



**Statement of Kevin Margarucci, Manager Player Safety of USA Hockey
Before The House Committee on Energy and Commerce
Subcommittee on Oversight and Investigations**

May 13, 2016

Introduction:

Thank you Chairman Murphy, ranking member DeGette and distinguished members of the sub-committee. It is a privilege to be here with you today to discuss an issue that is the top priority every day at USA Hockey and that is the safety of our participants. USA Hockey has long been a leader in safety among youth sports entities. Safety in the area of concussion prevention, education and research is no different. USA Hockey has incorporated many resources and research studies to develop rule changes, create educational materials and focus on age-appropriate athlete development. All of these have athlete safety in mind and are preventative concussion measures in our sport.

Body Checking Rule Change:

In 2011, the age level for legal body checking in games was increased from the 12U age group to the 14U age group. This decision was made based on multiple scientific research studies that concluded: Among 11-12 year-old ice hockey players, playing in a league in which body checking is permitted compared with playing in a league in which body checking is not permitted was associated with a 3-fold increased risk of all game-related injuries and the categories of concussion, severe injury, and severe concussion.

It is also known that the 11- year-old brain is more easily concussed, takes longer to recover from a concussion, and is more susceptible to more serious long-term effects if they suffer a concussion. In addition it is also known that the 11-year-old brain has not fully developed the ability to anticipate while multitasking. The ability to anticipate being hit is 50% of avoiding injury.

USA Hockey's Official Rules allows that any local governing body may prohibit body checking at any classification under Rule 604a.

Playing Rules:

Based on injury epidemiology we look at multiple factors: who's at risk, how do they get injured, and the severity of those injuries. Concussions in hockey are caused by hits to the head, unanticipated open ice collisions and illegal play. This information helps us create the standard of play in the game of hockey. More severe penalties have been put in place to decrease the likelihood of these occurrences to prevent injury including concussion. Specific penalties leading to concussion are head contact, checking from behind, boarding, and charging. All these infractions carry a penalty of the following nature:

1. A minor plus a misconduct or a major plus a game misconduct
2. A major plus a game misconduct shall be assessed when the opponent is injured due to the infraction
3. A match penalty for attempt to injure or deliberate injury may also be assessed.

The following is from the USA Hockey Official Rules:

Standard of Play and Rule Emphasis – Body Checking

Through the standard of rules enforcement, our game will continue to allow the opportunity for improved skill development and a more positive hockey environment for all participants. This initiative will result in greater emphasis on skating, puck possession and the proper use of the body to establish position and legally gain a competitive advantage. The goal of the enforcement standard is to create an environment that enhances player skill development by reducing intimidating infractions designed to punish the opponent. This standard is designed to improve the proper skill of legal body checking or contact at all levels of play and will not remove the physical component from the game. A hard body check or using body contact/position (Body Contact categories) to gain a competitive advantage over the opponent should not be penalized as long as it is performed within the rules. The focus of the body check should be to separate the opponent from the puck.

The principles of this enforcement standard include the following:

- The purpose of a body check is to separate the opponent from the puck.
- Only the trunk (hips to shoulders) of the body shall be used to deliver a body check.

- The check must be delivered to the trunk (hips to shoulders) and directly from in front or the side of the opponent.
- Players who use their physical skills and/or anticipation and have a positional advantage shall not lose that advantage provided they use their body to check the opponent within the rules.
- Players will be held accountable for acts of an intimidating or dangerous nature.

Enforcement Standard – These penalties are to be called with very strict enforcement.

BODY CHECKING (Body Contact Categories) Rule 604

A player cannot deliver a body check to any player while participating in a Body Contact category.

Examples include:

- Makes deliberate physical contact with an opponent with no effort to legally play the puck
- Uses overt hip, shoulder or arm contact with the opponent to physically force them off the puck.
- Physically impedes the progress of the opponent with hips, shoulders or torso without establishing legal body contact and having no intent of playing the puck.

BOARDING, Rule 603

A player cannot commit any infraction, including body checking, for the purpose of intimidation or punishment that causes their opponent to go violently or excessively into the boards.

Examples include:

- Accelerating through the check to a player who is in a vulnerable position off of the boards that causes them to go violently into the boards.
- Driving an opponent excessively into the boards with no focus on or intent to play the puck.
- Any other infraction (tripping, cross-checking, charging etc.) that causes the opponent to go violently and excessively into the boards.

CHARGING, Rule 607

A player cannot take more than two fast strides or travel an excessive distance to accelerate through a body check for the purpose of punishing the opponent. Examples include:

- Running or jumping into the opponent to deliver a check.

- Accelerating through a check for the purpose of punishing the opponent.
- Skating a great distance for the purpose of delivering a check with excessive force.

CHECKING FROM BEHIND, Rule 608

A player cannot deliver a body check to an opponent directly from behind, or diagonally from behind. The onus is on the player delivering the check to not hit from behind. Examples include:

- Body checking or pushing an opponent from behind directly into the boards or goal frame or in open ice.

HEAD CONTACT, Rule 620

A player cannot contact an opponent in the head, face or neck, including with the stick or any part of the players body or equipment. The onus is on the player delivering the check, regardless as to size differential, to not make contact in the head/neck area of the opponent. Examples include:

- A body check delivered with any part of the body that makes direct contact with the head or neck area.
- The use of the forearm or hands to deliver a check to the head or neck area of the opponent.

ROUGHING

A player cannot use the hands, stick or extension of the arms to body check an opponent or deliver an avoidable body check to a player who is not in possession and control of the puck. Examples include:

- Intentionally playing the body of an opponent who does not have possession and control of the puck.
- Delivering an avoidable check to a player who has already relinquished control of the puck by a pass or shot. This is oftentimes referred to as “finishing” the check.
- Any avoidable contact after the whistle shall be penalized strictly, including scrum situations around the goal or along the boards. Officials are instructed to assess an additional penalty to those players acting as the aggressor or who instigates any contact after the whistle.

SUMMARY

All USA Hockey members must demonstrate awareness and support for the application, spirit and the respect of the rules in order for continued improvement in the game of hockey. At the same time, it is important to remember that:

- A player is entitled to use proper body position and body contact in all age classifications in order to gain a

competitive advantage.

- Players are allowed to compete for body position using their strength and balance in front of the goal or along the boards.

- In Body Checking categories, the focus of the body check must be to separate the opponent from the puck.

The American Development Model (ADM)

The ADM was initiated in 2009 by USA Hockey. The ADM is an age-appropriate athlete development model created for the sport of ice hockey based on research and principles in the field of Long Term Athlete Development (LTAD). This model incorporates age appropriate training and skill development for hockey players at all levels 8U, 10U, 12U, 14U 16U, and 18U. Each level builds upon the skills and concepts of the previous level to ensure that athletes are being taught the appropriate skills they need and the appropriate time in their development. These skills and concepts at each age level are tailored for in-season, off-season, on-ice and off-ice training.

Coaching Education Program (CEP):

USA Hockey's Coaching Education Program embeds the concept of the ADM into the online educational modules. These modules are required for all USA Hockey registered coaches and teach the age appropriate concepts and skill development. In addition to hockey skill development, each age appropriate module has concussion education and awareness training. This material is presented by our Chief Medical and Safety Officer, Dr. Michael Stuart. After viewing the video portion of the concussion module there is a quiz which must be passed before moving on to the next section. This material is further enhanced with the CEP's in person Level 1-5 Coaching Clinics.

Another significant educational resource for coaches that ties into injury prevention is the publication, *"Checking the Right Way for Youth Hockey."* The core of this program is the gradual introduction of checking skills. In line with the ADM, the foundations of these skills are attitude, ethics and respect.

Starting with the 8U through 10U, players should learn and develop skills of: 1) positioning and angling 2) stick checking and 3) body contact.

Body checking skills are phased in during the 12U level and progressed to the 14U-18U levels where they will play body checking hockey. This age-appropriate program is developed for on-ice skill acquisition as well as off-ice training.

USA Hockey Concussion Education Materials:

The following programs have been initiated by USA Hockey as important safety initiatives for prevention and education in the area of concussion. All material is accessible at USAHockey.com under safety:

1. *Heads Up, Don't Duck: 1995.* This program was initiated to teach coaches, athletes and parents the importance of playing the game of hockey with your head up to reduce the incidence of head/neck injuries.
2. *Heads Up Hockey: 2010.* This program expanded on the Heads Up, Don't Duck initiative and created a program guide with messaging including 1) the basic principles on how to give and take a body check while keeping your head out of it, 2) do not check from behind and 3) to always wear a properly fitted certified hockey helmet. The motto Heads Up, Don't Duck is at the forefront of the drills and educational materials included in this program. This program includes an educational section on identifying and managing a player with a suspected concussion.
3. *Resource Guide for Injury Management 2016:* This guide is a resource in all of our coaching education modules to further the recognition and management for concussions

USA Hockey Concussion Management Program:

Below is the minimum concussion protocol to be followed by all USA Hockey programs.



2015 Concussion Management Program

Michael Stuart MD

Alan Ashare MD

The standard of care for current medical practice and the law in most states requires that any athlete with a *suspected* concussion is *immediately removed from play*.

- A concussion is a traumatic brain injury- ***there is no such thing as a minor brain injury.***
- A player does not have to be “*knocked-out*” to have a concussion- ***less than 10% of players actually lose consciousness.***
- A concussion can result from a blow to head, neck or body.
- Concussions often occur to players who don’t have or just released the puck, from open-ice hits, unanticipated hits and illegal collisions.
- The youth hockey player’s brain is more susceptible to concussion.
- In addition, the concussion in a young athlete may be harder to diagnosis, takes longer to recover, is more likely to have a recurrence and can be associated with serious long-term effects.
- Treatment is individualized and it is impossible to predict when the athlete will be allowed to return to play- ***there is no standard timetable.***

A player with any symptoms or signs; disorientation; impaired memory, concentration, balance or recall has a concussion.

Remember these steps:

1. Remove immediately from play (training, practice or game)
2. Inform the player’s coach/parents
3. Refer the athlete to a qualified health-care professional
4. Initial treatment requires physical and cognitive rest
5. The athlete begins a graded exertion and schoolwork protocol.
6. Medical clearance is required for return to play

Diagnosis

Players, coaches, parents and health care providers should be able to recognize the symptoms and signs of a concussion:

Symptoms

- Headache
- Nausea
- Poor balance
- Dizziness
- Double vision
- Blurred vision
- Poor concentration
- Impaired memory
- Light Sensitivity
- Noise Sensitivity
- Sluggish
- Foggy
- Groggy
- Confusion

Signs

- Appears dazed or stunned
- Confused about assignment
- Moves clumsily
- Answers slowly
- Behavior or personality changes
- Unsure of score or opponent
- Can't recall events after the injury
- Can't recall events before the injury

Management Protocol

1. If the player is unresponsive- call for help & dial 911
2. If the athlete is *not breathing*: start CPR
 - ✓ DO NOT move the athlete
 - ✓ DO NOT remove the helmet
 - ✓ DO NOT rush the evaluation
3. Assume a neck injury *until proven otherwise*
 - ✓ DO NOT have the athlete sit up or skate off until you have determined:
 - no neck pain
 - no pain, numbness or tingling
 - no midline neck tenderness
 - normal muscle strength
 - normal sensation to light touch

4. If the athlete is conscious & responsive without symptoms or signs of a neck injury...
 - help the player off the ice to the locker room
 - perform an evaluation
 - do not leave them alone

5. Evaluate the player in the locker room:
 - Ask about concussion *symptoms* (How do you feel?)
 - Examine for *signs*
 - Verify *orientation* (What day is it?, What is the score?, Who are we playing?)
 - Check *immediate memory* (Repeat a list of 5 words)
 - Test *concentration* (List the months in reverse order)
 - Test *balance* (have the players stand on both legs, one leg and one foot in front of the other with their eyes closed for 20 seconds)
 - Check *delayed recall* (repeat the previous 5 words after 5-10 minutes)

6. A player with any symptoms or signs, disorientation, impaired memory, concentration, balance or recall has a concussion.

“When in doubt, sit them out”

- Remove immediately from play (training, practice or game)
 - Inform the player’s coach/parents
 - Refer the athlete to a qualified health-care professional
 - Medical clearance is required for return to play
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7. If any of the signs or symptoms listed below develop or worsen: go to the hospital emergency department or dial **911**.
 - Severe throbbing headache
 - Dizziness or loss of coordination
 - Memory loss or confusion
 - Ringing in the ears (tinnitus)
 - Blurred or double vision
 - Unequal pupil size
 - No pupil reaction to light
 - Nausea and/or vomiting
 - Slurred speech
 - Convulsions or tremors
 - Sleepiness or grogginess
 - Clear fluid running from the nose and/or ears
 - Numbness or paralysis (partial or complete)
 - Difficulty in being aroused

8. An athlete who is *symptomatic* after a concussion initially requires **physical** and **cognitive rest**.

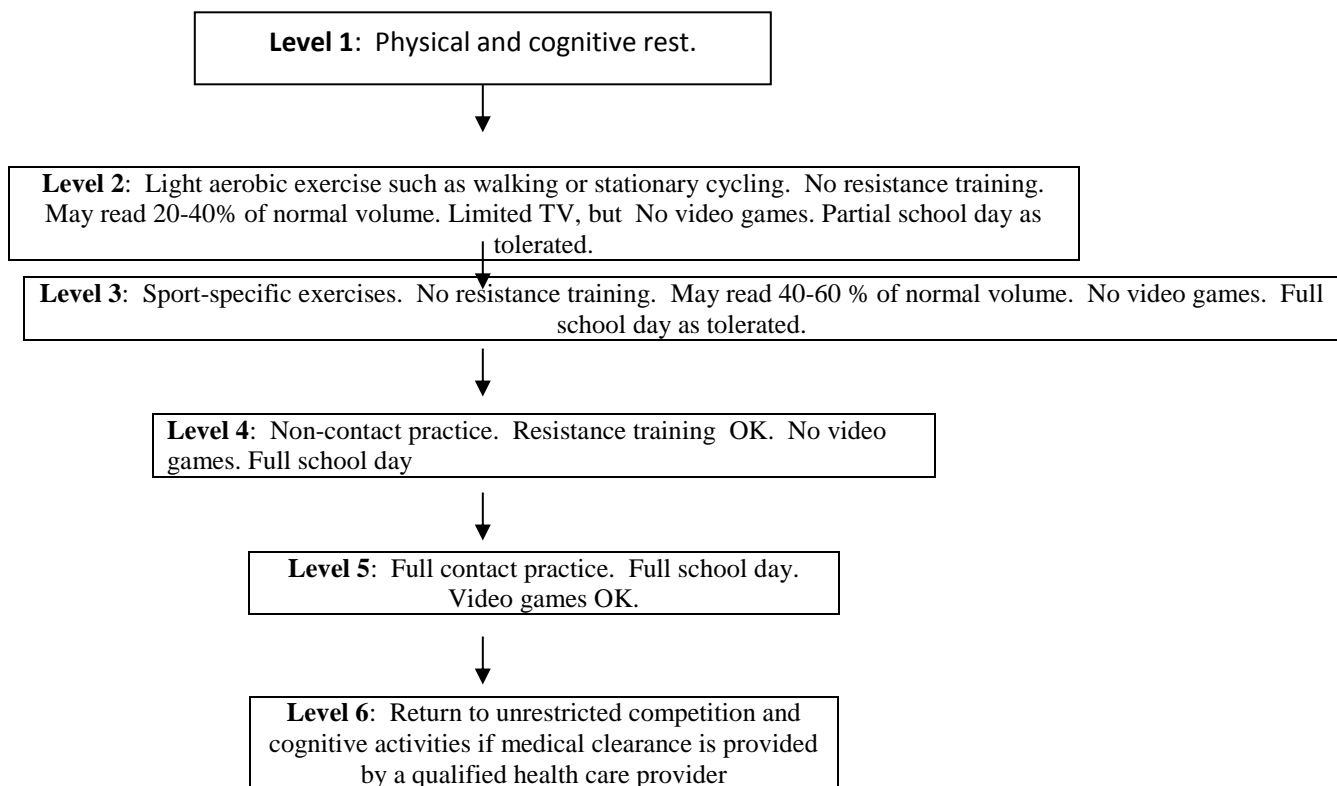
- A concussed athlete should not participate in physical activity, return to school, play video games or text message if he or she is having symptoms at rest.
- Concussion symptoms & signs *evolve over time*- the severity of the injury and estimated time to return to play are unpredictable.

9. A qualified health care provider guides the athlete through a **Functional Return to School/Play protocol**.

USA Hockey Post-Concussion Functional Return to School/Play Protocol

This protocol should not be initiated until after the athlete has been released to participate in the functional return to play protocol by a qualified health care provider. ***If symptoms worsen during a functional test, the test should be stopped and the athlete monitored until symptoms resolve.*** No further functional testing should be performed that day. Functional testing may resume the following day at the previously asymptomatic level if the athlete remains asymptomatic. If symptoms do not resolve, appropriate medical attention should be obtained.

After each phase of functional testing, the presence of post-concussive symptoms should be assessed and progression to the next phase of functional testing will require the absence of post-concussive symptoms. Each phase requires **a minimum of 1 day** before progressing to the next phase.



Additional Educational Material:

- USA Hockey sends out regular electronic newsletters to its members that periodically include information on concussion awareness and education.
- *USA Hockey Magazine* is a monthly publication mailed to USA Hockey members. It has provided information on numerous safety issues, including concussion recognition and prevention.
- USA Hockey is creating a safety newsletter that will be distributed to members (including players, parents, coaches, officials) focusing solely on issues related to safety, both on and off the ice. The first issue will be distributed this fall.

Future Directions:

USA Hockey is looking at expanding non-checking options for players that play in the body checking age groups.

USA Hockey took part in a Youth Sport Safety Governing Bodies Meeting over the last two years. This meeting was led by the Korey Stringer Institute. The end result of this meeting was to produce a consensus statement on best practices for safety in youth sports. Concussion was part of this discussion. This document can provide a youth association a blue print for implementing these practices within their governing body's structure and guidelines. The title of this document is: *"The Inter-Association Task Force for Youth Sports Emergency Health and Safety: Best Practices Recommendations"*

USA Hockey is piloting a program next season with a select group of our associations. This is an online software based health and safety platform. This will allow us to have a better look into the types of injuries, including concussion, which our athletes at different levels of play are reporting. The platform allows us to gather de-identified data to look at injury rates and trends to make more informed decisions in regards to rule changes etc.

USA Hockey Research Efforts:

The USA Hockey Foundation has awarded grants in the area of ice hockey injury research and prevention. The Mayo Clinic in Rochester, Minnesota is currently involved in concussion research made

possible through one of these grants. The study is looking into identifying objective measures to identify athletes who may have suffered a concussion by investigating blood biomarkers, sideline EEG results, and the utilization of the King Devick Test.

USA Hockey has been a major sponsor for the Mayo Clinic Sports Medicine Center's Ice Hockey Summit I/II: Action on Concussion (2010, 2013). There is a planned Ice Hockey Summit III: Action on Concussion for the fall of 2017.



**Summary of Kevin Margarucci, Manager Player Safety of USA Hockey
Before The House Committee on Energy and Commerce
Subcommittee on Oversight and Investigations**

Introduction:

USA Hockey has been a leader in safety among youth sports entities and has always had safety as its top priority.

- Safety and Protective Equipment Committee: This committee began some 40 years ago and is chaired by Dr. Alan Ashare from St. Elizabeth's Medical Center in Boston.
- Chief Medical and Safety Officer: Dr. Michael Stuart from the Mayo Clinic in Rochester, Minnesota.
- Created a Manager of Player Safety position and hired in 2015.
- USA Hockey Foundation commitment to funding research on injury prevention
- USA Hockey sponsorship of Ice Hockey Summit: Action on Concussion

Prevention:

- USA Hockey playing rules enforcement
- USA Hockey Standard of Play and Rules Emphasis: Body Checking
- USA Hockey rule change to increase the age for legal body checking
- Coaching Education
- American Development Model

Diagnosis:

- Coaching certification (mandatory to include concussion education)
- USA Hockey materials and resources for players, parents, coaches
- Mayo Clinic Research on finding objective testing for concussions

Treatment:

- USA Hockey Concussion Management Program