

# HOCKEY AND THE CONCUSSION DEBATE

## Introduction

### Focus

Hockey concussions have figured significantly in the news over the last two years, but even more so since the injury to superstar and Canadian hero Sidney Crosby. This *News in Review* story examines what we are learning about the causes and consequences of concussions, and the response of the entire hockey community to the dangers they pose to players.

For real hockey fans, few sights are more upsetting than seeing a favourite player, after a major hit, lying motionless on the ice.

Over the last few seasons that sight seemed a much more common one. Despite attempts by the National Hockey League (NHL) to reduce the number of hits to the head, more and more players seem to be sidelined by injury—some of them for months at a time. For many, that injury is a concussion—a condition in which the brain is shaken or twisted during a hit, sometimes, but not always, causing a loss of consciousness.

There was a time when it was not uncommon for players to shake off a concussion and return immediately to play. A concussion was considered to be an accepted aspect of the game. You toughed it out and returned to play as soon as possible. There are grounds to suspect that, during this period, concussions were under-reported.

In recent years, however, medical science has taught us a lot about concussions. We now know that there is really no such thing as a minor concussion. We know that immediate proper diagnosis is difficult but critical. We know that there is no treatment for a concussion other than rest. We know that the brain is extremely vulnerable to severe injury if players return to

their sport too soon. We know that one concussion makes an athlete much more susceptible to further concussions. And we know that repeated concussions can result in permanent, debilitating brain damage.

Hockey concussions made the news big time after Sidney Crosby was hit twice in January 2011 and forced to withdraw for a large part of the 2010-2011 season (at the time this is being written, he has not played for three months). This incident, as well as injuries to several other players, has led to many calls for the NHL to take strong measures to curtail the kind of play that causes severe head trauma and concussion. The league remains resistant to any rule change that will undermine what it calls the “physicality” of the game.

In minor hockey circles, however, increased awareness of the dangers of concussion is having an effect. Rules against violent hits are being tightened. Some leagues are not allowing body checking until players are at least 13 years of age.

As awareness of the dangers of brain concussions continues to grow, pressure will likely increase on the NHL to find a way to reduce the risk to players. What that way will be remains a subject for debate.

### To Consider

Like any professional sport, the NHL is a business. Bearing in mind that, like any business, the NHL is out to make money, what arguments or methods might be used to convince the team owners to improve player safety in its approach to concussions?

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## Video Review

### Further Research

Find out more about the NHL's position on concussions by visiting the league's Web site at [www.nhl.com](http://www.nhl.com).

### Further Research

Visit the Web site of Hockey Canada to review their position on checking in hockey and concussion at [www.hockeycanada.ca](http://www.hockeycanada.ca).

### Before Viewing

In a small group, preferably with one hockey player in the group, discuss the following questions and make notes based on your discussion.

1. Have you or has anyone you know ever suffered a concussion? If so, how did the injury occur?

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2. How was the diagnosis of concussion made?

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3. What were the consequences of the injury? How did the injury affect daily life, sports play, school, etc.

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### Viewing Questions

Respond to the following questions in the spaces provided.

1. Briefly describe the root cause of concussions.

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2. How effective are helmets in preventing concussions?

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3. How are concussions diagnosed? Are there special tests to assist in diagnosis?

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4. Michael Serapio reports that experts say there are two reasons why more isn't being done to prevent concussions in hockey. What are these reasons?

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5. According to the NHL, how many concussions occur annually in the league's games?

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6. Earlier studies indicated that concussions occurred in about six per cent of junior games. What did Dr. Paul Echlin's new study indicate was the real percentage?

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7. Describe the treatment Brad Madigan is undergoing for his series of concussions.

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8. A number of the people interviewed in the video blame a variety of individuals for the tendency to downplay the seriousness of concussions. Whom do they blame?

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9. What support has Echlin received for his study's results from Hockey Canada?

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### Post-viewing Discussion

In your small group, make notes on the following questions. You will use these notes for a class discussion, or a discussion with another group.

1. How do you respond to the argument that the "physicality" of hockey makes concussions almost a byproduct of the game? What would you list as the fundamental aspects of hockey?

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2. When it comes to ensuring that a young hockey player's possible concussion is correctly assessed and diagnosed, who bears the ultimate responsibility? The player? The coach? The trainer? The parent? Someone else?

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3. What is the responsibility of the league to its players when it comes to concussions? Is there a difference in responsibility between professional and amateur leagues?

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## *Why the Uproar?*

### Did you know . . .

Women are much more prone to concussions than men.

### Focus for Reading

As you read this article, make notes to summarize:

- Why concussions in hockey are in the news
- What incidents, reports, and individuals have been responsible for making hockey concussions newsworthy
- How the NHL and other hockey leagues have responded to the dangers of concussion

Hockey is very much a physical game. As in any contact sport, player injury is always a possibility. Concussions, in particular, have always been a threat to players. Why have they recently become a major subject of debate?

### Increased Awareness of Consequences

The simple truth is that, until recently, not all that much was known about how and why concussions occur or their often ongoing, life-long effects. Some of the things recent research has taught us include the following:

- Concussions are far more serious than simply “having one’s bell rung.” Doctors now insist that there is no such thing as a “minor” concussion, and that the term “mild traumatic brain injury,” or MTBI, should no longer be used when referring to concussions.
- Once a player has suffered a concussion, he or she is four times more likely to suffer a second one.
- There is no treatment for a concussion other than rest.
- Untreated and/or multiple concussions can lead to permanent brain damage, and ultimately to a permanent condition called chronic post-concussive encephalopathy.
- In hockey, as in many other sports, the number of concussions is under-reported. This seems to be true at all levels.

- After a severe hit, athletes are often allowed to resume play without a proper assessment for concussion.

### Harder Hits, More Concussions?

Hockey observers note that the game has changed. Players are bigger, heavier, and faster than in the past. Thanks to modern equipment, they are also better armoured.

Basic rules have also changed. Following the 2004-2005 player lockout, new rules came into effect to increase the speed of the game. With that increase in speed came an increase in player contact; hits are now up about 50 per cent over the pre-lockout period. Many players believe that this has made the game far more dangerous for the players and that some way has to be found to slow the game down.

### Evidence from the Pee Wee Leagues

How and why concussions happen is the subject of a recent (2010) study that examined concussions in 11- and 12-year-old hockey players in the Alberta and Quebec hockey leagues. Alberta allows body checking; Quebec does not.

The results: Out of 1 000 athletes in each province, there were 73 concussions in Alberta in 2007-2008, but only 20 in Quebec. “The researchers found that Alberta players in the study were three times more likely to suffer either

a concussion, a severe concussion or a severe injury that resulted in more than a week away from the rink” (*The Globe and Mail*, June 9, 2010).

Studies have also shown that young players know very little about concussions. They do not realize that they can suffer one without being knocked unconscious. In one study, half the players questioned couldn’t identify any of the symptoms associated with concussions.

But the research in youth league play, combined with educational outreach, has made many more parents, coaches, and fans aware of the dangers of concussions. As Dr. Charles Tator, the founder of ThinkFirst Canada—a brain and spinal cord injury prevention foundation—has said: “Most people are now aware of what a concussion is. It’s really quite amazing, the turnaround I have seen in the past 12 months that parents, referees, coaches, and trainers are more aware of concussions. The majority of people now actually know what a concussion is, whereas before very few really labelled concussion correctly. You know, they were using terms like “having your bell rung” (*Toronto Star*, February 8, 2011).

So, it appears that more people are aware of the consequences of concussions. But the question remains: why is there currently such uproar in the media about hockey and concussions?

### **Raising the Profile**

The new attention is the result of a series of particularly vicious hits during the 2009-2010 and 2010-2011 NHL seasons. And one of these hits caused a severe concussion in hockey’s highest profile player. Four incidents seem to have resonated most with fans and sports commentators. Each incident focused public attention on the consequences of severe hits in hockey.

### **The Incidents**

- A deliberate head hit to Mikael Tam of the Quebec Remparts by Patrice Cormier of the Rouyn-Noranda Huskies on January 17, 2010. Cormier left the bench, skated directly at Tam and hit him with an elbow to the jaw. Footage of Tam lying on the ice in convulsions was replayed over and over on the news and on the Internet.
- Matt Cooke’s brutal blindside head hit to Marc Savard of the Boston Bruins in a game against Pittsburgh. Savard lost consciousness and was taken to hospital. Cooke was not penalized; the hit was considered legal.
- In the 2011 New Year’s Day Winter Classic, Dave Steckel, then of the Washington Capitals, drove his shoulder into the chin of Pittsburgh Penguins superstar Sidney Crosby. Crosby shook off the hit and returned to play. A few days later he was driven head first into the boards by Victor Hedman of the Tampa Bay Lightning. Crosby subsequently began to experience symptoms associated with concussion and is generally believed by doctors to have suffered a concussion as a result of the first—Steckel—hit. No penalty was awarded to Steckel; Hedman received a minor boarding penalty.
- On March 8, 2011, Max Pacioretty of the Montreal Canadiens was ridden into the boards by Zdeno Chara of the Boston Bruins, his head driven into a metal post holding up the glass. Pacioretty was hospitalized with a broken vertebra and a serious concussion. Chara received a five-minute major penalty and a game misconduct.

### **The Aftermath**

- Mikael Tam recovered from his concussion and was back on the ice

by the end of the season. He continues to play in the Quebec Major Junior Hockey League (QMJHL) and hopes to someday play for the NHL or in a European league. Patrice Cormier—who had just returned to the Quebec league after serving as captain of Canada’s silver-medal-winning junior world team—received the toughest sentence ever handed out by the QMJHL. He was suspended for 20 games and for the playoffs. He now plays for the Atlanta Thrashers.

- Marc Savard returned to hockey in time for the 2010 playoffs. Unfortunately, he suffered another concussion on January 22, 2011, when he was hit by Matt Hunwick of the Colorado Avalanche. The hit did not target his head, but his concussion symptoms did return. As a result, he will be out for the remainder of the 2010-2011 season.
- Sidney Crosby was having a dream season until the hit on January 1 that left him with a concussion. He was leading the NHL in points, having scored 32 goals and 66 points in 41 games. Crosby resumed skating with the Penguins on March 30, 2011, but expects it will be some time yet before he is able to play.
- Max Pacioretty was released from hospital two days after the hit. It is unclear when he will be able to return to hockey. Chara did not receive a suspension from the NHL. Quebec prosecutors have asked the Montreal police to see if evidence exists to lay criminal charges against Chara.

### **The NHL Responds**

Under considerable pressure because of hits like the ones against Tam and Savard, in March 2010 NHL general managers recommended changes to rules dealing with punishing hits to the head. The result was a new rule—Rule

48—calling for an automatic review by the league of any hit to the head from behind or from the blindside. The review includes the possibility of fines and suspensions even if a penalty was not called during the game.

But the current season has demonstrated that concussions remain a problem, and Crosby’s injury—more than any other—has aroused public interest and sharpened the debate.

On February 24, 2011, Roy MacGregor wrote in *The Globe and Mail*: “The hit on the Pittsburgh Penguins star—the player, as well, who scored the overtime goal that gave Canada the gold medal at the Vancouver Winter Games—has had a most profound effect on the heated debate concerning hits to the head at the NHL level as well as hits that are occurring in minor-league hockey. It has captured the attention of a lot of people who weren’t paying attention to this point.”

Eric Lindros, for years one of the game’s top players, suffered a series of up to eight concussions before finally retiring in 2007. Lindros believes that some of the better players become targets: “What happens is you get tagged as being concussion prone, and there’s a huge decline in the respect you get because of it. It’s people trying to make their name, you know? It’s little things that occur after the play, like when it switches out of the corner and the play goes up the ice and you’re spinning around heading back up to back check and—bam! You know . . . where they kind of catch you” (*The Globe and Mail*, January 21, 2011).

### **What Next?**

Will the NHL change its rule to eliminate all head shots? It seems unlikely at present. The result of the most recent spate of concussions, including Crosby’s, has been a new concussion protocol. It

demands that any player suspected of suffering a concussion be subjected to a 15-minute physical examination by a doctor (rather than a once-over by a trainer). Many of the NHL general managers have already objected to this directive.

And always present is the fear that new contact rules will somehow affect the nature of hockey—making it less physical—and as a result, turn off a large portion of the fans. This fear is present

despite recent surveys that show that two-thirds of Canadians believe the NHL is not doing enough to curb violence ([aol.sportingnews.com/nhl/story/2011-03-19/head-hits-violence-anger-fans-survey-shows](http://aol.sportingnews.com/nhl/story/2011-03-19/head-hits-violence-anger-fans-survey-shows)).

But some general managers, like Darcy Regier of Buffalo, remain convinced that not enough is being done to prevent concussions. They will continue to pressure league officials to explore ways to reduce concussions.

### **For Discussion**

Consider the following statement by Roy MacGregor (*The Globe and Mail*, January 21, 2011): “Most lesser leagues and minor hockey have taken steps to cut down on head shots, several organizations banning them outright, but everyone in the game is acutely aware that youngsters take their lead from their NHL heroes and will attempt to copy whatever they see on television.”

1. Is the perceived imitation of NHL players by younger athletes a valid argument for changing NHL rules dealing with player contact? Why or why not?
2. Do you think there is any truth to the argument that cracking down on illegal hits that often result in concussions will slow down the game? Explain.

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## Reaction

In determining one's own position on an issue, it's always helpful to hear what the experts have to say. As you read the following quotations, note at the end of the quote whether you agree or disagree with the assessment of the situation expressed in each comment. After you've completed this exercise, meet in groups of three or four to compare your responses with those of your classmates.

### Views from Owners and Managers

The NHL is under considerable pressure to go beyond their ban on blindside hits and to make all head hits subject to penalty. Owners and league officials have responded in various ways.

"We, as a league, must do a better job of protecting the integrity of the game and the safety of our players. We must make it clear that those kinds of actions will not be tolerated and will be met with meaningful disciplinary action. If the events relating to Friday night [a particularly violent game that included a blindside hit to a Pittsburgh player followed by a fight] reflect the state of the league, I need to rethink whether I want to be a part of it." — Mario Lemieux, owner of the Pittsburgh Penguins (*The Globe and Mail*, February 14, 2011)

"We've made improvements to the game. Everybody agrees that the game is faster, the skill level gets shown on a nightly basis, we're very happy with it. But the game evolves and one of the things that's evolved is our collisions have gotten more intense. So you make little adjustments and tweaks to keep the players safe." — Brendan Shanahan,

NHL vice-president (*The Globe and Mail*, June 19, 2010)

After 33 players missed games in 2010-2011 because of concussions: "We had a candid discussion with how the rule is working, and I think people in the room [at the NHL Board of Governors meeting] were comfortable it's working the way intended. It will continue to evolve, it's a work in progress, but people were comfortable we're on the right track." — Gary Bettman, NHL commissioner (*Toronto Star*, December 15, 2010)

"The question is to what extent can we manage it? By this I mean where are most of these hits happening? Where on the ice? Is it close to the boards? Is it a result of charging? Is it a result of the [back-of-the-net] trapezoid, meaning that the goalies don't come out to play pucks anymore? Is it a result of having taken the centre line out?" — Darcy Regier, general manager of the Buffalo Sabres (*The Globe and Mail*, March 19, 2011)

"The players are so smart, that every time we establish a rule they figure out a way around it. We need to protect vulnerable players but there's a fine line. In hits from behind, players started to turn their backs to protect the puck and draw a penalty. But they put themselves in danger." — Jim Rutherford, general manager of the Carolina Hurricanes (*The Globe and Mail*, March 8, 2010)

"Every time a guy gets hit now you're holding your breath. It's affecting our sport. It's paralyzing." — Dave King, assistant coach of the Phoenix Coyotes (*The Globe and Mail*, January 19, 2011)



## Views from Sports Columnists

As one might expect, the columnists (and at least one former player, now a politician) have had plenty to say on the issue.

“If any hit to the head resulted in a major, a game misconduct and a suspension, there wouldn’t be any debate, would there? You get caught knocking an opponent in the melon, it’s your fault. Sort of the antithesis of the ‘keep your head up’ mentality. But the only one that will truly work.” — Damien Cox, sports columnist (*Toronto Star*, January 11, 2011)

“The only fair and safe answer to ‘intent’ is to move beyond it to ‘result’—and for hockey to stop bickering about *how* something happened and turn its attention, instead, to *what* happened and how that might be prevented from happening again.” — Roy MacGregor, columnist (*The Globe and Mail*, March 12, 2011)

“Max Pacioretty was only the latest; he will not be the last. Arguments and explanations don’t matter any more. The NHL has to risk the big steps that are needed: If some of them prove wrong, they’ll still be far less wrong than what we have now. It is time to stop being stupid.” — Ken Dryden, MP and former hockey goalie (*The Globe and Mail*, March 12, 2011)

## Follow-up

1. A recent Angus Reid public opinion poll of more than 1 000 Canadians indicated that three-quarters of them felt that violence in professional hockey needs to be reduced. Do you feel this is a fair description of how most Canadians feel about the game?
2. What does a hard but safe player check look like? What constitutes an unsafe check? Are all unsafe checks ones that are also illegal?
3. Is Air Canada’s threat to pull its financial support of the NHL likely to have much effect in changing the rules and/or culture of the game?

## A Sponsor’s View

Finally, some people believe the only real way to guarantee a change in the culture of professional hockey is to threaten the owners’ pocketbooks. The following is a letter to the NHL from Denis Vandal, Air Canada director of marketing and communications.

“We are contacting you today to voice our concern over last night’s incident involving Max Pacioretty and Zdeno Chara at the Bell Centre in Montreal. This is following several other incidents involving career-threatening and life-endangering head shots in the NHL recently.

“... While we support countless sports, arts, and community events, we are having difficulty rationalizing our sponsorship of hockey unless the NHL takes responsibility to protect both the players and the integrity of the game. From a corporate social responsibility standpoint, it is becoming increasingly difficult to associate our brand with sports events which could lead to serious and irresponsible accidents; action must be taken by the NHL before we are encountered with a fatality.

“Unless the NHL takes immediate action with serious suspensions to the players in question to curtail these life-threatening injuries, Air Canada will withdraw its sponsorship of hockey” ([www.theglobeandmail.com/report-on-business/see-air-canadas-letter-to-the-nhl/article1937106/](http://www.theglobeandmail.com/report-on-business/see-air-canadas-letter-to-the-nhl/article1937106/)).

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## Concussions: A Primer

### Definition

*Concussion* is defined as a traumatic injury to tissues of the body as a result of a violent blow, shaking, or spinning. The term is most commonly applied to such injuries when they happen to the human brain. In this section we will use the word *concussion* to mean a brain concussion.

### Further Research

Learn more about head injuries at the TeensHealth Web site, a U.S. children's health network, at [http://kidshealth.org/teen/safety/first\\_aid/concussions.html](http://kidshealth.org/teen/safety/first_aid/concussions.html).

### Further Research

To learn more about concussions and other brain injuries visit the ThinkFirst Web site at [www.thinkfirst.ca/programs/concussionqanda.aspx](http://www.thinkfirst.ca/programs/concussionqanda.aspx).

As you read the section, make a list in your notebook of the main points covered under each heading.

### Causes

A concussion can be the result of a direct blow to the head, but this is not a requirement. A concussion may also occur when another part of the body is suddenly hit hard and the brain is shaken and knocked against the skull. A concussion may also be the result of an impact that causes the brain to twist. During that action some brain nerve fibres may even be sheared.

Most concussions happen in collisions, when a person collides with another person or object, with one or both moving at high speed.

### Signs and Symptoms

It is extremely important to know that an individual does not have to lose consciousness to have suffered a concussion. In fact, most people who are concussed do not pass out. But loss of consciousness can be an indicator, and anyone so affected should seek immediate medical attention.

Signs and symptoms of concussion include nausea, vomiting, dizziness, confusion, fatigue, headache, and inappropriate behaviour. Symptoms and their severity vary from individual to individual. Some symptoms may appear immediately, while others may show up at a later date. Sydney Crosby, for example, did not begin to notice symptoms from his concussion until five days after it occurred.

### Diagnosis

In most cases of concussion there is no detectable physical evidence—bruising or bleeding in the brain—to indicate that damage has occurred.

A doctor's examination usually begins with questions to determine the patient's level of consciousness and ability to concentrate and remember basic information. He or she will review with the patient any or all of the symptoms in the above list.

A physical examination will concentrate on the nervous system, checking things like balance, coordination, and reflexes. If the possibility of serious brain damage is suspected, a brain scan will likely be required.

### Treatment

The only real treatment for concussion is physical and mental rest. It is absolutely critical that the patient not fully resume normal activities until the symptoms have completely disappeared. In fact, guidelines from the American Academy of Neurology recommend that any athlete whose symptoms do not clear within 15 minutes (or who loses consciousness for even a brief moment) be kept from competition for a minimum of one week after his or her symptoms are completely gone. Meanwhile, the resting patient may have to forgo even everyday activities—things as simple as watching television.

Finally, anyone who has suffered a concussion should be aware that research shows that he or she is now permanently at increased risk of another concussion; up to four times the risk of the average person. Every concussion also increases the risk of permanent brain damage, including serious conditions that reduce cognitive function and mimic conditions like Alzheimer's disease.

# HOCKEY AND THE CONCUSSION DEBATE

## **Activity: Cleaning Up Hockey**

How would you reduce the number and severity of concussions in hockey? Is there a need for minor or major changes to the rules under which hockey is played? Can this be done without sacrificing what Canadians see as the necessary physicality of the game?

Many Canadians believe so. They point to the excitement and physicality of Olympic hockey, which manages quite well without the violence so common to the NHL. They point out how thrilling women's hockey is when it is played with the skill of the athletes on the Canadian and U.S. national teams. And they also point out that young people begin playing hockey as a non-contact sport; that Quebec allows no contact before a player turns 14; and that non-contact leagues are growing in popularity in many parts of Canada.

In groups of four, develop a plan to make hockey safer while still retaining its appeal. Construct your plan as a series of recommendations.

Completed plans will be presented to the entire class. Be prepared to present the reasoning behind each of your recommendations.

To help you get started, you might like to take a look at an article by *Globe and Mail* columnist John Allemang, available online at [www.theglobeandmail.com/sports/hockey/a-10-step-hockey-reformation-as-imagined-by-john-allemang/article1939534/](http://www.theglobeandmail.com/sports/hockey/a-10-step-hockey-reformation-as-imagined-by-john-allemang/article1939534/).

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