Sports Injuries and Their Long and Short Term Effects

Proposing a Change in the Injury Awareness Waiver to the NJSIAA

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Summary

Sports injuries are an unfortunate and prevalent side effect to engaging in athletic competition. If not treated properly, injuries suffered while playing a sport could not only hinder your ability to compete but could also have devastating long and short term effects on your body. Small, seemingly insignificant injuries could snowball into injuries that could end ones athletic career early. Many sports have injuries at are very specific to that sport or occur in only a few sports. Younger athletes should be educated and protected from the degradation of specific body areas due to the stresses of sports injuries. We have written to the NJSIAA requesting them to add sports specific injury protection to their waiver forms prior to each season in order to educate athletes and coaches about how to prevent injuries in the future. We have also written to the Targum and the Star-Ledger advocating for injury prevention and awareness to young athletes who are most at risk. We hope that through our efforts we can prevent minor injuries from become chronic injuries that could jeopardize a young athlete’s future.

Video Link

Sports Injuries and Their Long and Short Term Effects: http://www.youtube.com/watch?v=JdErn4g_dCs
The Issue: Sports Injuries

Acute and Chronic Injuries: A Distinction (MB)
Injuries occur at all levels of athletics in a varying degree of severity. With more people being exposed to different sports and with interest and competition in sports reaching new heights, more injuries are occurring throughout the United States and the world. There are two main types of injuries that occur in athletics, acute injuries and chronic injuries. An acute injury is described as “an injury that occurred recently as a result of a traumatic event.” (Cluett). Acute injuries are injuries that were not previously existing conditions and almost always require immediate medical attention. “The initial pain experienced after an injury has occurred is classified as acute pain. Normally, the body will automatically begin healing itself. Generally, the goals of treating an acute injury focus on treating the pain symptoms to make the patient more comfortable and protecting the injured area.” (spineworks). Chronic injuries are “the result of overuse or a long-standing condition.” (Cluett). Chronic injuries are the result of a lingering, long-term condition caused by a single or many acute injuries that went improperly treated which could lead to a more serious condition over time. Chronic injuries are much more common than acute injuries and are also usually more difficult to treat than acute injuries. An acute injury can be diagnosed from a single event or instance whereas a chronic injury is something that cannot be pinned to one single factor. Acute and chronic injuries can be equally as hampering to one’s health and performance, and both require proper treatment. Chronic injuries are more likely to be left untreated than acute injuries, because chronic injuries begin as discomfort, soreness or small amounts of pain.

Chronic Injuries (MB)
Chronic sports injuries are almost always are caused by overuse of a certain area and repetitive motion of the area. “The most common disorders seen by sports orthopedists as well as the general orthopedic are the overuse injuries” (Iero) Despite this prevalence, chronic injuries are often overlooked and written off as a pain that is not serious to a person’s well-being. Chronic injuries are just as serious as acute injuries and they can result in far more severe conditions, injuring other parts of the body, constant pain and in some cases inability to participate in physical activity. Chronic injuries almost exclusively occur due to a change in one (or more) of three areas. These three areas are the athlete, the environment, or the activities. The diagnosis and treatment of chronic injuries can often take long periods of time and even more patience from the doctor and patient. This is due to the quantity of factors which can attribute to chronic injuries and the amount of time that passes from the initial onset of pain in the patient. (Pinzon and Larrabee) Some examples of chronic sports injuries are tendonitis, tennis elbow and carpal tunnel syndrome.

Treatment Methods for Chronic Injuries (MB)
Treatment for chronic injuries is often more complicated than treating acute injuries for various reasons. Treating chronic injuries usually requires some sort of lifestyle change (at least in the short-run). “The treatment of overuse sports injuries is made difficult by various factors, including an insidious onset which means that the problem is usually ignored at the start. When athletes actually present for treatment, the injuries are well established and more difficult to manage successfully.” (Panzon and Larrabee). People almost always seek treatment for chronic injuries well past the initial onset of the injury. Often time people will try to work through an
injury instead of acknowledging the pain or discomfort and resting the body part. One of the 
more common treatments for chronic injuries is known as RICE treatment (rest, Ice, 
compression, elevation). This treatment, while seemingly simple and basic, can be highly 
effective if used properly. There are also treatment techniques that require a doctor’s 
intervention, either in the form of physical therapy, medication, and sometimes even surgery. 
One new non-surgical remedy for chronic sports injuries is called platelet-rich plasma (PRP) 
therapy. “The platelet-rich plasma promotes new blood vessel formation and stimulates healing 
and tissue regeneration. When you have long-term changes to a tendon or ligament, the blood 
flow to the area is decreased.” (Berggoetz).

Chronic Sports Injuries in Children (MB)
Younger athletes have not been exempt from injuries, despite their ability to heal quicker than 
most adults. Childhood injuries in sports has seen a rise with longer playing seasons and 
increased competition in youth athletics. There are now many young athletes getting injured in 
ways that were previously only seen in adults until recently. “The AAOS reports that overuse 
injuries account for nearly half of all injuries sustained by middle school and high school 
athletes. The American College of Sports Medicine (ACSM) estimates that half of such overuse 
injuries are preventable.” (ESPN). The increased pressure and competition on children in sports 
is being noticed on many different levels. Kids are feeling burned out quicker and not enjoying 
wanting to play some of the sports at all. “Why then do these injuries occur? There are 
numerous contributing factors. Andrews believes that the pressures of competition may 
discourage some children from speaking up when they have pain. Kids often fear that they might 
be perceived as less than tough, something that may result in less playing time along with 
disapproval from coaches, teammates or even parents.” (ESPN). Playing sports year round 
doesn’t seem to cause many issue with most children, but playing the same sport year round can 
cause several problems. “It’s not that we’re against playing baseball, we’re against playing 
baseball 12 months out of the year, or even 10 months out of the year,” Smoltz said. "By no 
means am I discouraging kids to play, but there has to be a transition into either another sport or 
some rest time to allow you to recover from that current sport." (ESPN). Chronic injuries are 
bound to occur if someone is playing the same sport most of the year, especially in a sport like 
baseball where shoulders and elbows are strained constantly. Limiting the amount of time in a 
year a child can spend devoted to one sport could help alleviate this issue. “Teenage athletes who 
play in multiple leagues and participate in sports year-round tend to overuse the same muscles 
and joints. The overuse could lead to serious injuries such as dislocated shoulders, torn anterior 
cruciate ligaments and ligaments usually seen more often in adults, said Dr. Thomas 
DeBerardino, an associate professor of orthopedics at the University of Connecticut Health 
Center.” (Gupta).

Sports Injuries (AC)
Sports injuries are becoming more and more of a problem in present days fast paced competitive 
environment of the sport world. This high level of competitiveness is seen ranging from as early 
on as grade school and to as late as the professionals. These lifelong devastating injuries can be 
seen in all sports including football, basketball, baseball, cheer leading, lacrosse, soccer and even 
Track & Field. These injuries usually start in the form of and acute injury which is an injury that 
occurs suddenly during performance such as a sprained ankle, strained back, fracture hand etc. 
Signs of these types of injuries according to arthritis.com are “sudden, severe pain, swelling,
inability to place weight on a lower limb, extreme tenderness in an upper limb, inability to move a joint through full range of motion, extreme limb weakness, visible dislocation, break of a bone”(arthritis.com).

Another serious type of injuries is known as chronic injuries, which result from one area of the body while playing a sport or exercising over a long period. Signs of this type of injury according to arthritis.com include, pain when performing activities, a dull ache when at rest, and swelling. These types of injuries I feel are becoming more common because of athletes drive to be the best and are taught the “no pain, no game” type of mental toughness throughout childhood. Children are discouraged from speaking up because of the intense competition. According to Dr. Andrews of ESPN.com, he states that the pressures of competition may discourage some children from peaking up when they have pain. Kids often perceive that they may be viewed as less than tough, something along the lines of less playing time along with disapproval from coaches, teammates or even parents. This translates all the way to the pros when players might not speak up or play through the play to solidify a roster spot and guaranteed money.

These Injuries can occur in different ways one of the more common today, than ever before are playing sports year round. “Teenage athletes who play in multiple leagues and participate in sports year-round tend to overuse the same muscles and joints. The overuse could lead to serious injuries such as dislocated shoulders, torn anterior cruciate ligaments and ligaments usually seen more often in adults, said Dr. Thomas DeBerardino, an associate professor of orthopedics at the University of Connecticut Health Center.”(blogs.cnn.com). He calls the wave of injuries a silent epidemic because these kids and their yearlong schedules on multiple teams are wearing down their ligaments, particularly in the shoulders and the knees. This year round schedule is what causes the adult like injuries such as ACL ligament tears in soccer and females in general. According to sports medicine.com “The ACL (anterior cruciate ligament (ACL) is one of four major ligaments that provide stability to the knee joint. These fibrous bands attach bone to bone and help control excessive motion of the knee joint and keep the lower leg from sliding too far forward. Of the four major ligaments of the knee, ACL injuries are the most common. The majority of ACL repairs that occur each year are done on young athletes (under age 25) and female athletes.”(sports medicine.com). Another common surgery is baseball’s Tommy john surgery. This procedure according to wikipedia.com is a “surgical procedure in which a ligament in the medial elbow is replaced with a tendon from elsewhere in the body (often from the forearm, hamstring, knee, or foot of the patient).” I feel that these injuries are more often occurring because of children’s fear to speak up and also there drive to be the best in playing in leagues all year long putting a lot of strain on their body. This can particularly be seen in baseball because of the constant stress you are putting on your arm each day especially for pitchers. This overuse of your throwing shoulder could lead to a serious injury at a young age which could have long term effects ad drastically affect the player’s career.

Concussions (AC)
When injured players need to time to rest, they also need to give their bodies down time in the offseason to try and avoid injuries. One of the most serious and devastating injuries seen in competitive sports today are concussions. Concussions are types of traumatic brain injuries. It is “Frequently defined as a head injury with a temporary loss of brain function, concussion can
cause a variety of physical, cognitive, and emotional symptoms.” The physical effects of concussions can cause headaches. Headache is the most common MTBI symptom. Other symptoms include dizziness, vomiting, nausea, lack of motor coordination, difficulty balancing, or other problems with movement or sensation. Visual symptoms include light sensitivity, seeing bright lights, blurred vision, and double vision. Tinnitus, or a ringing in the ears, is also commonly reported. Cognitive and emotional effects are listed by wikipedia.com as “Cognitive symptoms include confusion, disorientation, and difficulty focusing attention.” (Wikipedia) Loss of consciousness may occur but is not necessarily correlated with the severity of the concussion if it is brief. Post, in which the person cannot remember events leading up to the injury or after it, or both, is a hallmark of concussion. Confusion, another concussion hallmark, may be present immediately or may develop over several minutes”.

This is one of the main problems in the NFL today, players are getting minor concussions and playing through them because they do not have an idea of the substantial impact it can have on their future. This is why the new policy, issued by NFL commissioner Roger Goodell, expands the list of symptoms that would preclude a player from returning to a game or practice on the same day. The symptoms include: Being unable to remember assignments or plays or other signs of confusion gap in memory, abnormal neurological examination, including abnormal papillary response, persistent dizziness or vertigo, and abnormal balance on sideline testing. One of the main reasons the NFL tightened up its policy is because of the impact of allowing players to play with these types of injuries were having on players. Take for example Philadelphia Eagles running back Brian Westbrook, he sustained a concussion in which occurred when he took a knee to the head and briefly lost consciousness on October 26th 2009. He was cleared to play in a game three weeks later in which he suffered a second concussion and was sidelined for the rest of the season due to lingering headaches and blurred vision from these two head shots that make sports like the NFL so dangerous.

Concussions are becoming more of a serious problem each year according to nflinjury.com, “An NFL player can suffer hundreds of major and minor concussions throughout their career”. It has been concluded that the effects of these major and minor injuries can have devastating effects later on in the player’s life. An average defensive back can deliver a blow with up to 1600lbs of tackling force. This is why the helmet to helmet hit is treated with such force from the league. With a helmet to helmet hit the brain is slammed against the inside of the skull, both of this happening on the impact side of the brain. Then nerve axons are broken or twisted becoming impeded. The immediate impacts of this type of concussion are confusion, amnesia, headache, dizziness, ringing in the ears, nausea or vomiting, slurred speech, and fatigue. Another problem according to nflinjury.com is chronic traumatic encephalopathy, “which is where repetitive blows to the head have been shown to cause over production of tau proteins in nerve cells. The effects can manifest years or decades after harmful activity ceases. Tau proteins are overcrowded and become tangled without free tau proteins cell structures degrade and the cell dies”. Some of the long term symptoms of concussions are memory problems, concentration problems, sensitivity to light, sensitivity to noise, sleep disturbance and depression. These lingering effects and also that dementia related occurrences are nineteen times greater in Ex-NFL players aging thirty-four and five times greater in Ex-NFL players aging fifty and above.
According to Dr. James Kelly of the J.A.M.A, “The path physiology of concussion is less well understood than that of severe head injury, and it has received less attention as a result. We describe a high school football player who died of diffuse brain swelling after repeated concussions without loss of consciousness. Guidelines have been developed to reduce the risk of such serious catastrophic outcomes after concussion in sports.” Incidents like these really bring into awareness the severity of this type of injury and why it is so important to demonstrate, instruct, teach and encourage proper technique at all levels of athletics cause these injuries can happen to anybody at any time. There has never been a more important time for player protection both now and in the future. When leading with your helmet you are putting yourself and your opponent in harm’s way. By lowering your helmet you are aligning your spine, leaving no neck support and if hit the wrong way could lead to paralysis. This was the devastating case of Rutgers own Eric LeGrand. LeGrand a football player for the Rutgers football team who just for one brief moment on a routine kickoff lead with his helmet suffering a spinal cord injury and paralysis. LeGrand is recovering at a local hospital and has felt sensation in his hands which is remarkable. Injuries like this are types of injuries you had to see and hope never happen, which is why in such a competitive sports environment that the pertinent leagues provide players the opportunity and knowledge to stay safe. I think players sometimes play through injuries particularly concussions because they are unaware of the long term effects that they could have on themselves. It could mean the early end to a great career, or in some cases could be life threatening.

Injury Awareness (AC)
In all sports injuries can take control and have detrimental effects to your career if not treated properly. Player awareness from grade school through high school to college and eventually the professional level is extremely important. Given the knowledge at a young age about having to give your body a break, so you do not tear a ligament or the severity a concussion can have if not treated properly. Education is one of the key aspects I think in taking control of this problem. This can be seen in the National Football League’s new concussion policy they window for error is much smaller leaving much less to chance. This also made the players more aware, which is part of the reason of them arguing for more benefits in this new collective bargaining agreement. Injuries will always be a part of sports and the game, how we handle them however can ultimately lead to whether you have a successful career or an injury plagued one that is forced to end early. Injury effects can be short term in some cases, such as torn ligaments, broken bones, lacerations. However in others the long term effects can be extremely detrimental to one’s career/health such as concussions and spinal injuries, the damage that these two types of injuries can cause could even be fatal. No matter the injury, athlete awareness is more important than ever especially at a young age when you are still developing and growing.

The Service Project: Waiver Proposal
Our service project was to write a letter to NJSIAA proposing a waiver about concussions that must be signed by the parent coach and athlete, prior to beginning the season. In our research we found that a waiver was actually created in 2010 by the NJSIAA and can be found at http://www.njsiaa.org/NJSIAA/10ConcussionConsentForm.pdf. So for our service project we wanted to amend this consent form to add common sport related injuries to the specific sport and also to make sure that athlete education on injuries is completed. For athlete education besides
concussions we feel it is important to cover high risk injuries in the athlete’s related field. This being injuries such as anterior cruciate ligament tears in soccer, shoulder and elbow injuries in baseball, ankle sprains/fractures in basketball etc. We feel it is important for athletes to be educated with regards to these injuries for especially in high school there is a lot of pressure everywhere. The pressure can come from family, friends, coaches and teammates. This can sometimes cause athletes to return early to try and participate because they do not realize that the consequences of doing so, will only set them back further and could affect their future career. For our service project we wanted to try proposing to the NJSIAA on adding to the concussion waiver to include sport injury awareness education on more than just concussions. This education is invaluable information for athlete’s coaches and parents.

Many injuries suffered while participating in specific sports are common only to that sport or sports that involve similar body movements or exertion. For example, not many athletes injure their elbow tendons while playing soccer but many do while playing tennis or baseball. Certain sports have injuries that are common amongst participants and those injuries should be taken more seriously than in other instances. If a baseball pitcher voices concern about shoulder or elbow discomfort, the coaches should not take the matter lightly or try to convince an athlete to “gut out” the pain. An injury in a heavily used area of the body could not only cause further injury to the affected area, but also injure other areas of the body by overcompensating those parts of the body. These injuries could also potentially risk the future health of the athlete, as well as putting their possible future athletic career in jeopardy.

Due to the culture of many sports, injuries are often under reported by athletes or not given the full medical attention they need. Many athletes feel as if they are letting their teammates and coaches down by complaining about injuries and can even alienate themselves from the team by doing so. Often times, coaches establish a culture of toughness and grittiness on the team by ridiculing injuries and those who are often injured. Sometimes this can make a team rise above their expected level of play and other times it can have devastating effects.

One example of the effects coaching can have on athletes getting injured is a case at East St. Louis high school in St. Louis, Missouri. The school’s football coach is accused of establishing a win-at-all-cost mentality on the team which resulted in many injuries including one player breaking his neck, another breaking his collarbone and another having seizures and suffering a stroke due to brain injuries. The teenagers who broke their neck and collarbone were resulted from the coach ordering them to tackle each other without padding and the brain injury occurred from the coach ordering a player to return to the field after he complained of a headache and showed concussion like symptoms. (Daily Illini). Another example of gross misconduct of coaches occurred at South River high school in Maryland this summer. A player suffered a serious back injury in practice and was instructed to continue practicing with the injury. Days later he was examined and diagnosed with a broken back with three separate fractures. The player had also suffered a back injury in a game in 2009. (Eye on Annapolis) Examples like these are severe but the attitudes in this case exist all over the country across many different sports.
Cover Letter to NJSIAA

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April 21, 2011

To Whom it May Concern,

We are currently students at Rutgers University enrolled in the School of Environmental and Biological Sciences completing a project for our Ethics in Science course. Attached we have included our final project for the course, a study on sports injuries and their effects long and short term. In the paper, we reference the concussion information form that the NJSIAA began to include for all sports starting in March 2010. We feel this is a great step towards protecting young athletes from traumatic injuries and the effects they could have later in life. Many sports have injuries that are participation-related and have a high percentage of occurring each year, such as fractures, ligament tears, sprains as well as previously mentioned concussions. We also would like to propose an amendment to this form, which would provide high school athletes with more information on injuries that could protect their future athletic careers.

Through our research, we have found that athletes suffer similar injuries while participating in the same sport, especially during a sport that requires year round participation. We have found that many injuries are treated properly after they occur, however athletes sometimes are misinformed or are pressured into returning too soon from an injury which can potentially cause further injury. Returning too soon from an injury can have substantial impact on the athlete’s career and possibly affect them the rest of their lives. For our project, our proposal is to include injury awareness education to be included in the current concussion information form distributed prior to a sports season.

Thank you for your time,

Michael Broadbent          Anthony Chrzanowski
Editorials

Injuries in sports are sometimes unavoidable, a necessary evil that comes with participation in physical activity. Anytime the body is exerted there is risk of injury, even to the most fit and well-trained of athletes. Injuries in youth athletics are a problem that regularly occurs. There are approximately 30 million teens and children who participate in organized sports in the US and there are about 3 million injuries that occur amongst them each year. Contact sports like wrestling and football have higher injury rates and most injuries that occur are simple strains and sprains. Of these 3 million injuries to young athletes, more than 775,000 require hospital treatment. Over sixty-percent of all injuries in organized sports happen during practices, a time where conditions are supposed to be controlled most. One of the main causes for injuries in youth athletics is overexertion or overuse in a sport. Coaches are sometimes unaware or ignore the signs of an athlete being overworked in a sport. Either way, coaches need to be held responsible if their actions (or lack of action) lead to an injury of an athlete.

Coaches sometimes focus more on getting a competitive advantage over an athlete’s safety during game situations. Athletes also feel pressured to “gut it out” and play through injuries. Certain injuries can be played through, such as strains and cuts but others need to be taken more seriously. Concussions are one type of injury that seems to be not taken seriously by some coaches and athletes. Over 15 percent of all youth football players who sustain concussions return to the field the same day. This is an alarming statistic considering the main cause of death in sports is head related injuries. Sports injuries are a doubled sided issue, the athletes should not feel forced to compete through injury and the coaches should attend to their athletes properly and have their best interests in mind. With sports coaching becoming more and more competitive, coaches are feeling more pressure to win than ever. But this pressure to win should never compromise the health of their athletes. Coaches who do knowingly compromise the health of their players should be punished through fines or by losing their jobs.

Sincerely,

Michael Broadbent

Sports injuries are becoming more and more of a problem in today’s fast paced competitive environment of the sports world. This high level of competitiveness is seen ranging from as early on as grade school and as late as the professional level. These potential lifelong, career threatening injuries can be seen in all sports including football, basketball, baseball, cheerleading, lacrosse, soccer and even track & field.

In today’s competitive sports environment now more than ever athletes are pressured to practice the same sport year round pushing their bodies to the max. With no down time Dr. Thomas DeBerardino an associate professor of orthopedics at the University of Connecticut Health Center says “athletes who do not give their bodies a rest and participate in multiple leagues year round tend to overuse the same muscles and joints. This overuse could lead to serious injuries such as dislocated shoulders, torn anterior cruciate ligaments, and other ligaments”. Athletes are being somewhat forced to participate in year round activities to secure starting positions or even just a spot on the team. This pressure can come from fellow teammates,
coaches, or in some cases even parents. In some cases this pressure can cause players to play through injuries and set themselves even further back in the recovery process and in severe cases cause lifelong damages. One of the most serious and devastating injuries seen in competitive sports today are concussions. Concussions are a type of traumatic brain injury which can cause headaches, dizziness, vomiting, nausea, lack of motor coordination, and other problems with movement or sensation. Concussions along with the other types of serious injuries such as ACL or ligament tears, fractures and even serious sprains can be career threatening if not treated properly or given the proper time to heal.

A way to try and prevent this overuse or possible harmful effects of injuries is education on injury awareness. Starting at a young age in all sports the athletes should be educated on the possible harmful effects of the harmful effects of injuries related to their sport. They should also be given the assurance to not feel pressure of sitting out because they are injured and the possible effects of playing through an injury or coming back to soon. Another possible prevention especially at a young age is to have a waiver of some variability between athletes their parents and coaches to guarantee this education and commitment to the athletes success. Self-assurance is guaranteed and if it is overlooked or ignored than some sort of penalty will be enforced by the NJISAA depending on the situation.

In conclusion injuries are going to occur no matter how hard you try to prevent them. However the education on how the injury can affect you if not treated properly or not given enough time to heal is second to none especially at a young age. If taught properly at a young age it is invaluable information that can be used throughout the athlete’s career.

Sincerely,

Anthony Chrzanowski

References


http://www.youtube.com/watch?v=-3hXYg73IPs&feature=related  (presentation)