



Playing safer

Last week's summit on hockey concussions at the Mayo Clinic resulted in several recommendations to help reduce brain injuries

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Player safety is a top priority for Minnesota Hockey, USA Hockey, Hockey Canada and the International Ice Hockey Federation. Because of growing concerns and reports of the increasing number of serious injuries in hockey, mostly brain injuries, Michael Stuart, MD, and Aynsley Smith, RN, Ph.D., from the Mayo Clinic organized and hosted the 2010 Ice Hockey Summit: Action on Concussion in Rochester, Minn., on Oct. 19-20.

The purpose of the event was to present scientific data and identify action items for recommendation to the national governing bodies of hockey. These action items were prioritized by the attendees based on extensive scientific research on what happens when players receive blows to their heads which may or may not result in a concussion (brain injury).

The Summit presenters consisted of leading concussion experts in a wide range of specialties, including health care professionals, helmet manufactures, a former NHL player whose career was ended by multiple concussions, an NHL official and numerous representatives of all governing bodies of hockey. The most recent data from Minnesota Hockey's Hockey Education Program (HEP) was also presented.

It would be a challenge to summarize the entire event in this article, but there were a number of findings relevant to share.

1) The science of brain injury is in its early stages. A concussion usually has no precise medical findings, unlike a broken bone or torn ligaments. The diagnostic tools all need to be used together as no one tool or test is definitive and new tools need to be developed. However, prevention is most important!

2) The "Return to Play" policies currently in use most probably allow insufficient time for healing. Research shows that even when the player is asymptomatic for several days, it is often weeks before brain functions have returned to normal and the brain is healed. In the past it was suggested that it was OK to return to play 3-5 days after the symptoms had subsided. The evidence indicates that 30 or more days may be needed for healing.

3) A player is at far greater risk of increased brain injury if he or she sustains a second injury before the first one has healed completely.

4) The pressures from themselves, other players, parents and coaches to return to play are a problem for the concussed athlete. Researchers suspect that there are significant numbers of unreported concussions, especially at the professional and college levels. More training and education is needed for all participants.

5) Helmets do a wonderful job at preventing skull fractures, lacerations and contusions, and

perform very well for the purpose they are designed for. In regard to concussions, however, there is no evidence that they play a role in reducing the concussions that are caused by rapid head motion. One researcher was quoted as saying that in a hit to the head "the helmet is just along for the ride." Helmets are designed for linear blows and most concussions are a result of rotational shear forces. Continued helmet research, however, is encouraged.

6) Mouth guards, once thought to reduce the severity of concussions, have shown to have minimal benefit in concussion prevention. More research is also needed on newer mouth guard designs.

7) In the NHL, 75 percent of known concussions occur when the player has just passed the puck or was not in possession of it. Players at all levels need to learn more situational awareness and be prepared for contact at all times.

8) Younger players' undeveloped brains are more susceptible to brain injury than mature players. Younger players recover more slowly from concussion and some may never regain their previous brain function potential. The current thinking is early 20's or younger define developing age frames.

9) The long-term effects of multiple concussions may not show up for many years, but when or if they do, the consequences may include permanent disability, cognitive defects, dementia and early death.

At the end of the two-day event, the participants all gathered to prioritize the next steps and make unified recommendations to the governing bodies. The recommendations include:

1) Re-write the head contact rules so that all head contact, incidental or intentional, will result in a minor penalty and the referee does not have discretion except to increase the penalty to a major of game misconduct based on the severity of the contact.

2) Eliminate "legal body checking in games" from the PeeWee boys' level. A Canadian study has shown a 50 percent decrease in injuries for PeeWee-age players who are not allowed to check. Body contact is still allowed. Checking would begin at Bantams.

3) Develop standardized and progressive training and educational materials for coaches, players and parents that will help players move through youth hockey safely and be better prepared for checking at the Bantam level. The content is available and will involve piecing together programs such as HEP, ThinkFirst, Play it Cool and others so ideally there can be uniformity and enforcement.

4) Continue to study brain injuries and develop diagnostic tools to assess each injury.

5) Eliminate fighting from all levels of hockey. The NHL has already rejected this recommendation but USA and Canadian junior leagues should take steps to eliminate all fighting.

Rule changes regarding PeeWee checking and clarification of the head contact rules will be submitted by the ADM staff and then voted on by the directors at the USA Hockey Annual Congress in June of 2011 and if passed will take effect in the fall of 2011.

USA Hockey has already modified the coach certification procedure beginning in fall of the 2011-12 season which will require all registered coaches to take an annual online age appropriate course. These online sessions will include education about safety and prevention of concussions.

The Minnesota Hockey Safety Committee and Player Development group is already developing educational tools for coaches to help them teach body contact and checking skills at the Squirt and PeeWee levels. These resources will be available in the fall of 2011 and clinics will be available for interested associations.

A great deal of credit for this symposium should certainly go to Mike Stuart, MD, and Aynsley Smith, RN Ph.D., from the Mayo Clinic. As this is the third in a series of these events over the past five years, they recognized the need for a call to action. A wide range of professionals have studied these issues for many years and felt it was time to do something to begin to make the game safer. Mike and Aynsley, among many others at Minnesota Hockey have devoted years of time, energy

and expertise to help make hockey safer for all participants. Now everyone needs to support the changes that will reduce concussions in hockey.

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