act (H.R. 1347) of which Chairwoman McCarthy is a co-sponsor. NATA applauds the creation of national guidelines to address the prevention, identification, treatment and management of concussions in school-aged children, including return to play decisions included in the bill.

In addition to these items, the NATA strongly supports the recognition of athletic trainers as health care providers under the Medicare and Medicaid programs. This would encourage private insurance companies to reimburse athletic trainers for physical medicine and rehabilitation services they provide. This legislative action would assist in making more athletic trainers available in high schools and local medical facilities to treat those individuals suffering from head trauma or other sports related injuries where they occur.

Conclusion

I greatly appreciate the opportunity to participate in this hearing and offer the National Athletic Trainers' Association as a resource to you and other members of the Subcommittee as you work to address this important issue facing the youth in our nation. Thank you.

Chairwoman McCARTHY. Caitlin?

**STATEMENT OF CAITLIN MONAGHAN,
FORMER HIGH SCHOOL ATHLETE**

Ms. MONAGHAN. Good morning, everyone. Thank you for inviting me here today.

This is a wonderful opportunity and one that I could not pass up, because, as I know, concussions are a serious injury, and all parties involved in an athlete's life need to know the graveness of them.

I have been a dedicated athlete all my life, playing both basketball and soccer from the time I was six years old. I loved being active, and, even more, loved being part of a team.

In many ways, being a serious athlete was expected in my town. Parents and children crowded the fields starting from Saturday mornings up until Sunday nights, and as we got older, our school weeks were filled with long practices and games.

It was in seventh grade when I experienced my first concussion. I had been tripped in a soccer game and ended up on the ground only to have an opposing player kick me in the head.

Though today I don't remember all the details of what my parents did or what my coaches did, I do remember suffering from headaches and experiencing sensitivity to light for a few weeks.

I rested and was back on the field ignoring any laboring symptoms.

It was not until my senior year of high school when I realized the severity of the situation when it comes to concussions. It was the fall, and our soccer team was playing our biggest rival. To say my teammates and I were pumped would be an understatement. And we knew that they would be aggressive and fight for every loose ball and commit to every ball tackle. We had to do the same to win.

In the second half I ran to stop an oncoming shot on goal, which was kicked from no more than 7 feet away, and I received a blow to the side of the head. Within seconds I felt disoriented and hit the ground experiencing a blackout.

Play was not stopped right away because my team did not have possession of the ball, but eventually the coaches ran onto the field.

They asked me a series of questions to see if I was alert. I was brought to the sideline, given an ice pack and checked on once or twice.

Lying there, I felt nauseous, disoriented, and had a pounding headache.

I was not in a condition to go back with the team on the bus so a mother drove me directly home and told my parents about what had happened.

I missed the following day of school due to severe headaches and dizziness.

The symptoms continued over days. Simply put, I just did not feel myself.

My mother took me to my pediatrician to get an opinion. He was very concerned and thus recommended that I see a neurologist.

The neurologist ran all the necessary tests and concluded that I, in fact, suffered a mild to severe concussion.

I was prohibited from playing sports until my symptoms subsided. I was to see him for further checkups as well as work with my high school's athletic trainer, track my symptoms.

I was alerted to the dangers of second shock syndrome and the consequences if I were to get hit again.

My world was playing sports, and sitting on the sidelines was not enough. After two weeks I started to try light running, and although the headaches and dizziness continued, I ached to get back to playing. To be honest, the pressure to play again was amazing.

It was hard to convince my coaches that I was still injured, because when they saw me in school, I was laughing and talking with my friends. I seemed fine.

My teammates also wanted me back and questioned when I would return.

I was back to full play within three weeks of the first concussion, even though I was not 100 percent. Headaches lasted through practice, and often my sight was blurry, but it was my senior year, and since I was not going to continue with soccer in college, I wanted to give it everything I had left in me. My coaches and teammates deserved that.

It was during a scrimmage at one of my first practices back when I received another concussion. I went to block a shot on goal, and, once again, got a blow to the side of the head. Feeling very dizzy, I managed to reach the side of the field where I laid down on a bench.

My coaches told me to rest. My athletic trainer was notified and rushed to the field. She gave me ice, asked me questions, and told me to remain lying down.

My parents were contacted and I went home.

My trainer notified me that because of the time that had elapsed between both concussions, I could no longer play. I was devastated.

Though I attended every practice and cheered at every game until the end of the season, I no longer felt part of the team.

We returned to the neurologist, and he ran more tests and concluded that after two concussions, continuing with any physical activity would be dangerous. I was to rest and focus on letting my brain heal.

It was from the time of the second concussion through winter break that I noticed the effects of my concussion on my school work. The headaches and sensitivity to light, along with the loss of concentration, made it hard to pay attention.

My mother remembers me being very tired and not myself. I had been a good student, but my grades started to slip a little.

Though my teachers had known that I was injured, I don't think they realized how long the symptoms persisted. I participated less and found it hard to concentrate on my homework, especially after trying to force myself to concentrate through the entire school day.

Come January I pushed to play basketball believing that I was well rested and healed. I was team captain, and though I was captain during my junior year as well, I felt that this was my year to lead my team.

My trainer agreed to keep an eye on me. I could participate in warm-up drills and over time could play more and more as long as I was symptom-free.

In truth, I was not symptom-free. The fast running and jumping that comes along with basketball just brought on worse headaches. I would experience blurry vision and dizziness.

I kept playing, and if it got back I would ask to sub out for a quick rest.

I did, however, realize that aggressive play during games could lead to an elbow to the head, or I could be tripped and hit my head on the floor, and thus I started to being more apprehensive to playing. I would not be as aggressive under the hoop and held back taking a charge. I was not playing my best, and, therefore, my coach did not play me.

It was difficult to tell my basketball coach that the two concussions I suffered during soccer were still bothering me, and that that was the reason I was not playing my best.

He had been told about the incidents, but did not pay much attention to the ramifications. He had been a high school and college football player, and thus concussions to him were a normal injury that required little rest. I once again sat cheering from the side line.

Though my senior year was wonderful and a time I look back on with joy, I know that those two concussions made a huge impact on my life.

On top of the symptoms that eventually eased, I had watched two sports seasons end from the bench, had a hard time concentrating in schools, affecting my grades, and, above all, had felt that I had let many people down.

I left for college knowing that I would not play sports at a collegiate level, and was even weary to kick around a soccer ball or shoot hoops with my friends at school.

Today, I am fine. My world has expanded far beyond soccer and basketball, but when I hear the stories of people who have suffered from concussions, I am reminded of my own story.

I believe we need to do a better job advocating for athletes, and it starts with educating every party involved: Parents, coaches, athletic trainers, teachers, school nurses, and the athletes themselves.

The symptoms, dangers and steps to take when a concussion occurs need to be clearly outlined, including regulations concerning return to play.

Conversation needs to start and continue between all parties, because, unlike other injuries, concussion can't be seen. I can't take off a bandage or hobble around on crutches to prove that I am injured. It is only through constant communications that symptoms can be monitored or tracked, but, unfortunately, that communication can stop when athletes want to play again or are pressured to play again from coaches and teammates.

Therefore, a standard school policy is where it starts, but certainly not where it ends.

I thank you for your time and, more importantly, for the efforts to bring the severity of concussions to the forefront of health issues.

Chairwoman MCCARTHY. Thank you.

[The statement of Ms. Monaghan follows:]

Prepared Statement of Caitlin Monaghan, Former High School Athlete

Good morning everyone. Thank you for inviting me here today. This is a wonderful opportunity and one that I could not pass up because as I know concussions are a serious injury and all parties involved in an athletes life need to know the graveness of them.

I had been a dedicated athlete all my life, playing both basketball and soccer from the time I was 6 years old. I loved being active and even more loved being part of a team. In many ways, being a serious athlete was expected in my town. Parents and children crowded the fields starting from Saturday mornings up until Sunday nights and as we got older our school weeks were filled with long practices and games.

It was in 7th grade when I experienced my first concussion. I had been tripped in a soccer game and ended up on the ground only to have an opposing player kick me in the head. Though today I don't remember all the details of what my parents did or what my coaches did, I do remember suffering from headaches and experiencing sensitivity to light for a few weeks. I rested and was back on the field ignoring any laboring symptoms.

It was not until my senior year of high school when I realized the severity of the situation when it comes to concussions. It was the fall and our soccer team was playing our biggest rival. To say my teammates and I were pumped up would be an understatement. We knew that they would be aggressive and fight for every loose ball and commit to every ball tackle. We had to do the same to win.

In the second half, I ran to stop an oncoming shot on goal, which was kicked from no more than 7 feet away and received a blow to the side of the head. Within seconds I felt disoriented and hit the ground experiencing a black out. Play was not stopped right away because my team did not have possession of the ball. The coaches eventually came onto the field. They asked me a series of questions to see if I was alert. I was brought to the sideline, given an ice pack and checked on once or twice. Lying there I felt nauseous, disoriented and had a pounding headache. I was not in the condition to go back with the team on the bus, so a mother drove me directly home and told my parents about what happened. I missed the following day of school due to a severe headache and dizziness.

The symptoms continued over days; simply put I just didn't feel like myself. My mother took me to my pediatrician to get an opinion. He was very concerned and thus recommended I see a neurologist.

The neurologist ran all the necessary tests and concluded that I had in fact suffered a mild to severe concussion. I was prohibited from playing sports until my symptoms subsided. I was to see him for further check-ups as well as work with my high school's athletic trainer to track my symptoms. I was also alerted of the dangers of second shock syndrome and other consequences if I were to get hit again.

My world was playing sports and sitting on the sidelines was not enough. After two weeks, I started to try light running and though the headaches and dizziness continued, I ached to get back to playing. To be honest, the pressure to play again was increasing. It was hard to convince my coaches that I was still injured, because when they saw me in school I was laughing and talking with my friends. I seemed fine. My teammates also wanted me back and questioned when I would return. I was back to full play within 3 weeks of the first concussion even though I was not 100%. Headaches lasted through practice and often my sight was blurry. But it was my senior year and since I was not going to continue with soccer in college, I wanted to give everything I had left in me, my coaches and teammates deserved that.

It was during a scrimmage at one of my first practices back when I received another concussion. I went to block a shot on goal and once again got a blow to the side of the head. Feeling very dizzy, I managed to reach the side of the field where I laid down on a bench. My coaches told me to rest. My athletic trainer was notified and rushed to the field. She gave me ice, asked me questions and told me to remain lying down. My parents were contacted and I went home.

My trainer notified that because of the time that had elapsed between both concussions I could no longer play. I was devastated. Though I attended every practice and cheered at every game till the end of the season, I no longer felt part of the team.

We returned to the neurologist and he ran more tests and concluded that after two concussions continuing with any physical activity would be dangerous. I was to rest and focus on letting my brain heal. It was from the time of the second concussion through winter break that I really noticed the effects of my concussions on my schoolwork. The headaches and sensitivity to light along with a loss of concentration made it hard to pay attention. My mother remembers me being very tired and not myself. I had been a good student, but my grades started to slip a little. Though

my teachers had known that I was injured, I don't think they realized how long the symptoms persisted. I participated less and found it hard to concentrate on my homework, especially after trying to force myself to concentrate through the entire school day.

Come January, I pushed to play basketball believing that I was well rested and healed. I was team captain, and though I was captain during my junior year as well, I felt that this way my year to lead my team. My trainer agreed to keep an eye on me. I could participate in warm-up drills and over time could play more and more as long as I was symptom free.

In truth, I was not symptom free. The fast running and jumping that comes along with basketball just brought on worse headaches. I would experience blurry vision and dizziness. I kept playing and if it got bad I would ask to sub out for a quick rest. I did however realize that aggressive play during games could lead to an elbow to the head or I could be tripped and hit my head on the floor and thus I started to become very apprehensive. I would not be as aggressive under the hoop and held back to taking a charge. I was not playing my best and therefore my coach did not play me.

It was difficult to tell my basketball coach that the two concussions I suffered during soccer were still bothering me and that that was the reason I was not playing my best. He had been told about the incidents, but did not pay too much attention to the ramifications. He had been a high school and college football player and thus concussions to him were a normal injury that required a little rest. I once again sat cheering from the sideline.

Though my senior year was wonderful and a time that I look back on with joy, I know that those two concussions made a huge impact on my life. On top of the symptoms that eventually eased, I had watched two sports seasons end from the bench, had a hard time concentrating in school effecting my grades and above all had felt that I had let many people down. I left for college knowing that I would not play sports at a collegiate level and was even weary to kick around a soccer ball or shoot hoops with my friends at school.

Today, I am fine. My world has expanded far beyond soccer and basketball, but when I hear the stories of people who have suffered from concussions I am reminded of my own story. I believe we need to do a better job advocating for the athlete and it starts with educating every party involved; parents, coaches, athletic trainers, teachers, school nurses and the athletes themselves.

The symptoms, dangers and steps to take when a concussion occurs need to be clearly outlined including regulations concerning return to play. The conversation needs to start and continue between all parties because unlike other injuries concussion can't be seen. I can't take off a bandage or hobble around on crutches to prove that I am injured. It is only through constant communication that symptoms can be monitored and tracked, but unfortunately that communication can stop when athletes want to play again or are pressured to play again from coaches and teammates. Therefore a standard school policy is where it starts, but certainly not where it ends.

Thank you for your time and more importantly for the efforts to bring the severity of concussions to the forefront of health issues.

Chairwoman MCCARTHY. Mr. Caster?

**STATEMENT OF RICHARD C. CASTER,
FORMER NEW YORK JETS PLAYER**

Mr. CASTER. Good morning, everybody. Thank you for the opportunity to be here, Congresswoman McCarthy, Congressman Bishop.

As you said earlier, my name is Richard Caster. I played 13 years as a tight end and wide receiver in the National Football League, eight of those seasons being here on Long Island between the years of 1970 and 1978, and I played for the New York Jets.

I am testifying here today both in my personal capacity and as a representative of the National Football League.

I appreciate this opportunity to be here to testify, because I believe that we need to do more to raise awareness of the dangers of concussions in youth sports.

Parents, coaches, teachers and trainers will benefit from this hearing and so will their kids.

A recent study in pediatrics found concussions may be double the number of what they were just a few years ago in most common youth sports.

While this could be attributed to the developing science around concussions or the increased knowledge of the issue, the statistics signal that we as leaders in our community must do more to educate, raise awareness and learn to treat these dangerous injuries.

As more has become known about the dangers of head injuries, the NFL has chosen to become a leader on concussions, not just for the safety of its own players, but for all athletes at all levels of football, as well as other sports.

Last December the NFL, in conjunction with the Centers for Disease Control, produced a public service announcement devoted to youth athletes as well as their parents and coaches regarding the importance of concussion awareness.

The message aired repeatedly on national media throughout the end of the NFL season and the playoffs.

The NFL has worked closely with the CDC, USA Football and others to disseminate CDC educational materials for young athletes and their coaches.

In addition, USA Football, the independent non-profit organization that serves as the official youth football development partner for the NFL and its 32 teams, along with NFL, will conduct a national campaign from mid-September through November 2010 titled Put Pride Aside for Players Safety, all to emphasize concussion awareness in youth sports, but particularly football.

The campaign challenges and instructs coaches, parents and youth players to make the right decisions when a concussion is even suspected.

Recently the NFL and the CDC have jointly developed an educational poster that will be widely available in coming weeks on the CDC's website regarding concussions.

The NFL also mandated that a similar poster be prominently displayed in every locker room across the league, and is replicating that effort at youth level.

The NFL hopes to educate as many people as possible about concussions with this material.

Additionally, the NFL has undertaken a state by state campaign across the country to pass laws designed to prevent the dangerous effects of concussions in youth sports.

Named after Zachary Lystedt, a stand-out youth football player in Washington State, these laws will help prevent the most dangerous, damaging results of concussions.

The laws include three essential elements: One, student athletes and any parent or guardian must sign a consent form acknowledging that they have been informed about concussions.

Number two, any youth athlete who appears to have suffered a concussion in a sport is not permitted to return to play or practice on the same day.

Three, that athlete must be cleared in subsequent days or weeks by a licensed medical professional trained in the management of concussions before returning to play or practice.

Lystedt laws have now passed in five other states including Oregon, New Mexico, Connecticut, Oklahoma and Virginia.

In New York, the bill passed the state senate and is awaiting action in the assembly.

We encourage everyone to support action in the assembly this year.

As part of their state-wide advocacy, the NFL will convene an educational and advocacy summit next month in Seattle, Washington. It will be available on-line to anyone who is interested.

Finally, I understand that the NFL has been working with this Committee to educate and raise awareness, as well as find ways to adopt the three simple principles of Lystedt's law nationwide.

The NFL looks forward to continuing to work with this Committee and all other advocates for the benefit of youth sports everywhere.

I look forward to any questions.

Thank you for this opportunity.

Chairwoman MCCARTHY. Thank you.

[The statement of Mr. Caster follows:]

Prepared Statement of Richard C. Caster, Former NFL Football Player

CONGRESSWOMAN MCCARTHY AND CONGRESSMAN BISHOP: My name is Rich Caster. I played 13 years as a tight end and wide receiver in the National Football League. Eight of those seasons—from 1970 to 1978—were spent in this area playing for the New York Jets.

I am testifying today both in my personal capacity and as a representative of the National Football League. I appreciate the opportunity to be here and to testify because I believe that we need to do more to raise awareness of the dangers of concussions in youth sports. Parents, coaches, teachers and trainers will benefit from this hearing, and so will our kids.

Participation in athletics teaches our children essential life lessons. Team work, the importance of physical fitness, commitment, hard work and dedication as well as the benefits of both winning and losing are embodied in youth sports. As we teach our children those lessons, we also have a responsibility to protect them as much as possible from the injuries associated with sports.

A recent study in the journal Pediatrics found concussions may have doubled in the last few years in the most common youth sports. While this could be attributed to the developing science around concussions or the increased knowledge of the issue, the statistic signals that we—as leaders in our communities—must educate, raise awareness and learn to treat these dangerous injuries.

As more has become known about the dangers of head injuries, the NFL has chosen to become the leader on concussions not just for the safety of its own players, but for all athletes at all levels of football as well as all other sports. I am proud of what the NFL has done in the professional game, but I am particularly pleased to share with you the NFL's initiatives to educate and inform all sports at all levels about concussions.

Last December, the NFL, in conjunction with the Centers for Disease Control (CDC) produced a public service announcement devoted to youth athletes as well as their parents and coaches regarding the importance of concussion awareness. The message aired repeatedly on national media throughout the end of the NFL season and the playoffs.

That was just the beginning. The NFL has worked closely with the CDC, USA Football, and others, to disseminate CDC educational materials for young athletes and their coaches. In addition, USA Football—the independent, non-profit organization that serves as the official youth football development partner of the NFL and its 32 teams—along with the NFL will conduct a national campaign from mid-September through November 2010, titled “Put Pride Aside for Player Safety” to emphasize concussion awareness in youth sports, particularly football. The campaign challenges and instructs coaches, parents and youth players to make the right decision when a concussion is even suspected.

Recently, the NFL and CDC have jointly developed an educational poster that will be widely available in the coming weeks on the CDC's website regarding concus-

sions. The NFL also mandated that a similar poster be prominently displayed in every locker room across the League and is replicating that effort at the youth level. The NFL hopes to educate as many people as possible about concussions with this material.

Additionally, the NFL has undertaken a state by state campaign across the country to pass laws designed to prevent the dangerous effects of concussions in youth sports. Named after Zackery Lystedt, a standout youth football player in Washington state, these laws will help prevent the most damaging results of concussions. Zackery was a 13-year old star football player who suffered an undiagnosed concussion in the second quarter of a game in 2006. After resting during halftime, Zackery returned to play in the second half. Tragically, late in the game while preventing a touchdown, his helmet hit the turf hard. He soon lapsed into a coma after suffering life-threatening injuries.

Zackery survived, but faces a long road of rehabilitation. In the meanwhile, due to a heroic coalition of doctors, advocates and local elected officials, the state passed the law named after Zackery. The law includes three essential elements:

1. Student athletes and a parent or guardian must sign a consent form acknowledging they are informed about concussions;
2. Any youth athlete who appears to have suffered a concussion in any sport is not permitted to return to play or practice on the same day. And;
3. That athlete must be cleared in the subsequent days or weeks by a licensed medical professional trained in the management of concussions before returning to play or practice.

Lystedt laws have now passed in five other states, including Oregon, New Mexico, Connecticut, Oklahoma and Virginia. In New York, the bill passed the state Senate and is awaiting action in the Assembly—we encourage everyone to support action in the Assembly this year.

As part of their state-level advocacy, the NFL will convene an educational and advocacy summit next month in Seattle. It will be available on-line to anyone interested in learning more.

Finally, I understand that the NFL has been working with this Committee to educate and raise awareness as well as find ways to adopt the three simple principles of the Lystedt law nationwide.

As the most popular sport in the country, the NFL understands its obligation to lead in this area. The NFL will continue to provide the model for all sports at all levels of sport. The NFL looks forward to continue working with this Committee and all other advocates for the benefit of youth athletes everywhere.

I look forward to any questions.

Thank you.

Chairwoman MCCARTHY. Mr. Hall?

STATEMENT OF COURTNEY HALL, FORMER SAN DIEGO CHARGERS PLAYER; COFOUNDER, HILLCREST VENTURE PARTNERS

Mr. HALL. Good afternoon, Chairwoman McCarthy, Representative Bishop, and other members of the Committee on Labor and Education.

My name is Courtney Hall. Prior to co-founding Hillcrest Venture Partners and receiving my JD/MBA from the University of Chicago, I played professional football for the San Diego Chargers from 1989 through 1997. I was a second round draft choice by the San Diego Chargers and subsequently was a four-time first alternate to the Pro Bowl.

Prior to that, I was a collegiate athlete at Rice University, where I was two time MVP for the football team and a member of the now defunct Southwestern Conference, and a 1980s All-Decade Team.

I grew up in Carson, California where I first played tackle football for the local Victoria Park Pop Warner football team, and then played high school football at nearby Banning High School in Wilmington, California.

I thank you for inviting me to testify at this hearing. I also want to thank the Committee for bringing much needed attention to the important issue of brain injuries in contact sports, especially in tackle football.

During my playing years from Pop Warner to the NFL, there was very little awareness of or attention paid to the dangers associated with contact sports.

I hope that through the work of this Committee, light will be shed on the mistakes of the past so that they will not be repeated.

As an offensive lineman, I played football for nearly 20 years, and for me concussions were always a part of the game. I have had many concussions ranging from mild to severe.

My first concussion occurred when I played Pop Warner tackle football. As I was running downfield to cover a punt, I tried, unsuccessfully, to run through a defender to get to the return man. As I was helped to my feet by my teammates and over to the bench, the first words from my coach were "Are you okay?" His second remark to me was "Get ready to go back on the field. We just recovered a fumble."

Throughout my career, I have had many similar experiences, be it stumbling back to the huddle after a hit or block, or crawling off the field in a daze after an intentional or unintentional knee or hit to the head.

In each of those instances, I did not want to let on to my coaches or my teammates that I was impaired due to the warrior mentality that was ingrained in me by coaches, teammates, TV and others.

My strangest concussion occurred when I was in the NFL. I was running to block a defensive lineman, and as I collided with him, I blacked out, but could feel my legs pumping and driving so as to keep on my block.

As the play was over and I stumbled back to the huddle, I whispered to my fellow offensive lineman, "Help me out the next couple of plays. My head just got dinged."

For each incident, I either returned to play immediately or after a couple of minutes of examination and recuperation on the side line. The examination usually consisted of cursory questions that were asked of all players who experienced concussions, questions like "How many fingers am I holding up," and "What day of the week is it," but, in reality, the ultimate decision to return to the game rested on the desire of the player, the coach, and/or how critical the player's absence would be to the outcome of the game.

Hindsight tells me that I should not have returned to the playing field under those circumstances. In fact, new research into the effects of concussion injuries shows that returning to play was not only not in my best interest, but, more than likely, made me more susceptible to further injury.

However, as I am sure still is the case for many football players today, I just wanted to be on the field.

I have not only experienced concussion injuries but have also witnessed guys return to the game and seen firsthand how they reacted to their injuries. Although these players exhibited signs of wooziness and imbalance, as was in my case, generally they were still allowed to return to the field.

As I said before, hindsight tells me that those players would have been better off not returning to play so soon, but, thankfully, that decision is closer to being placed in the hands of an independent third party and not those of the player or coach.

This Committee and the NFLPA should be applauded for raising the public's awareness of this issue.

I particularly want to note the NFLPA's new Player Concussion Committee, which will ensure that future generations of players, professional and amateur, are provided with the knowledge to make the best possible decisions.

I am delighted and encouraged to see players taking the initiative and exerting control over their personal welfare.

I would also like to commend the NFL on their new policies to restrict players who have experienced concussions and other brain injuries from returning to the playing field prematurely.

Football truly is an amazing sport. It is a passion of mine, and the lessons I learned have served me far beyond my collegiate and professional playing experiences.

But no sport should unduly endanger the lives of its participants. This is especially true for tackle football. I recognize that today's athletes are bigger, stronger and faster than those of my era, and based on these factors alone, the resulting force of the hit is greater than it was in my day.

With more research into ways to protect players, all of us, players, coaches and fans, can continue to enjoy this game for years to come.

Thank you for your hard work on this issue and inviting me to this hearing.

I look forward to answering any questions you may have.

[The statement of Mr. Hall follows:]

**Prepared Statement of Courtney Hall, Former NFL Football Player;
Cofounder, Hillcrest Venture Partners**

Good Afternoon Chairwoman McCarthy, Congressman Bishop and other members of the Healthy Families and Communities Subcommittee of the Committee on Labor and Education (Committee). My name is Courtney Hall. Prior to co-founding Hillcrest Venture Partners and receiving my JD/MBA from the University of Chicago, I played professional football for the San Diego Chargers from 1989—1997. In 1989, at the age of 20, I was the 2nd round draft choice by the San Diego Chargers. Subsequently, I became a four-time 1st alternate to the Pro Bowl and was just recently a finalist for the 50th anniversary All Time Chargers Football Team. At Rice University, I was a two-time MVP for the football team, a recipient of the 1988 American Airlines Spirit Award, a member of the now defunct Southwest Conference (SWC) 1980's All-Decade Team and an inductee into the Rice University Athletic Hall of Fame. I grew up in Carson, CA where I first played tackle football for the local Victoria Park Pop Warner team and then played high school football at nearby Banning High School in Wilmington, CA.

I thank you for inviting me to testify at this hearing. I also want to thank the Committee for bringing much needed attention to the important issue of brain injuries in contact sports, especially in tackle football. During my playing years, from Pop Warner to the NFL, there was very little awareness of or attention paid to the dangers associated with contact sports. I hope that through the work of this committee, light will be shed on the mistakes of the past so they will not be repeated.

As an offensive lineman, I played football for nearly 20 years and, for me, concussions were always a part of the game. I have had many concussions, ranging from mild to severe. My first concussion occurred when I played Pop Warner tackle football. As I was running downfield, to cover a punt, I tried, unsuccessfully, to run through a defender to get to the return man. As I was helped to my feet by my teammates and over to the bench, the first words from my coach were "are you okay?" His second remark to me was "get ready to go back on the field, we just re-

covered a fumble". Throughout my career, I have had many similar experiences * * * be it stumbling back to the huddle after a hit or block, or crawling off of the field in a daze after an intentional or unintentional knee or hit to the head. In each of those instances, I did not want to let on to my coaches or teammates that I was impaired due to the "warrior" mentality that was ingrained in me by coaches, teammates, TV and others. My strangest concussion occurred when I was in the NFL. I was running to block a defensive lineman and as I collided with him, I blacked-out, but could feel my legs pumping and driving so as to keep on my block. As the play was over and I stumbled back to the huddle, I whispered to my fellow offensive lineman, "[h]elp me out the next couple of plays. I just got my head dinged".

For each incident I either returned to play immediately or after a couple minutes of "examination and recuperation" on the sideline. The examination usually consisted of cursory questions that were asked of all players who experienced concussions. Questions like "how many fingers am I holding up?" and "what day of the week is it?" But in reality, the ultimate decision to return to the game rested on the desire of the player, the coach and/or how critical the player's absence would be to the outcome of the game.

Hindsight tells me that I should not have returned to the playing field under those circumstances. In fact, new research into the effects of concussion injuries shows that returning to play was not only not in my best interest, but more than likely made me more susceptible to further injury. However, as I am sure is still the case for many football players today, I just wanted to be on the field. I have not only experienced concussion injuries, but I also have witnessed guys return to the game and seen firsthand how they reacted to their injuries. Although these players exhibited signs of wooziness and imbalance, as was in my case, generally they were still allowed to return to the field. As I said before, hindsight tells me that those players would have been better off not returning to play so soon, but thankfully that decision is closer to being placed in the hands of an independent third party and not those of the player or coach.

This Committee and the National Football League Players Association (NFLPA) should be applauded for raising the public's awareness of this issue. I particularly want to note the NFLPA's new Player Concussion Committee, which will ensure that future generations of players—professional and amateur—are provided with the knowledge to make the best possible decisions. I am delighted and encouraged to see players taking the initiative and exerting control over their personal welfare. I would also like to commend the National Football League (NFL) on their new policies to restrict players who have experienced concussions and other brain injuries from returning to the playing field prematurely.

Football truly is an amazing sport. It is a passion of mine and the lessons I learned have served me far beyond my collegiate and profession playing experiences. But no sport should unduly endanger the lives of its participants. This is especially true for tackle football. I recognize that today's athletes are bigger, stronger and faster than those of my era, and based on these factors alone, the resulting force of the hits is greater than it was in my day. With more research into ways to protect the players, all of us—players, coaches and fans—can continue to enjoy this game for years to come.

Thank you again for your hard work on this issue and inviting me to this hearing. I look forward to answering any questions that you may have.

Chairwoman MCCARTHY. Thank you, and thank you for all of your testimony which I find fascinating, because we have gone across the whole spectrum.

Being that we are going to be really focusing on our students from early grades through high school, Caitlin, I would like to hear your opinion, if you have time to think about it, from your experience when you were a junior and senior in high school, and then in the lower grade when you first had the concussion. How do we reach the kids?

We as adults can stand here, you know, and we can write legislation, but there has to be an element of where the kids are going to actually listen.

Does it come from peers? Will it come from a coach? Will it come from the trainer? Who would the kids listen to the most?

Ms. MONAGHAN. I would say they would listen to their peers probably the most. If I had spoken to the athletes in my high school now, I think that would help.

I also think coaches—it is difficult. We want to play sports, and we want to compete, and we had trainers that told us what the injuries could be, or every injury from ankle injuries to head injuries.

You are given all this information, and we kind of think we are invincible.

I think if you have coaches and peers telling you, “This is what really could happen, and it is a serious injury, and you need to discuss it with your parents and everyone,” I think that is the way to go.

It needs to be easy information that needs to be in sight of them. It can’t be overwhelming. They have a lot to learn. We are absorbing a lot of information in high school, and it has to be something that is specific and clear to read so they are always notified of the symptoms and causes or anything concerning concussions.

Chairwoman MCCARTHY. I don’t know—because I haven’t seen them—when the NFL basically comes out with what they are going to be putting into lockers as far as looking at and warning about concussions, is it going to be graphic or just words?

Mr. CASTER. Congresswoman, I have not personally seen, had a chance to see that particular poster, but when it is available, we will make sure we get a copy to you. I just cannot at this point comment on it.

Chairwoman MCCARTHY. I am just curious, because any of us that go into a doctor’s office and we are waiting for the doctor, “Okay, there is the heart, and here is a healthy heart and this is not a good heart.” People tend to look at the bad heart like “Oh, my gosh, is that the way my heart looks?”

I am just wondering, Caitlin, would that help if some sort of a poster was in the locker room saying “This is a concussion, this is the normal brain, and this is basically a brain that has sustained a concussion”—it is simple, but I am wondering if that would help to make everyone think a little bit more on basically what a concussion looks like, going through what an MRI would show?

Ms. MONAGHAN. I think it would. I think something really visual like that, two different brains.

At least in our locker rooms in high school, we had a lot of words, you know, posters everywhere, but if it was big and a graphic like that, a normal brain and a brain that has a concussion, I think that would be really helpful, definitely.

Dr. QUELLER. I remember when I was in high school, the campaign, the ads came out “This was your brain and this was your brain on drugs,” and it had eggs frying.

Everybody knows that, and I could definitely see something like that making a much bigger impact than a whole bunch of words and statistics to these kids.

If you have a brain and their brain concussed, or even a graphic of a scrambled egg, I think that would make much more of an impact on an 11-year old kid or 10-year old kid than a bunch of words they are not going to read. I wanted to throw that in.

Chairwoman MCCARTHY. I am going to let you speak, because I am going to follow up with you on a number of the suggestions that you had.

One of the constraints that we are going to have on our particular committee, unfortunately, is money. Many of us do not believe in mandating a lot of things unless we have the money to pay for it to come down to the states, because, let's face it, our schools are having a tough time meeting their budgets at this particular point.

With that being said, I do believe that there are a lot of things that we can put into the language that would basically help the schools to start off as far as the educational process.

If you could follow up, Craig?

Mr. LONIGRO. My comment is a little non-related, but I have to say that the poster idea is a great way to go. It is a great start.

Gatorade is one of our biggest sponsors with the National Athletic Trainers Association based on hydration issues, which is a whole 'nother topic, but Gatorade had a nice campaign a few years ago. It was a flyer of a urine sample in a container, and it just spoke about what color the urine should be of an athlete who needs to be hydrated or who is not hydrated.

When that packet came to my school, I took those posters—there were about 20 of them in the case—and I plastered them all over the school. I had one next to my office, one in my office, one in each locker room, the girl's locker room, boy's locker room, physical ed locker room. I had one everywhere.

I cannot begin to tell you how much discussion that this brought amongst the kids. The kids see it, they read it, they believe it.

Like you said, when you are in a doctor's office, you are waiting around. Sometimes the line outside of my athletic training room is eight, ten, twelve kids deep so they are reading all the interesting things on my wall so I think that is a great start.

One of the things that I do with my kids when there is a concussion or a concussive-related issue, I really take a moment to pull the kid aside and really educate them on what is going on here.

I tell them, I say, "Listen, this is not something where I can do a little movement on your knee and tell you that you have an ACL tear or do a strength test on your shoulder and tell you you tore your rotator cuff. This is something far more in-depth."

I try to educate them as to exactly what a concussion is, and I think that is the important thing too.

I think the posters are going to help, the education will help.

The CDC, as the Committee knows, has done a great job with some of the things that they have produced, and these are two hand-outs I give to the kids.

When I was preparing for this testimony, I just pulled them out of my drawer, because I use them frequently, and one is Heads Up, Concussions in High School Sports, a fact sheet for the athlete themselves to read, and I go over this with them.

The other is a fact sheet for the parents for what they need to look for. It actually comes in different languages as well.

These are some of the things I try to do, is to spend that time educating that student and really trying to—take the anxiety away

and let them know “This is a serious problem. I cannot look inside your head.”

I know Dr. Queller will agree that they will tell you, “Why can’t you just clear me?”

“You can’t be cleared because we don’t have any data. We don’t know based on what we see if you are okay.”

Another protocol that I have implemented, and it is a great tool that I use—and I thank Todd Nelson, who is here from the New York State Public High School Athletic Association. They do a great job with this concussion issue, and they have been great on informing the athletic trainers, but this is a checklist that I use. It is a concussion symptom checklist. It is in the next folder next to these guidelines.

What I do is I pull it out. I do my complete evaluation on the athlete as soon as the concussion occurs or within the closest time that I see them.

Basically, this athlete is instructed to go home with this information if they are picked up by their parents, but the opposite side is the physician’s evaluation. This would be something that would go to Dr. Queller, and we talked about this before.

It is basically an initial evaluation for the physician, whoever the physician may be, to provide their observations on what they have seen with this student.

Now, there is a second file—a second column. The first column is Initial Evaluation, and the second is Final Evaluation, and that column cannot be—that child or that athlete cannot compete or re-enter into the athletic activity until they have that final evaluation completed by the physician, it is signed off and they are cleared to play.

In answer to your question, I think education is the key, and it is going to start with those posters. It is a great idea. The kids see it. It catches their eye. If we can come up with something a little catchy or a little flashy, it would be something that would work.

Chairwoman MCCARTHY. Just one more thing. Going back with the NFL and the NFLPA, who basically said “Okay, you guys can’t go back in”? Did anybody have that right to say you can’t go back in? Was it the trainer? Can they override the coach? Can they override you?

Mr. CASTER. Well, the coach kind of had the last word, but the initial information came back from the trainers back when I played in the 70s and 80s. That is the way we approached it.

It was very similar to what Courtney said. Even then, “How many fingers am I holding up? What city are you playing?”

I got knocked out in Canton, Ohio playing a game—the only time I got knocked out—and I vaguely remember the trip, but they put me on the plane and flew me back, and I wondered how I got where I was going. But I did get back in the game. I answered enough questions to satisfy our trainer that yes, we were in Ohio, but I looked up at the scoreboard. I saw where we were so I got that right, and I guess I guessed on his fingers.

He said, “Get back in there,” and two plays later I was out for the remainder of the game.

It generally came from our trainers, guys that were responsible for our health.

Mr. HALL. In my experience, I guess similar, it really boiled down to the player. "How many fingers are you holding up?"

In a lot of concussions that I have had, the fingers are right in front of my face so for me it didn't boil down to whether my vision was blurry.

"What day of the week is it?" We only played on Sundays. In high school we only played on Fridays. For me that was a pretty easy question to answer.

The only time that I—I can't ever recall being held out of a game after I have had a severe concussion. As I said, I remember crawling off the field, I remember being on the field and having the trainer come out to me and say, you know, "Are you okay? We will come sit you on the side line," and at that point, when next it was time for me to go back on the field, my substitute was getting ready to go back in. I pulled him over and said "No, I am fine. I am ready to play."

For me, when I played in high school, college, professional athletics, it really came down to myself. The trainer had very little say of when I was going to go back on the field.

I am sure that has changed today, but that is the way it was for me.

Chairwoman MCCARTHY. Final question to the two of you. So basically what we are trying to do, obviously, is to reach the youngest of the youngest athletes to try to change the culture that you both grew up with. You are the warriors, and you are going to go in there, because you love the game. Do you have any suggestions on how we can change the culture and at what age do we start as far as with the schooling and sports?

Mr. HALL. I think I gave Chairwoman McCarthy an example. When I was younger, my parents were really the driving force when I was younger determining when I would play.

I had a situation where I had broken an ankle. I got my cast off that day, and that evening I said "Great, I am ready to play," and my mom said, "No. You are going to sit out."

I think a lot of the issues, like the trainer said, is really getting the information to the parents. I think that also is the first line of defense. They probably can judge the athlete, their mood swings, their behavior when they come home, how they are behaving, and they honestly have final say, I would think, into whether that child is going to play subsequently, or if they are well enough to go back on the field.

Mr. CASTER. And I would agree with that assessment.

At a young age, that is the most—I would think the most influential people in your lives would be your parent or guardian; is to make sure that that information is written down and through the processes that we put in place that they know what is going on, and along with that information about what the adversity is associated with head injuries like concussions.

I think we certainly need a campaign that goes after the parents of athletes, that they have a responsibility.

Beyond that, that is how we begin to change that culture a little bit, that it is okay.

At some point, somebody has to say to the athlete that it is okay that these things happen, and not get intimidated by the idea of

having to sit out or be called a sissy or wuss because you didn't get up and tough it out.

Also, coaches need to counsel their players and their athletes too in these situations to help them through it, because it is very disappointing, it is a very unfortunate moment for them, but it is also disappointing to them because in most cases they aren't out there because they had nothing else to do, they are out there because they see sports as ingratiating their position on campus, with their friends, and there is a whole big thing that goes around with that, but parents, I would think, would have the best chance if they can control their kids.

Chairwoman MCCARTHY. Mr. Bishop?

Mr. BISHOP. I want to start with Dr. Queller. You indicated that there is baseline testing going on in four high schools here on Long Island. Was that initiated by you? Did they come to you?

I am interested in, A, how it started, and, B, how we would bring such an activity to scale, how we would get more high schools to do that thing.

Dr. QUELLER. I have been here only a year. I moved back here about a year ago, and that was something I was very interested in from the start.

One of the physical therapists in the area was very interested in trying to get a little bit more awareness and trying to get some sort of concussion management program.

When I came here, with his help and my colleagues help, we actually kind of went to the high schools. We cover the high schools in our area for orthopedic coverage so we thought, "Okay, we already have a foot in the door."

We actually kind of teamed up with both the athletic trainers and the local hospital trying to get some funding for it.

We went to them, and we said "Look, this is what we are offering as a concussion management program, and actually as a comprehensive sports medicine program so not only can we treat your athletes' broken bones, sprained ankle and torn rotator cuff, but we can treat them for head injury."

We offered this to the schools, and the schools that bit we started that this year, and it has gone very well.

Mr. BISHOP. So your practice has offered this to the schools? You are absorbing the cost?

Dr. QUELLER. No. We have actually got funding from the local hospital to do the baseline testing for them.

Mr. BISHOP. But to bring it to scale—let me back up a little bit. What is the cost for the four schools?

Dr. QUELLER. When it comes to high school testing, it comes out to do baseline testing to about two dollars per test per kid, and then post-injury testing, that is easy. That is an insurance thing.

Mr. BISHOP. But at least to establish the baseline—look. Every dollar is important, but it is not prohibitively expensive?

Dr. QUELLER. No.

Mr. BISHOP. So this could be something that with the right commitment could be brought to scale?

Dr. QUELLER. Absolutely.

Mr. BISHOP. I want to go back to Mr. Caster and Mr. Hall on the subject that Congresswoman McCarthy is talking about.

Three of you, Dr. Queller, Mr. LoNigro and you, Mr. Hall, made reference to the warrior mentality. You both have competed at the highest level of your sport, and I am going to guess that in addition to being physically gifted, one of the ways that you got there was you had your own warrior mentality, and whether you had it because it was innate or whether you had it because you knew that that was what coaches were looking for, it was an element of your success; am I right?

Mr. CASTER. Absolutely.

Mr. BISHOP. How do we deal with that? How do we deal with the sort of innate competitive nature of the highly skilled athlete? How do we deal with the innately competitive nature of the coach who is looking to be as successful as possible? How do we deal with the parents who are perhaps bringing pressure to their sons and daughters to be competitive, and not just be competitive, but be successful?

It seems like that is one of the core issues here; that we could have the most attentive trainers in the world, but if we have this notion that you are a wuss if you sit out, and you are going to advance if you go back in, that seems to be a really tough issue to get a handle on.

I would like to hear from both of you on that.

Mr. HALL. For me, I think it really came to bear, in my mind, is when you start looking at the long term effects.

As an offensive lineman, as I said, concussions for me—everybody is talking about concussions now. For me, I got my head dinged. That was the expression.

Looking back on it, I understand that a lot of the situations I was in, they were concussions, and I suffered many, many, mild concussions, and I have had sensitivity to light, headaches, which I still have today. That was just part of the game.

But when I started hearing about my fellow offensive lineman going through issues, whether it be suicide, Terry Long, and some of the other issues—there have been studies about the damages of the long term effects of concussions. That is really when I started paying attention to it.

I think, especially as parents—parents, yes, they want their kids to be competitive, but if you start telling the parents “You want your kids to be competitive, but these are the long term effects if you push your kids too far. They have brain injuries, they will have depression, headaches, dementia, whatever,” I think that is when parents will start paying attention to it.

“Yes, I want my kid to be competitive, but I don’t want to put my kid in a situation where they are going to have the deleterious effects of concussions.”

I think this also is for athletes as well. Obviously you are not going to reach all of them, but when you start showing them the long term effects, whether it be in person, video, through news article clippings, that I think is when you really start paying attention to what are the effects of concussions.

I mean, that was my experience, anyway.

Mr. CASTER. The idea of the warrior mentality certainly starts very early on in our development.

Your question is a great question, Congressman, about how do we deal with it.

Mr. BISHOP. I am full of great questions. I have very few answers.

Mr. CASTER. And this one may not have an answer.

As I ponder it more, and I have been thinking about this for a number of years, because I have seen it, you are talking about culture. That is the root of this thing.

To be an athlete on a high school campus, it says something. It takes a guy, a young lady to another level. More people know them. They are leaders.

So with all of this, people strive to be there.

How do I get there?

To be the tough guy, to be all the things that this culture has developed around it, makes it something that everyone desires and are reluctant to let it go.

And so that fight, it certainly has to start back with this generation of people coming through and trying to change that mentality, because you have pressures, as you said, from parents, coaches, peers and so forth. It just continues.

The warrior mentality is there. It is something that makes us feel good, but how we deal with it and take it away, it is a bigger answer than I have.

Mr. BISHOP. Thank you. I don't know that it has—it seems to me it would take a whole paradigm shift in the way we approach competitive athletics.

Mr. CASTER. Exactly.

Mr. BISHOP. Mr. LoNigro, I used to be the chief executive of a division 2 college. We had five men's sports, five women's sports, and we tried to—we always had every game covered by a trainer. We tried to have every practice covered by a trainer or training intern; not easy to do.

What is your experience in terms of high schools in Section 11? Are they sufficiently staffed to not just cover every game, but to at least provide minimal coverage to every practice?

Mr. LONIGRO. That is a great question, and I have to say that Section 11, along with the New York State Public High School Association, has done a great job in trying to address that, specifically with football. I know that it is mandated that there needs to be either a physician, an athletic trainer or EMT supplied by the home team.

Mr. BISHOP. For each game?

Mr. LONIGRO. For each game, for a varsity game.

With that being said, I have to also say that Suffolk County High School, we founded the Suffolk County High School Athletic Trainers Association about two years ago to try to develop a kind of medical advisory board such as Dr. Queller and Dr. Schrank, and a few other very specific professionals, neurologists and orthopedists and skin care physicians to have a board that we could refer to.

Upon our growing of this organization, we are starting to realize that Suffolk County is doing a good job, doing a great job as far as providing athletic trainers and coverage to our high schools.

As I stand here today as the director of that association, I can say that about 90 to 95 percent of the schools in Suffolk County

are sufficiently covered, or at least supply at least a minimum of one athletic trainer to each high school.

We did have a very interesting situation occur this past year with our association. It was a very big topic with us, and we took the bull by the horns and we went right after it.

We had a district who was having a difficult time finding an athletic trainer to take that position. They were left with no other position but to hire someone in a related field but not specifically close enough to really be that person, to take care of the athletes in the way that they should. It was not a certified athletic trainer. It was not a doctor. It was a massage therapist, who is great in what they do. They do a great job in their field, but that was not—we felt that it was a poor judgment on the part of that district so we fought for that.

There was a maverick parent in the town whose son was injured during a football game and was very concerned with the care that the athletes were receiving, and it has been taken care of since then.

But this parent went out of his way—and I invited him here today. I am not sure if he is here—he went out of his way, and he spent tens of thousands of dollars on advertisements out in his area, in the news and the print and the radios, and did what he could to try to make sure that this issue was addressed, and he was very concerned about it.

It has been addressed, and it has been taken care of.

In answer to your question, it depends on the county. Nassau County as well as is in the same boat. I would have to say 90 to 95 percent of those schools are in the position where they are hiring athletic trainers.

I know of one or two school districts in Suffolk County which deleted the position based on fiscal issues.

Mr. BISHOP. That is what I am worried about.

Mr. LONIGRO. I have to say, I am in a school district now where I serve as athletic trainer along with another athletic trainer. We both happen to be teachers in the school, which is a great, great situation. Some of the other athletic trainers who have one at their high school kind of relish the fact that we have this, because it is a great opportunity.

We only do that because we are teachers there first, and we are athletic trainers second.

Mr. BISHOP. My daughter is a middle school teacher, and there is a push now within the teacher's center that she is a part of for her to become certified in special ed so as to expand the skill base that the teachers have.

Would it be valuable for teacher centers to also establish a certification program for teachers in training so that you would build a cadre of skilled, trained people that are already part of the school?

You are already part of the school, and in addition you are a trainer, right?

Mr. LONIGRO. Exactly.

Mr. BISHOP. Would that be valuable?

Mr. LONIGRO. I think it would. I tell all of my students who are—I have a lot of students who have expressed interest in the

field of sports medicine. I mentor them and tutor them, and they cover events with me. I always tell them, I say, “Make sure you spread yourself out a little bit. Make sure you don’t just focus on one particular topic. Get certification in other areas. Become a teacher if you like to teach.”

I have one student who graduated a few years ago, and she is ready to come back. She has certification in math, she has special ed certification and athletic training.

That is a great resume to have to present to an athletic director or superintendent when you are looking for that type of position, especially in a time when we are trying to—when money is an issue and we are trying to get the most for our money, I really think that that is the way to go, to have dual certifications.

Mr. BISHOP. Thank you.

I have one more question for Caitlin.

You clearly were imposing some pressure on yourself to get back on the field and get back on the court.

At the time you were going through this, were there other athletes that were sort of in the same position as you, and if there had been, was that easier for you or would that have been easier for you, if some of your peers were also being held out for a so-called invisible injury?

Ms. MONAGHAN. I definitely think so.

My season there were not many concussions that I knew of, but I think if I knew of them—it is hard being one person out of all your friends. The rest of the athletic teams that I was friends with, I would say “I have a concussion,” and they were like “Okay, you don’t feel well.”

Two weeks later, “I still have a concussion.”

“But you look fine, and you are hanging out with us on the weekend so how are you still injured?”

I think if I had more people that were in the same boat as me, sure, that would be helpful, and I think I probably would have sat out longer.

It is hard to convince people when you really want to play and you want to be out in the field with your team.

But I do know football players that later on suffered concussions, and they went right back into the game, and they had it much worse than I did. They said they blacked out and were throwing up on the sidelines, and then went back in.

When I heard that, I said it is a good thing I sat out as much as I did eventually.

Mr. BISHOP. Sounds like these two guys.

Ms. MONAGHAN. Definitely more people were in the same boat or voiced that they were hit in the head.

I had a severe concussion, but even a mild to light concussion, if I knew other people who had it, I think it would have changed my decision, certainly.

Mr. BISHOP. Thank you all very much.

Chairwoman MCCARTHY. Just following up on that, Caitlin, since you just brought up this story, did you see a difference now—because today it is accepted that so many women are in sports—is the treatment between your counterparts on the boy’s football team

versus the girl's soccer team or Lacrosse any different as far as the trainer goes?

Ms. MONAGHAN. It is hard to say. I think because boys play football and you think concussion is football, I think it is. They are more aware of it in the football arena or game.

I know my trainer was much more—she spread—was able to talk to everyone about it, and if an injury happened, she treated us the same, but I think going forward in terms of coaches and parents, it is treated differently.

My parents, I think if I were a boy and playing football, they might have been “Okay, you can go back in,” but my parents were really concerned for me.

Chairwoman MCCARTHY. Unless anyone here would like to add on to anything that maybe we missed or anything like that—go ahead.

Mr. LONIGRO. Just one other thing, Congresswoman. I think the grass roots level is the way to go. I know your Committee is trying to figure out a plan and how to address it, but I think the grass roots level is the perfect place to start, because we have a lot of really good sports teams here on Long Island in our high schools, football and Lacrosse, and some people say what do we attribute to the fact that our Lacrosse programs here on Long Island are so great. Well, it is these youth programs are phenomenal as well, and they feed into the high schools.

With that same thought in mind, I just think that the coaches—I know volunteerism is a dying breed, and it is very difficult to attract people to volunteer to coach their young kids in sports today. “We don't have time. Mom is working, dad is working,” but if we could somehow just enlighten those youth league coaches as to some of those—even if we make it mandatory to have them read through these certain informational packages before they become a youth league coach, get certified in first aid, CPR.

I mean, it is just such a basic thing. We should all have that anyway, first aid, CPR, and learn how to use an ADD or defibrillator on the field.

These are the people who are around the field all the time. They can educate their kids at the same time at an early age so that warrior mentality may not be as severe as they get older, and the kids may start to be more concerned about their own health.

I was watching an NFL game yesterday. It is funny. My wife is also a certified athletic trainer. My kids are athletes, very involved.

We were watching an NFL game yesterday, and there were a couple of real devastating hits.

My two daughters were watching the game, and they said “Wow, dad, did you see that hit?”

My point is one is eight, one is eleven, and they are recognizing this, because they are around two athletic trainers 24 hours a day, and they have a little bit of background.

But a little bit of knowledge is power, and I think we need to take that power to educate just a lay person coach who is volunteering after they come home from work to do this for their kid, just the slightest bit of education what to look for, and hopefully maybe then can get it taken care of at an earlier grass roots level.

Dr. QUELLER. Kind of dovetailing on that, we at Orthopedic Associates, we got together with the Police Athletic League and started lecturing, actually, to all of the coaches, which usually are also parents, and they made it mandatory that all these coaches come out.

We have given a series of lectures to these PAL coaches, and the response rate has been great. They are very concerned.

And I agree. I think it is one of the places to start, because if concussion is on the topic from the very first day these kids start hitting, it is going to be reinforced every single year, and these seven-year olds become these high school athletes. They are going to have heard about concussions for ten years and it won't be a foreign concept to them so I definitely agree with that.

Chairwoman MCCARTHY. You know, think about a lot of the initiatives over the years. Seat belts. Yes, I think starting on the local level is terrific, but to get the message out across the country and then work it from there where it does go down, and you start seeing once we have programs in place, whether it is posters, educating, then it spreads so it has to start, but hopefully someone like yourself or all of you will follow through into your areas.

Tim and I, we are here on Long Island. We deal with our schools on a daily basis, but you go to rural areas or you go into other—we have to worry about the whole country besides our own districts.

I mean, you have to look at those, especially the rural areas or the underserved areas across this country. They are not going to get that message, or they are not going to get that help that they need also, because our job is to look out for all children, and that is what we will do, and then hopefully it catches on to a local level.

I want to thank all of you for coming here and taking the time out of your busy days.

I wanted to say thanks to you, Mr. Castor and certainly Mr. Hall, for not only the work that you have done on the field, but the work that you have continued to do in your private life.

I know that the Head Injury Association is represented here, who has been a great source of us reaching out to get the witnesses so I thank you very much.

Unless someone else has something to say, I think that concludes this.

Mr. BISHOP. Thank you.

Chairwoman MCCARTHY. As previously ordered, members will have 14 days to submit additional materials for the hearing record.

Any member who wishes to submit follow-up questions in writing to the witnesses should coordinate with majority staff within the requisite time.

Without objection, this hearing is adjourned.

[Additional submission of Mrs. McCarthy follows:]

**Prepared Statement of Liz Giordano, Chief Executive Officer,
Head Injury Association**

Thank you for this opportunity to submit testimony to the Healthy Families and Communities Subcommittee of the House of Representatives' Education and Labor Committee regarding the impact of concussions on High School athletes.

I have the privilege to serve as the Chief Executive Officer of the Head Injury Association, an independent not-for-profit organization dedicated to helping Traumatic Brain Injury survivors maximize their potential and help their families return to as normal a life as possible. By offering a bridge to hope and healing, we strive

to help survivors overcome obstacles and move more positively and confidently toward the future. We do this by providing the necessary residential and community-based programs to help them achieve four valued outcomes: Individualization, Independence, Integration and Productivity. We are also committed to increasing public awareness of head injuries and their consequences and partnering with those who seek to prevent head injuries through educational programs.

Many of the people we serve come to need our assistance as a result of a misfortune such as a car accident, an act of violence, or other causes beyond their control. Others need our help as a result of the unintended consequences of risky behaviors.

One of the great difficulties in our line of work is addressing the regret our consumers and their families often express when they say "If only..."

"If only" my child was not at that place at that time.

"If only" my loved one was not involved in that accident.

"If only" they could have received better medical attention sooner.

"If only * * *"

As Bob Woodruff described so eloquently in his book "In an Instant", we have to recognize that life is fragile and subject to dramatic change on short notice. Unfortunately for some, once a Traumatic Brain Injury occurs there is not much we can do to mitigate the consequences of these unexpected and life-changing events and the regrets that follow. But when it comes to preventing some head injuries, and particularly concussions in youth sports and the consequences of what happens after those injuries, there is much we can do, and surely we must.

Recently concussions have been a growing concern among parents and coaches of youth sports. During the 2007-08 school year, high school athletes alone reported 137,000 concussions and it is believed that thousands more went unreported. A concussion can sometimes be difficult to detect and often occurs when there is a bump, blow or jolt to the head or body which causes the brain to move rapidly inside the skull. In many instances an athlete who has suffered a concussion may not exhibit symptoms of the injury for minutes or even hours after the incident. It is now well understood that not everyone who sustains a concussion will lose consciousness. Once a concussion has been sustained, however, athletes are at a significantly greater risk for "second impact syndrome", a rare but serious condition that causes permanent brain damage or death when a second impact occurs before the brain has had an opportunity to heal.

Earlier this year, Suffolk County passed a local law aimed at protecting young athletes and raising head injury awareness. The legislation requires county-contracted youth sports agencies to develop a written policy to address incidents of possible or actual concussions, provide parents with information about concussion treatment and management, and prevent athletes from returning to play until they are medically cleared. We believe this law could be the model for youth sports programs throughout the nation.

Each March, in observance of National Brain Injury Awareness month, the Head Injury Association sponsors a day-long program in which a distinguished panel of former professional athletes share their personal experiences of concussions and premature return to play. In doing so, they give their support to the need for greater awareness, regulation and on-going monitoring of athletes who have experienced concussions. Speaker after speaker have acknowledged that as athletes, they returned to competition sooner after a concussion than they should have, simply because they didn't know better. Several speak openly of the problems they now face with memory, motor coordination and depression, which they attribute to their earlier concussions and "post concussion syndrome". They have been unanimous on a single theme:

"Knowing what we do today, we can not let this continue. We need to act to protect young athletes."

Research on concussions among professional football players clearly indicates that once a player suffers one concussion he is significantly more likely to suffer repetitive concussions. Some former NFL players have spoken out publicly that they believe that concussions have induced the early onset of Alzheimer's and dementia. Former NFL player for the NY Giants, Harry Carson has publicly shared his opinion that "Had I known of the neurological damage I would have sustained playing professional football, I would have chosen a different career instead". Sadly, until now the research of those who have dedicated themselves to studying the long-term impact of concussions on athletes has received little support and has been received with remarkable indifference. We need to change that.

Here, on Long Island where youth sports are such a major part of our daily lives, it is imperative that we act to maximize our children's safety in sports. The same sports designed to enhance physical and mental health as well as positive self-esteem can not be permitted, even inadvertently, to foster injuries which compromise

quality of living or even life itself once the games have come to an end. I believe the public interest requires your committee to act now to protect our young athletes.

I believe there are steps that can and should be taken to address this. Particularly when it comes to the opportunity you have to limit the "second impact syndrome" caused by impact after a concussion, in my opinion you should condition government funding to school and youth programs that:

Regulate safe playing conditions and safety equipment;

Educate coaches, parents and athletes on the dangers of second impacts;

Establish uniform standards to remove arbitrary and in many cases dangerous decisions to allow athletes to return to competition before it is medically safe;

Restrict the exposure of athletes to second impacts without medical clearance; and

Monitor to ensure that regulations actually do protect young athletes without unduly restricting competition sports so many enjoy.

You have the opportunity to eliminate so many "if only" regrets. I urge you to not let this opportunity to pass you by in a way that the next time someone says "if only" they finish their sentence with "our elected officials had acted to protect our kids".

If my testimony helps you to act to prevent even a single head injury then I am pleased to have had the opportunity to be heard on this important issue. I thank the committee for your attention to this serious matter.

[Whereupon, at 12:48 p.m., the subcommittee was adjourned.]

