

**The Hockey Canada body-checking rule: An analysis of the policy change process.**

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| <p>Body checking in hockey has been a heavily debated issue in Canada for over 30 years. There are so many opinions that exist, for and against body checking at all levels of ice hockey, even at the elite levels such as the Canadian Hockey League (CHL) and the National Hockey League (NHL). When it comes to body checking at the grassroots level of hockey, stakeholders share concerns about many variables like safety, skill development, recruitment and retention of young players. All of these issues are constantly reviewed and assessed in order to adapt to the ever-changing nature of the game of hockey.</p> <p>The purpose of this study was to analyze the policy change process of Hockey Canada and its associate member organizations in regards to the body checking rule change. The scope of the thesis was to identify and analyze the how, why, who, when, and where questions about the policy change process itself.</p> <p>A questionnaire was used to collect insight and perspective from Hockey Canada Officers, Branch presidents, Branch Executives, athletic representatives, council directors, associate members from the Canadian Hockey League (CHL) and the Canadian Inter-university Sports, as well as members of the advisory groups, working groups, or committees tasked to review the current state of body checking in Canada.</p> <p>The findings produced implied that thorough review on the topic of body checking was established by Hockey Canada, information was received and understood by the decision makers, decisions were influenced by the body of research, and decision makers agreed with the implementation of the recommendation proposed by the advisory committees.</p> |   |
| <p><b>Keywords</b><br/>Body checking, policy change, ice hockey, Hockey Canada.</p>   |   |

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# 1 Introduction

## 1.1 Background and purpose

Body checking in hockey has been a heavily debated issue in Canada for over 30 years. There are so many opinions that exist, for and against body checking at all levels of ice hockey, even at the elite levels such as the Canadian Hockey League (CHL) and the National Hockey League (NHL). When it comes to body checking at the grassroots level of hockey, stakeholders share concerns about many variables like safety, skill development, recruitment and retention of young players. All of these issues are constantly reviewed and assessed in order to adapt to the ever-changing nature of the game of hockey.

With hockey being an ever changing and constantly growing sport the author recognized that understanding how and why the decisions are made, by hockey organization that govern the sport, is relevant to the authors working life. Furthermore the author sought to comprehend all the components of a policy change process to fully understand the requirements and work involved when issues about policy are reviewed and assessed. The idea behind this study came after the body checking rule change was approved by a majority vote from the Hockey Canada Board of Directors in May 2013. North American media covered the event in a way that only provided a minimal amount of information to the public as to how and why the body checking rule was changed, this peaked the interest of the author. Previous studies analyzing the policy change process of Hockey organizations were not found by the author. Since there is no previous research on the subject this study is valuable to anyone involved in sport organizations seeking further insight and perspective into the how, why, who, when, and where questions about a policy change processes.

The purpose of this study was to analyze the policy change process of Hockey Canada and its associate member organizations in regards to the body checking rule change. The author, at the beginning of the research, already recognized the end result of the policy change process. Hockey Canada's Board of Directors voted and the rule changed nationally. Since the rule change occurred within the year this research was undertaken, the author considered the outcomes of the policy change to be too diffi-

cult to survey. Instead, the scope of the thesis was to identify and analyze the how, why, who, when, and where questions about the policy change process itself. The goal was to gain insight and perspective from the decisions makers, advisory groups, working groups, or committees directly involved in the process in order to answer the research questions. The aim of the research does not involve the inclusion of whether the decision was right or wrong. The intent through research was to analyze the process in its entirety.

## **1.2 Research questions and methodology**

This study was designed to collect insight and perspective on whether the decisions made to change the body checking rule were as a result of the policy change process undertaken. Research questions that pursued answers were about the important factors that influenced the decisions made, whether all the information on body checking reviewed or received was relevant, whether the decisions makers choose to accept the conclusion, and how thoroughly the topic of body checking was reviewed.

The methodology used in this study is of a quantitative nature. Data was collected electronically using a survey questionnaire. A quantitative method was considered appropriate for obtaining the results in this study based on the understanding that the population of the target group consisted of 81 people. Although quantitative methods are used for larger population based research, the author felt this method was more useful in terms of distribution and response rate. The questionnaire was designed to survey the Hockey Canada Officers, Branch presidents, Branch Executives, athletic representatives, council directors, associate members from the Canadian Hockey League (CHL) and the Canadian Interuniversity Sports, as well as members of the advisory groups, working groups, or committees required to review the state of body checking in Canada. From a possible 81 responses 32 questionnaires were completed.

## **1.3 The structure of the thesis**

This thesis begins with a literature review of Hockey in Canada. The structure of hockey as a game as well as information about how body checking is defined and why it's important to the game of hockey is described. This section also elaborates on the

background of body checking in Canada and its movement over the last 30 years leading up to the present rule change. The following chapter will outline the overall structure of the policy change process established by Hockey Canada. The literature review concludes with a chapter about the scientific literature available on body checking that was analyzed and reviewed by Hockey Canada and its associate members. The next section of the thesis covers the empirical part of the study by outlining the research objectives and research methods used by the researcher for data collection. Following these chapters a presentation of the results obtained is examined. The final section of this thesis is a discussion, which reviews the key results discovered by the researcher, the limitations of the study, and the conclusion.

## 2 Hockey in Canada

Ice hockey is considered Canada's national sport engaging roughly 625,000 registered male and female players who laced up their skates and hit the ice in over 3,500 minor hockey associations from Vancouver Island, British Columbia to St. John's Newfoundland during the 2012-2013 season, many of which aspire to play the game at the professional and national team levels. In addition to minor hockey and adult recreation based registration numbers, it is estimated that close to 2 million adults play recreational hockey across the country. (Hockey Canada 2013b, 5, 18-21, 23.)

Hockey Canada is the national governing body for grassroots hockey in this country. The organization works in conjunction with the 13 provincial branches, the Canadian Hockey League and a number of associate member organizations in regulating and growing the game at all levels. Hockey Canada oversees the management of programs in Canada from entry-level to high performance teams and competitions, including world championships and the Olympic Winter Games. Hockey Canada is also Canada's voice within the International Ice Hockey Federation. Hockey Canada has offices in Calgary and Ottawa and operates regional centres in Western Canada, Ontario and Quebec. (Hockey Canada 2013b, 5.)

Hockey Canada (2013b, 5) stated that "Hockey is Canada and Canada is hockey". Hockey Canada may not have been the first to say those words but whoever did took the pulse of a nation that has had a long and storied love affair with hockey. Hockey is a touchstone of Canadian life, it is Canada's national theatre and it is the chatter of the country. Hockey is more than a sport to Canadians; it is a part of the country's heart and soul. Hockey Canada is the national guardian of this great game and Hockey Canada had a record-setting year at all levels of the game, on and off the ice. (Hockey Canada 2013b, 5-6.)

Hockey is an ever changing and continually growing sport and as a result, the governing body is always addressing issues surrounding the playing rules. One such topic is body checking and it has been the most heavily debated issue at all levels of amateur hockey for over 25 years. Experts in the medical community have weighed in on this



debate for a number of years and have completed extensive research into what age and at what skill level body checking should be introduced. (McDonald 1991, 2.)

## **2.1 Hockey as a game**

To understand the body checking rule regulated by Hockey Canada, it is important to first understand the sport itself. Ice Hockey is a game that involves two opposing teams on an ice surface. Players on each team wear skates on their feet to propel themselves on the ice in order to chase a small hard rubber puck. Players carry a stick used to control the puck in one's possession as well as to pass to a teammate and shoot on the opposing team's goal. Players also wear various other pieces of equipment for protection such as a helmet, mouth guard, throat protector, shoulder pads, elbow pads, pelvic protector, pants, gloves, and shin pads. The main objective of the game is to score more goals than the opposing team, this involves players using their stick to shoot or slide the puck into the opposing team's goal. Each team is permitted to have a goalie whose objective is to defend their team's goal. Other than the goalie, each team is permitted to have five players on the ice surface at one time, unless the goalie is pulled from his net, in which case a sixth player is substituted. There are a series of rules designed to limit what actions and behaviors can be committed on the ice, which are primarily based on restricting maneuvers that may cause injury or provide one team with an unfair advantage. Players who commit the infraction are assessed penalties if a rule is violated and is then required to sit in the penalty box for an allotted amount of time while play continues. (Hockey Canada 2008, 5-10; Hockey Canada 2013a, 14, 19, 29.)

Hockey also consists of officials, who have some responsibility in enforcing the rules and maintaining the order of the game. Officials are placed in two categories, on-ice officials, who are the referees and linesmen that enforce the rules during game play, and off-ice officials, who have an administrative role, such as game timekeeper and penalty time keeper, rather than an enforcement role. Since there are many rules and regulations associated with the game, there are also many skills that are used to facilitate a team's chances of scoring a goal on their opponents. Body checking is just one of the many skills. Body checking allows a player to use the force and momentum of

their bodies to remove an opponent from the possession of the puck in order to regaining it for oneself or one's team. Although it involves applying a significant amount of force, the proper use of this skill does not involve any intent to injure an opponent. Many other checking skills, other than body checking, are used as a means to regain possession of the puck. (Hockey Canada 2008, 9 & Hockey Canada 2013a, 12, 80, 87, 89.)

## **2.2 Definitions**

Hockey Canada has set a clear distinction between what can be constituted as body contact and what should be labeled as body checking, with body contact being primarily taught before the application of an actual body check. The importance of distinguishing body contact and body checking is required to understand that they are separate skills, a change to policy permitting body checking does not mean the removal of body contact as well.

Body contact is defined as incidental contact of two opposing players in pursuit of the puck or position on the ice while moving in the same direction. Body contact occurs as a result of movement by the offensive player. The defensive player uses his body and path of skating to restrict the actions of the player in possession of the puck anywhere on the ice. The defensive player may not attempt to separate the offensive puck carrier from the puck by traveling in the opposite direction of the puck carrier in an attempt to create contact. The defensive player also must avoid physically extending towards the offensive puck carrier attempting to push, shove or hit the player into the boards. In contrast body checking is the defensive tactic used to legally separate the puck carrier from the puck. (Hockey Canada 2011, 5.)

Body Checking is defined by a player's attempt at gaining the advantage on the opponent with the use of the body. Checking results when two opposing players collide while skating in opposite directions or when positioning and angling allow the checker to use the force of the body to gain the advantage. (Hockey Canada 2011, 5.)

## 2.3 Rules

The Hockey Canada playing rules are established by the board of directors and govern all levels of minor hockey in Canada from the Initiation level to Junior 'A' hockey. The Canadian Hockey League (CHL) and the Canadian Interuniversity Sports (CIS) are associate members and have their own rulebooks to govern play in these leagues. Every two years, the membership of Hockey Canada has the ability to amend the rules of play through a process governed by the board of directors. In the event there are rule changes proposed, the board of directors would review the recommendations and vote on whether or not the recommended changes will take effect. It takes a majority vote in favor of a proposed rule change or rule addition to take effect. Conversely, a majority vote not in favour of a rule change would result in the proposed change being defeated.

The Hockey Canada playing rules for the 2013-14 season clearly states Hockey Canada's position on body checking. At the 94<sup>th</sup> AGM, Annual General Meeting, in Charlottetown P.E.I, the Hockey Canada board of directors voted in favor of changing the body checking rule and eliminating body checking from the Pee wee age group of hockey right across Canada (CBC sports 2013). When the 2013-14 season began, Pee wee hockey players within Canada were no longer permitted body checking at this level of play. Rule 6.2(b) in the Hockey Canada Rulebook has been revised within the Official Hockey Canada Playing rules, and now states that:

In divisions of Pee wee and below and Female Hockey, a Minor penalty or, at the discretion of the Referee, a Major penalty and a Game Misconduct penalty shall be assessed any player who, in the opinion of the Referee, intentionally body checks, bumps, shoves or pushes any opposing player. If a player is injured, a Major penalty and a Game Misconduct penalty must be assessed. When the offensive player is skating towards the defensive player, the defending player may not hit the offensive player by going in the opposite direction to that player. The body contact must be as a result of the movement of the offensive player. There must be no action where the offensive player is pushed, checked or shoved into the boards. Where in the opinion of the Referee, accidental contact has taken place no penalty shall be assessed. (Hockey Canada 2013a, 47.)

## 2.4 Hockey Canada decision makers

Hockey Canada Board of Directors is composed of volunteers who graciously devote

their time and energy to the betterment of the game of hockey from coast to coast. The members of the board of directors come from all walks of life and from all corners of Canada, yet they all have one thing in common – they are custodians of the game who want nothing more than for the game to prosper in the land of Olympic and world champions. The men and women who sit on the board are elected by their respective branches and help develop a comprehensive plan to grow the game on a local and national level. The board of directors elects officers, who are tasked with fulfilling the responsibilities of the board between meetings. The voting members of the board include 7 officers, 13 branch presidents, 2 athlete representatives, 5 council directors, and associate members from the Canadian Hockey League (CHL) and the Canadian Interuniversity Sports (CIS). (Hockey Canada 2013b.)

## **2.5 Importance of the debate**

Checking is considered a fundamental defensive skill in the game of ice hockey. Checking is carried out in order to regain possession of the puck when a player is in a defensive role. Checking skills are commonly categorized as, positioning and angling, stick checks, body contact, and body checking. Body checking is listed as being the 4<sup>th</sup> skill or 4<sup>th</sup> stage of progression in hockey technical skills manuals based on the idea that a player should have a mastery of the first three checking skills in order to execute the skill properly. (Hockey Canada 2011, 3; IIHF 2007, 2.) The primary purpose of body checking is to separate the player from the puck, physically preventing the opponent in possession of the puck from trying to pass between a player and the boards, and to delay or contain the opponent until back checkers can support. The five types of body checks are categorized as blocking or defending against the puck carrier, stick lift and shoulder check, block, hip and roller check. (IIHF 2007, 10-15.)

## **2.6 Age divisions**

Considering the large number of Canadians of various ages and skill level play the game, there is an organizational structure in place that legislates where these players compete. These levels of play that have been constructed must be described in order to understand the information that follows within this thesis. Minor hockey players in Canada are categorized into six playing levels classified by the age of the player as of

December 31<sup>st</sup> of the current playing season. Each age group may also have multiple tiers based on skill level and the number of registered players within the age category. (Hockey Canada 2008, 6.) Body checking in Canada is currently permitted at the bantam level and above.

However the Age groups have not always been legislated this way. Canadian minor hockey has only held this age legislation since 2002 (Hockey Canada 2001). The reasoning behind the change to the age divisions will be further explained in the chapter “Body Checking background and further information”. The 2002 expiring minor hockey age groups and new 2002-2003 minor hockey age groups, from Midget to Pre-Novice, were presented by Hockey Canada (Table 1.)

Table 1. 2002-2003 changes to minor hockey age groupings (Hockey Canada 2001).

|              | <b>NEW effective start of 2002-03 season current age groupings</b> | <b>Will expire end of 2002 season</b> |
|--------------|--|---------------------------------------|
| - Midget     | 15, 16, 17 years old   | 16 and 17 years old                   |
| - Bantam     | 13, 14 years old   | 14 and 15 years old                   |
| - PeeWee     | 11, 12 years old   | 12 and 13 years old                   |
| - Atom       | 9, 10 years old  | 10 and 11 years old                   |
| - Novice     | 7, 8 years old   | 8 and 9 years old                     |
| - Pre-Novice | 6 years old and under  | 6 and 7 years old                     |

## **2.7 Body checking background and relevant information**

As the national governing body of amateur hockey in Canada, Hockey Canada establishes the playing. This means Hockey Canada sets the minimum standard required. The Branches govern hockey in their region and even though they are required to adhere to the playing rules set out by Hockey Canada, the Branches have the autonomy to strengthen the rules. So while it is understood that Branches cannot decide to allow body checking at a younger age level than the national standard which would be weakening a rule, Branches do have the ability to strengthen a rule and set the standard at a higher age level. The consideration explains why the Hockey Quebec branch was able to determine that body checking would not be permitted until the Bantam age level in

Quebec. So for a period of time, 12 Branches in Canada permitted body checking at the Pee wee age level and Quebec started body checking at the Bantam level.

In order to properly address the body checking issue in Canada, an outline of important dates and events regarding the body checking rule in youth hockey across Canada are discussed throughout this chapter. Dates and events mentioned within the chapter are a collection of milestones regarding body checking rule changes, age regulations, provincial and territorial policy changes, body checking research and position papers, submission of motions to change the body checking rule, and age change regulations. It is also important to take a close look at the research processes, publications of research findings, and Annual General Meeting's minutes where body checking was a topic of discussion.

In the rulebook governing play from 1981-1983, a penalty was assessed for body checking at the Pee wee age level and below. In 1985 the rule was changed and body checking was permitted at the Pee wee level and therefore a penalty was only assessed for body checking in Atom and below with the exception of Quebec, which set the age of body checking to start at the Bantam level. (Carson 6.4.2013.)

In 1988 Hockey Ontario conducted a major study of hockey injuries from the Atom age level to Senior amateur levels in Ontario. While the study set out to take a general look at injuries in hockey, the researchers highlighted that Pee wee level teams that were permitted to body check in games demonstrated injury rates 7 times higher than the teams that played non-body checking hockey. The study also indicated that 50% of all injuries that were reported injuries were the result of the act of body checking or collision with another player. Bantam and Midget level injuries reviewed by the researchers also demonstrated injury rates 3 times higher for body checking teams when compared to the injury rates of non-body checking teams. (McDonald 1991, 4.)

In 1990, the Hockey Canada board of directors assigned the Hockey Development Council (HDC) Coaching Committee with the task of investigating a number of critical areas of the game of hockey with respect to body checking.

Carson (6.4.2013) highlighted that the areas of the game under investigation were:

- Player safety.
- Coaching abilities.
- Physiological considerations of players.
- Psychological considerations of players.
- Skill progression and player development considerations.

In that same year at the Hockey Canada AGM, BC Hockey submitted a motion to change rule 50(b) and raise the age of body checking. The motion proposed a change to the body checking rule to state that “in divisions of Peewee and below, a minor penalty shall be assessed any player who, in the opinion of the referee, intentionally body checks, bumps, shoves, or pushes any opposing player.” (Carson 6.4.2013.) This motion was defeated and the rule remained the same allowing the start of body checking to be permitted at the Peewee age level. (Carson 6.4.2013.)

In 1991 the HDC Coaching Committee, based on their assigned task of investigating issues related to body checking, released a position paper with the following recommendations. “Body checking should be removed from the Peewee level, which at the time was 12-13 year or age, and replaced with a body contact rule. It was also recommended that body checking be re-introduced at the Bantam level, which at the time was 14-15 years of age.” (Carson 6.4.2013.)

In addition to the recommendation from the HDC Coaching Committee, at the 1991 Hockey Canada AGM, Dr. James Sproule a member of the Canadian Academy of Sport Medicine (CASM) presented a position paper from CASM. Dr. Sproule’s presentation focused on the rate of injuries in Peewee hockey (a 7-fold increase in teams playing the body checking game), on physical development, and on skill development. In the opinion of the Canadian Association of Sports Medicine, there was no scientific evidence to support the premise that body checking should be introduced as soon as kids start playing hockey. (Canadian Academy of Sport Medicine, 1988, 2-3; Carson 6.4.2013)

As a result of their review, (Canadian Academy of Sport Medicine, 1988, 2-3) made the following recommendations to Hockey Canada:

- Introduce body checking at Bantam Hockey (14-15 years old).
- Delay the introduction of body checking to provide players more time to develop the prerequisite skills required for body checking.
- Body contact and body checking to be taught by qualified coaches.

In 1993 a minor addition was made to the body checking rule to include the category of female hockey at all age levels. With the recognition of Female hockey as a separate level of competition, the rule stated that a penalty was assessed for body checking in Atom and below as well as all levels of Female hockey. The same year, BC Hockey again submitted a motion to change Rule 50(b). This time the motion was put to vote but was defeated by a vote of 19-15. The margin was narrowing and the number of those in favor of body checking at the younger age level was on the decline. (Carson 6.4.2013.)

In 2001 Hockey Canada Board of Directors approved an Age Change Regulation motion at the national level. This change meant that across Canada, the age classification groups would be lowered by one year. For example the Pee wee category was 12-13 prior to 2002 and with the age change, the Pee wee category would now be 11-12 after 2002. The implications of this age change meant that the age body checking was permitted would drop by one year even though the rule remained the same. (Carson 24.5.2013.)

At the 2002 AGM Hockey Canada's Board of Directors approved a decision that allowed the continuation of a body checking pilot project taken on by the Ontario Hockey Federation. The pilot project allowed for body checking to be introduced at the Atom age level. This decision meant that during the 2002-2003 season all Hockey Canada branches were given the option to implement body checking within their Branch, for the age groups of Atom and above. Only 4 of Hockey Canada's Branches (Hockey Newfoundland/Labrador, Ottawa District Hockey Association, Ontario



Hockey Federation, Saskatchewan Hockey) decided to implement body checking at the Atom level. (Hockey Canada, 2002; Hockey Canada, 2003.)

The 2003 Hockey Canada AGM saw more changes to checking in minor Hockey. Hockey Canada's Board of Directors approved motions that checking in minor hockey in Canada would be introduced at the Pee wee level and above. Branches that had taken the opportunity to introduce body checking at the Atom level in 2002 were given the opportunity to continue only under a controlled research environment, with Hockey Canada approval. (Hockey Canada, 2003.)

During 2004-2005 a physiotherapist with a clinical practice at the University of Calgary named Dr. Carolyn Emery began a preliminary assessment of all existing research on the impact of body checking in youth hockey. In 2006, Dr. Carolyn Emery approached Hockey Canada with her plan to research the issue of the impact of injuries rates in Pee wee hockey where body checking was permitted. Hockey Canada encouraged the research and agreed to review Emery's findings upon the completion of the project. That same year based on the support of Hockey Canada, Dr. Emery secured research funding to advance the project. (Isberg, 2013, 2-3)

During the 2007-2008 hockey season in Canada, Emery began her comparative study of Pee wee level hockey players. Since Quebec did not permit body checking at the Pee wee level, Emery could compare injury results between a Pee wee body-checking environment in Alberta and a non-body checking environment in Quebec. During the 2008-2009 season, Emery began a second comparative study of Bantam level hockey players in the two provinces. This time Emery could determine whether or not there was a protective effect when introducing body checking at an earlier. The premise was that if the injury rates in Quebec Bantam players was significantly higher than injury rates of Bantam players in Alberta, then the earlier introduction to body checking meant Bantam players in Alberta would be better equipped to body checking. (Isberg 2013, 1-11.) Emery found no protective effect with the earlier introduction of body checking and the injury rates between Bantam aged players in Quebec and Alberta were relatively the same (Emery, 2011)

In 2010 a systematic review of the research of risk factors for injury and severe injury in youth ice hockey was published (Emery, Hagel, Decloe, & Carly. 2010, 113-8). The year 2010 also saw the results of the study of the Pee wee group published in JAMA (Journal of the American Medical Association) (Emery, et al. 2010b, 2265-72). In 2011 the results of the Emery's comparative study of the Bantam group was published in CMHA (Canadian Medical Association Journal) (Emery, et al. 2011, 1249-56). The results of Dr. Carolyn Emery's studies will be outlined in the chapter "Research and Studies on body checking".

After the publication of Dr. Emery's research, one of the first big changes to take effect with the body checking rule happened with Hockey USA. During the 2011-2012 season, Hockey USA banned body checking at the Pee wee level while encouraging coaches to continue teaching body-checking skills in practices at the Pee wee level so players would be better equipped for body checking at the Bantam age level. (Anton 2011.) In 2012, the Ontario Hockey Federation strengthened the body checking rule and banned body checking in all leagues except elite levels of play, meaning that house league and recreational levels would no longer be permitted to play with body checking (Isberg, 2013, 2-3).

At the branch level, in 2013, the board of directors for Hockey Alberta and Hockey Nova Scotia removed body checking from the Pee wee age group (Carson 24.5.2013). While these policy changes made at branch levels were occurring, Hockey Canada was presenting the evidence on body checking to the board of directors of Hockey Canada. Finally, in 2013 at the 94<sup>th</sup> Hockey Canada AGM, the board of directors voted overwhelmingly in favor of approving the recommendations made by the Hockey Canada advisory committee. (Hockey Canada, 2013c.) The recommendation from the Checking Advisory Committee stated: "At the start of the 2013-14 season, the Hockey Canada Board of Directors approves the motion to remove body checking from all levels of Pee wee hockey, placing continued emphasis on body contact for this age group." (Carson 18.10.2013.)

When the Hockey Canada board of directors voted on the motion to modify Rule 6.2b, the Saskatchewan Hockey Association was the only branch to vote against the motion and it was unanimously approved (Hockey Canada, 2013c).

## **2.8 Coaching instruction**

Dating back to 1988, medical researchers along with a number of hockey practitioners and committees reviewing body checking issues in youth hockey advised Hockey Canada that in order to create a safe, positive, and developmental experience for players, it was strongly recommended that Hockey Canada develop a Checking Education program to provide coaches with the proper training to properly prepare young players for the body contact and body checking in hockey. Even today, years after the initial recommendations from these various group, there is still a strong expectation that coach training programs will include checking education. “The Canadian Paediatric Society recommends the following: Implementing Hockey Canada’s four-stage skill development program for body checking (body positioning, angling, stick checking and body contact) for all leagues.” (Houghton, Emery & The Canadian Paediatric Society. 2012, 509).

Hockey Canada has developed a wide variety of resources to support the introduction and instruction of checking skills. Hockey Canada checking skills materials and resources are posted online at the Hockey Canada website are available for public download at no cost. The first edition of the “Teaching Checking – A Progressive Approach” skills manual was published in 2002. Since this time, the resource document has been updated and tailored to best meet the needs of coaches who are instructing players at every level of play. The purpose of the manual is to give new and experienced coaches with a sound curriculum to follow when introducing checking skills in a safe and progressive manner.

All core skills including skating, puck control, passing and shooting, are acquired in a progressive manner. Checking skills, much like the core skills of hockey, are critical skills in the game of hockey and when performed correctly, can lead to the defensive team regaining possession of the puck and can off lead to quality scoring chances.

Checking skills are commonly misunderstood and are often thought to be skills that players learn at a certain age or age category of play. Hockey Canada introduces checking as a 4-step progression that begins as soon as a young player steps on the ice at the age of 5 or 6 years old. This continues as the player gets older and continues to develop the core skills of hockey. Body checking skills are identified as being the 4<sup>th</sup> step in the 4-step progressive teaching model.

Players graduating from non-checking leagues to body checking leagues may find the transition uncomfortable. Therefore coaches are encouraged to use the manual to provide effective instruction in a practice environment in an effort to create a smooth transition from non-body checking hockey to body checking hockey. “Teaching Checking – A Progressive Approach” is designed to assist coaches to understand the progressive steps beginning with sound skating instruction and the concepts involved in positioning and angling right through to body checking. Hockey coaches are encouraged to become familiar with the progressive teaching model that the manual has to offer. Players will benefit from quality coaching and when coaches strive to develop themselves in this instructional area, players will also improve.

### **2.8.1 Teaching checking fundamentals**

Skating is considered the most essential skill in hockey. Skating is a prerequisite to all other skills in hockey. In order to develop all the other skills required in ice hockey a player must first learn to skate efficiently and effectively. Coaches should be aware of this and ensure that the players master skating skills before progressing to more advance skills. Players will struggle with the execution of skills such as positioning and angling if they are unable to skate comfortably and control the edges of their skates with ease. Checking is a critical skill in the game of hockey that when performed properly can create quality scoring opportunities or help a team regain control of the puck. Just like skating, puck control, passing and shooting there are key progressions to the skill of checking when taught effectively, can greatly enhance a player's enjoyment of the great game of hockey. (Hockey Canada 2011, 12)

By using the Nation Coach Certification Program (NCCP) 4-step progression model teaching the skill of checking can more easily be taught and understood by the players. The basic principle of the NCCP checking model is that checking should be taught in four logical steps. As each step is mastered by the athlete the next step is builds upon the previous step bringing the hockey player closer to the end result of giving and receiving body checks competently and confidently. The colors within the NCCP checking progression model directly relate to the age and skills development of the hockey players being taught. (Hockey Canada 2011, 12)

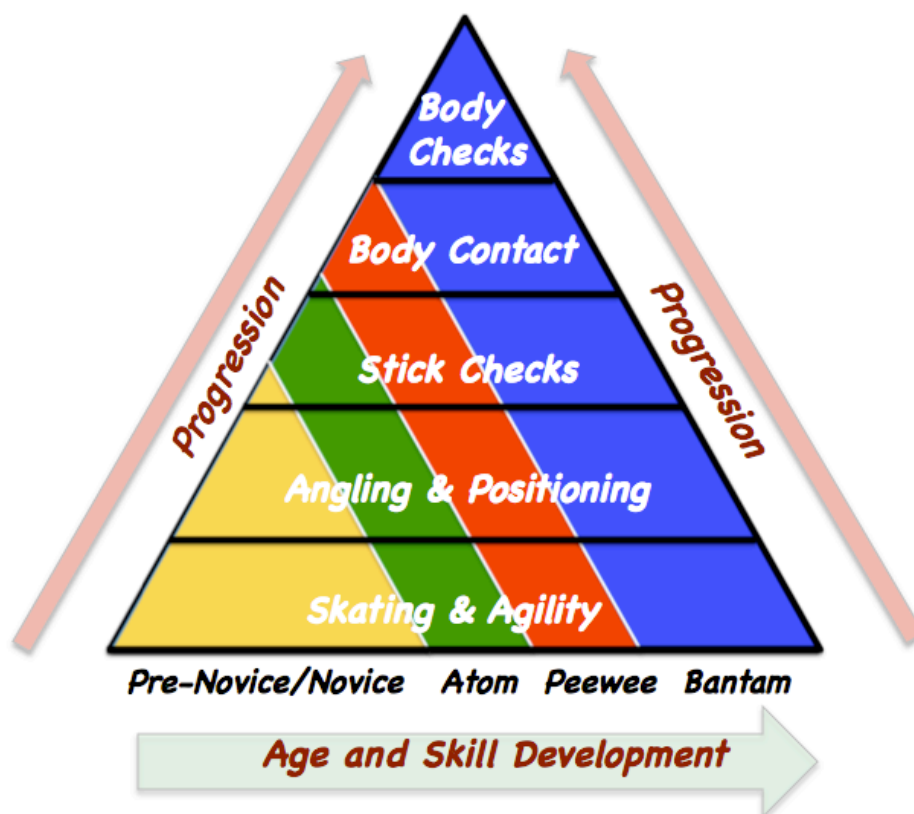


Figure 1. The NCCP Checking Progression Model by age and skill development (Hockey Canada 2011, 12)

### 2.8.2 Positioning and angling

Body positioning and stick positioning are important components of checking that do not involve making contact with the opposing player. Angling in hockey is considered a player's first line of defense. A player should understand how to position him/herself between the puck carrier and their own net as well as use stick positioning to limit the opponent's options. Angling follows positioning and is the ability to force the oppo-

ment to go in a desired direction. With proper positioning, the defensive player's objective is to angle or steer the opponent towards the boards or the outside lane. (Hockey Canada 2011, 13.)

Hockey Canada (2011, 13) describes some key points for coaches to consider in regards to angling as follows:

- Players should remain between the puck carrier and the pass receiver, gradually reducing the puck carriers' space.
- Players should skate parallel to the opponent or in an arc or circular movement but not in a straight line toward the opponent.
- Players should skate slightly behind the opponent thus not allowing the opponent to turn up ice to the inside or them.
- Players need to learn to control skate so that they can adjust their speed to their opponent's speed.
- A player's stick should always be in position to intercept a pass and as a decoy to force the opposition to the desired direction.

### **2.8.3 Stick checks**

With angling being considered the first line of defense, stick checking is considered the second line of defense. After a player has effectively angled the puck carrier in a desired direction, the defensive player is now capable of making contact with the stick. When a player performs a stick-check, the player must maintain control of their stick and avoid using the stick in an illegal manner such as high sticking, slashing or hooking the puck carrier. (Hockey Canada 2011, 18-19.)

Hockey Canada (2011, 18) considers stick checks effective for:

- delaying the advancement of the opposition
- forcing the loss of puck control by the opposition
- regaining control of the puck or assisting a teammate in gaining possession of the puck

Hockey Canada (2011, 18) lists the 5 forms of stick checking as follows:

- Poke Check.
- Sweep Check.
- Tap Check.
- Lift Check.
- Press Check.

#### **2.8.4 Body contact**

When the opposing team gains possession of the puck, defensive play begins for the team not in possession of the puck. Checking is used as a defensive tactic to regain possession and ultimately create an offensive opportunity. Angling is used to direct the puck carrier in a desired direction while the stick check and stick positioning continue to create an active line of defense in an attempt to further control the direction of the opponent. Body contact now becomes the third line of defense, and the third step in the progression used to separate the puck carrier from the puck. Body contact occurs when a player positions his/her body between the puck and the puck carrier. Active movement of the puck carrier to gain ground over the defensive player is the only situation where body contact can occur. The defensive player is allowed to maintain his/her path of direction and stand their ground if the offensive player tries to go through the defensive player. (Hockey Canada 2011, 25.)

Hockey Canada (2011, 25) outlines the key teaching points for body contact as follows:

- Reinforce angling/positioning skills as well as further enhancing the required skating skills.
- Emphasize and further enhance the concept of controlling and the containing of your opponent.
- Give contact confidence.
- Inversely enhance the offensive players puck handling and puck protection skills.

- Allow for teaching, stressing and reinforcing puck carrier/opponent safety tactics and the mature attitudes of respect.
- Provide fun and enjoyment while learning in a competitive but safe environment.

Hockey Canada (2011, 25) defines the two main categories of drill progression for body contact as follows:

1. Contact Confidence.
  - Falling activities
  - Combative activities
  - Bumping drills
2. Angling and positioning with Checking.

### **2.8.5 Body checking**

Body checking is the fourth and final step in the 4 step checking progression. A body check occurs when body contact is made through the movement of the checker. Body checking is defined as the movement of the defensive player in a different direction of the offensive player. The main purpose of body checking is an attempt by the defensive player to stop the oncoming attack of the puck carrier, the checker uses their body in an attempt to stop the progression of the puck carrier and/or separate the carrier from the puck. A solid foundation of the first three steps of the checking progression is required in order for body checking to be used effectively and appropriately. The player attempting to check should first be a strong skater with good balance on their skates. (Hockey Canada 2011, 31)

Hockey Canada (2011, 31) summarizes the fundamental skills of checking as follows:

1. Skating
  - Forward
  - Backward
  - Lateral



- Picots
- Cross overs and t-push
- 2. Positioning and angling
  - Body positioning
  - Reading and reacting
  - Inside-out position
  - Tracking
- 3. Stick Checks
  - Lift
  - Press
  - Poke
  - Sweep
  - Tap
- 4. Contact Confidence
- 5. Body Contact
- 6. Body Checking

## **2.9 Coaching education**

With the use of the “Teaching Checking – A Progressive Approach” skills manual, Hockey Canada (2010b, 1-39) developed a Checking Coaching Clinic in order to provide a supplemental instructional program for coaches to learn about the checking game. A course facilitator guide was developed to support the course facilitator assigned to lead the supplemental education program. Clinic facilitators use the guide and the power point presentations, video resources, and instructional ice sessions to instruct the participants through the course. The clinic agenda, clinic format, and clinic overview with the goals of the clinic are provided to support the clinic facilitator in the execution of the educational program. The intent of the clinic is to focus on all aspects of checking, not just body checking. Skills required for checking are focal points within the teaching tool. Stick checks, angling, skating and agility are checking skill prerequisites that can be taught at any and all levels of hockey. One of the primary goals of the Checking Clinic is to have coach participants adopt core values with respect to the

checking game and apply these values in their own teaching and coaching. (Hockey Canada 2010b, 6-7.)

Hockey Canada (2010b, 6) lists the core values of the clinic as follows:

- Coach with integrity, honesty, respect, and humility.
- Listen carefully and communicate openly and actively.
- Encourage teamwork.
- Demonstrate excellence and be passionate about what you do.
- Never stop learning.
- Encourage balanced and personal growth.
- Be grateful for the opportunity to help others in their development.

The set of core values is common to the coaching of all age and skills level in minor hockey and female hockey. The skills, tactics, and attitudes that the resource guide provides are based upon the set of core values listed.

Hockey Canada promotes these clinics to the 13 Branches. All Branches with the exception of Hockey North offer checking clinics. Prior to the 2013 Hockey Canada AGM some Branches required their coaches to participate in mandatory coaching clinics while others did not (Table 2.) The average length of the checking clinics is 3 hours combining classroom sessions and ice time instruction run by the facilitator. All the checking clinics, which are offered, include an ice time.

Table 2. Branch Landscape – Clinics (Carson 6.4.2013)

| # | Branch | Clinic | Mandatory |    | Ice Session |    | Total Time |
|---|--------|--------|-----------|----|-------------|----|------------|
|   |        |        | Yes       | No | Yes         | No |            |
| 1 | HBC    | ✓      | ✓         |    | ✓           |    | 4 hrs      |
| 2 | HA     | ✓      | ✓         |    | ✓           |    | 8 hrs      |
| 3 | SHA    | ✓      | ✓         |    | ✓           |    | 4 hrs      |
| 4 | HM     | ✓      | ✓         |    | ✓           |    | 3 hrs      |
| 5 | OEH    | ✓      |           | ✓  | ✓           |    | 2 hrs      |

|    |      |   |   |   |   |  |         |
|----|------|---|---|---|---|--|---------|
| 6  | OHF  | ✓ | ✓ |   | ✓ |  | 2-4 hrs |
| 7  | HNO  | ✓ |   | ✓ | ✓ |  | 2 hrs   |
| 8  | HN   | - |   | ✓ |   |  | -       |
| 9  | HQ   | ✓ | ✓ |   | ✓ |  | 3 hrs   |
| 10 | HPEI | ✓ |   | ✓ | ✓ |  | 2.5 hrs |
| 11 | HNS  | ✓ |   | ✓ | ✓ |  | 3 hrs   |
| 12 | HNB  | ✓ |   | ✓ | ✓ |  | 2.5 hrs |
| 13 | HNL  | ✓ |   | ✓ | ✓ |  | 2 hrs   |

### **3 Policy change process**

The review of the body checking policy by Hockey Canada was not a simple task. At the national and provincial levels, the review of scientific literature was necessary to insure the debate was based on research-based outcomes rather than public opinion and traditional thought. Scientific evidence helps provide a broad base of information and aids in dismissing traditional beliefs and preconceived views when it comes to the need and the significance of body checking in youth hockey. In this case, advisory groups, working groups, or committees are assembled in order to review the literature and bring recommendations forward to the Board of Directors. There are two noteworthy documents regarding the decision making processes at Hockey Canada, the first is the “Policy and Procedures Manual” and the second is the “Articles, By-Laws, Regulations, History”, the meaning and purpose of these documents will be described throughout this chapter. (Hockey Canada 2010a; Hockey Canada 2013d.)

#### **3.1 Policies and procedures**

The policies and procedures manual, developed by Hockey Canada, is intended to guide the officers, board members, and staff in making operational decisions on all Hockey Canada matters. The manual outlines the role of Ad-Hoc committees and work groups and their responsibilities when it comes to reviewing policies. Appointed by the chair of the board, Ad Hoc committees and work groups take on specific tasks. The Ad Hoc Committees or Work groups are assigned a specific task to complete and are given a specific time period in which to complete said task and report its recommendations. (Hockey Canada 2010a, 5-6.)

In April of 2013, the Hockey Canada Chairman of the Board appointed a Checking Advisory Group with the goal of completing a comprehensive review of issues relating to body checking. Following the completion of their task, the Checking Advisory Group provided the Hockey Canada Board of Directors with four key recommendations related to Checking Skills and the body checking rule. (Carson 24.5.2013.)

The four recommendations proposed by the Checking Advisory Group were as follows (Carson 24.5.2013).

### **Recommendation #1**

All Hockey Canada Branches adopt the definitions for Body Contact and Body Checking as the national standard.

Body Contact:

Incidental contact of two opposing players in pursuit of the puck or position on the ice in the same direction. Body contact occurs as a result of movement by the offensive player. (Canadian Hockey Association, 2002)

Body Checking:

An attempt by a player to gain an advantage on the opponent with the use of the body. Body checking results when two opposing players collide while skating in opposite directions or when positioning and angling allow the checker to use the force of the body to gain the advantage. (Canadian Hockey Association, 2002)

### **Recommendation #2**

At the start of the 2013-14 season, the Hockey Canada Board of Directors remove body checking from all levels of Pee wee hockey, placing continued emphasis on body contact for this age group.

### **Recommendation #3**

A Hockey Canada and Branch workgroup build a mandatory national checking educational and instructional resource program to support the progressive implementation of checking skills at the Atom and Pee wee level and to better prepare players for body checking at the Bantam and Midget level.

### **Recommendation #4**

Hockey Canada continues to work collaboratively with research groups to investigate a number of areas of the game including but not limited to: injury rates, return to play protocols, skill acquisition, knowledge translation of coach education, and ongoing trends in registration.

With the completion of their given task the next step for the advisory group was to present on there findings and present these recommendations to the Hockey Canada Board of Directors at an 2013 Annual General Meeting.

### **3.2 Amendments**

Hockey Canada outlines the procedure for playing rule changes in the Hockey Canada Articles, Bylaws, Regulations, and History handbook (Effective 2013-14 season). The handbook is published every year and changes to the constitution that are approved will be incorporated in the copy posted on the web. Article Six – Amendments to By-Laws and Regulations outlines information about By-Law Eleven. This is an important component of the Hockey Canada By-Laws because this process is required when the Board of Directors wishes to adopt, amend, or revise playing rules outside the normal timeframe permitted for rule changes. (Hockey Canada 2013d, 18, 48-49.)

Changes to the Hockey Canada Playing Rules of this Association will only be considered at the Association’s Semi-Annual meeting held in even numbered seasons (e.g. 2011-2012). The presentation of such proposed rule changes for review by the Board of Directors shall be at an Annual General Meeting that occurs in the odd numbered season (e.g. 2010-2011). (Hockey Canada 2013d, 49.)

The Hockey Canada Playing Rules is published every two years and changes are approved during the Semi-Annual meeting prior to the upcoming even numbered season. If a rule change is proposed at the Annual General Meeting prior to the start of an even numbered season, in this case, 2013-2014, By-Law Eleven must first be approved by the Board of Directors prior to voting on a proposed rule change. If By-Law Eleven is invoked, then the proposed rule change could be put to the Board of Directors for a vote. If approved, the rule change would take effect the following season. It will take one complete season of play before the rule is printed in the new rulebook. (Hockey Canada 2013d, 48-49)

Article six of the amendments by-laws and regulations states that “this Association at any Annual General, Special Board, or Board of Directors’ meeting may adopt, amend,

revise or repeal By-laws or Regulations for the governance of this Association in accordance with the methods set forth thereof in By-Law Eleven.” (Hockey Canada 2013d, 18.)

By-Law Eleven, 1101, a, states that “this Association at any Annual General, Special or Board of Directors Meeting may adopt, amend, revise or repeal By-Laws of Regulations for the government of this Association, or Playing Rules, upon the affirmative majority vote of the member present and voting at such meetings.” (Hockey Canada 2013d, 48)

At the 94<sup>th</sup> AGM in Charlottetown P.E.I the Board of Directors cast a majority vote to invoke By-Law Eleven, which permitted the rule change motion to be considered. Subsequently a majority vote approved the adoption of the rule change.

The Hockey Canada Board of Directors consists of 28 members and amount to a total of 47 votes. Hockey Quebec and the Ontario Hockey Federation have 5 votes apiece. The remaining 11 Branches have 2 votes apiece. The 5 Council Directors, the Canadian Hockey League, the Female Athlete and Male Athlete representatives have 1 vote apiece and the 7 Officers have 1 vote apiece. The Chairman of the Board only votes in the event of a tie. (Hockey Canada 2013d, 39.) When the motion to approve the change to Rule 6.2b was voted on by the Board of Directors, the motion was approved by a vote count of 45 to 2. The 2 votes not in favour of the proposed motion came from the Saskatchewan Hockey Association.

## **4 Scientific literature on body checking**

A number of studies have been conducted on the topic of body checking in hockey. Recent studies indicate that body checking is associated with 45-86% of injuries in minor hockey players 9-15 years old. These statistics, along with other research results, are why body checking is identified as the major mechanism of injury among youth hockey players at all levels of competition where body checking is permitted (Emery et al. 2010b, 2265; Houghton et al. 2012, 509; Willer et al, 2005, 496.) The studies reviewed also state that the act of body checking is accountable for the vast majority of injuries rather than the age and size of the player (American Academy of Pediatrics, 2000; Hagel & Marko, et. al., 2006; McPherson, Rothman & Howard, 2006).

There are a large number of studies available supporting the conclusion that the introduction of body checking is linked to a dramatic increase in injuries regardless of the level of play or age group it is introduced at (Emery et al. 2010a; Emery et al, 2011, Warsh et al. 2009). Furthermore, McPherson, Rothman & Howard, (2006) observed that body checking increases the rate of injuries both directly and indirectly in minor hockey. Injuries caused by intentional contact or other contact between players that would be considered a penalty was two times higher in leagues permitting body checking. This aggressive style of play is considered the indirect influence of body checking on the rates of injuries. (Emery et al. 2011; McPherson 2006.)

### **4.1 Permittence of body checking**

Studies that investigate the effect of body checking on injury rates commonly found an increase in the risk of injury in leagues that permit body checking in comparison to leagues that do not permit body checking (Cusimano et al. 2011; Darling et al. 2011; Emery et al. 2010a; Emery et al. 2010b; Macpherson et al. 2006).

Using the top 60% of divisions of play during the 2007-2008 season of hockey in the province of Alberta and the province of Quebec, a validated injury surveillance system was used to capture all injuries requiring medical attention and/or time loss from hockey (i.e. time between injury and return to play) in 2154 players. The population of the study was Peewee players aged 11-12 years. With the use of the injury surveillance



system, the study reported 241 injuries (78 of which were concussions), during 85,077 player exposure-hours, in Alberta leagues that allowed body checking. In comparison to the Quebec leagues that did not permit body checking, reported 91 injuries (23 of which were concussions), during 85,099 player exposure-hours, in Quebec leagues that didn't allow body checking. (Emery et al. 2010b, 2265) A similar study comparing Quebec and Ontario hockey leagues establish that 4736 injuries occurred between 1995-2002 by using the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP). Of the 4736 hockey injuries recorded, 3618 (76,8%) occurred in games where body checking was allowed. In Ontario leagues, where body checking was introduced at the Atom and Peewee level in competitive leagues, 3006 (63%) hockey-related injuries were treated. In Quebec leagues, where body checking was not introduced until the Bantam level, 1730 (37%) hockey-related injuries were treated. (Macpherson et al. 2006.)

Furthermore, the Macpherson et al. (2006) study measured the odds of suffering a checking injury and found that the players ages 10-13 had significantly greater odds where checking was allowed.

The study measured the odds ratios (OR) of sustaining injuries in checking leagues (Ontario) as compared to non-checking leagues (Quebec) and produced the following results:

- Risk of checking related injury 2.65
- Risk of concussions 1.53
- Risk of fracture 1.20

The more recent study by Emery et al. (2010b, 2265, 2269) measured the incidence rate ratios (IRR). The study indicated the Peewee game-related injury risk rates of Alberta vs. Quebec as follows:

- Risk of all injuries 3.26
- Risk of concussions 3.88
- Risk of severe concussions 3.61

- Risk of sever injury 3.30

Systematic review of 24 studies and a meta-analysis was conducted that only included studies which examined policy allowing body checking as a risk factor for all hockey injuries. The systematic review found that policy allowing body checking was a risk factor for all hockey injuries, with a summary IRR of 2.45, as well as a risk factor for concussion, with a summary OR of 1.71. (Emery et al. 2010a.) A retrospective study was conducted that also looked at CHIRPP data from 1994-2004 in five Ontario hospitals in order to examine injury risk following a rule change by Hockey Canada in 1998 that allowed body checking at the Atom level. The study found a 2.2 times greater risk of injury amongst the Atom players after the rule change was reported. (Cusimano et al. 2011). These data points continue to support the knowledge that policy allowing body checking increases the risk of all injuries and the risk of concussion specifically. A five-year cohort study (2002 to 2007) that included all age groups, provides further evidence demonstrating that injury risk increases 3.75 times in leagues that permit body checking compared with those that do not permit body checking. (Darling et al. 2011, 496).

Each of these studies determined that an increased risk of injury was a direct result of leagues permitting body checking. The Emery et al. (2010b, 2270) study revealed a 3-fold increased risk of all game related injuries and the categories of concussion, sever injury, and severe concussions among 11-12 year old hockey players in leagues where body checking was permitted compared to leagues which didn't. The validity of Emery et al. (2010b) study is greater than Macpherson et al. (2006) because the injury surveillance protocol used by Emery provided more reliable source of reporting injury rates. Macpherson et al. (2006) study was unable to make calculations on rates of injury because it was not population-based.

Additionally, Emery et al. (2010b, 2265) research shows that the possible risk reductions in one season, if body checking were to be removed from Peewee hockey, would:

- eliminate 12 injuries/100 players
- eliminate 3 severe injuries/100 players

- eliminate 5 concussions/100 players
- eliminate 1 sever concussion/100 players

Furthermore the data also demonstrated the concussion risk in Peewee in Alberta is much higher than Peewee in Quebec.

#### **4.2 Body checking experience and the protective effect**

Despite a lack of evidence, supporters of body checking will argue that the introduction of body checking at an earlier age to build a body checking skill base in younger players, would protect players from injuries related to body checking at older ages (Marchie & Cusimano, 2003, 125). The literature, however, does not support this attitude (Emery et al. 2011, 1254; McPherson et al. 2006). Research that compared Bantam hockey players from Quebec who had no previous game experience with body checking to Bantam hockey players from Alberta who had 2 years of body checking game experience, revealed a similar rate of injuries in both groups during their first year of Bantam (Emery et al. 2011, 1254). Based on this outcome, Emery et al. (2011, 1255) stated that the research showed no “protective effect” for players in the Bantam age groups when checking was introduced earlier than the Bantam aged players in a non-body checking environment.

Using the top 30% of divisions of play at the Bantam age level during the 2008-2009 season in Alberta and Quebec, the validated injury surveillance system was used to capture all injuries requiring medical attention and/or time loss from hockey (i.e. time between injury and return to play) in 1971 players. The study reported 272 injuries (51 concussions) in Alberta, among the players who had body checking experience prior to Bantam and 244 injuries (49 concussions) in Quebec, among the group of players without experience prior to entering Bantam. (Emery et al. 2011, 1249.)

The bantam game-related injury risk rates comparing Alberta vs. Quebec (Emery et al. 2011, 1249) are as follows:

- Risk of all injury 0.85

- Risk of Concussion 0.84
- Risk of sever injury 0.67
- Risk of severe concussion 0.60

Macpherson et al. (2006) was able to establish results through research of the CHIRPP database. Macpherson et al. (2006) study measured the odds of suffering a checking injury in players from Ontario who had 2-4 years checking experience compared to players from Quebec who had no prior experience. Comparative results found that the Bantam players, age 14-15, had no significant difference in the amount of checking related injuries, concussions, or fractures.

The OR for sustaining a checking injury comparing Ontario vs. Quebec (Macpherson et al. 2006) are as follows:

- Risk of checking related injury 1.11
- Risk of concussions 1.4
- Risk of fracture 1.16

Emery et al. (2011, 1253) study found that there was no significant reduction in game-related injury risk of all injuries or risk of concussions for the Bantam age group when body checking is introduced at Peewee. There was a 33% reduction in severe injury in Bantam alone where body checking was introduced at Peewee. However, Emery et al. (2011, 1255) theorized that this measurement could have been the result of the survival effect, meaning that Peewee players were dropping out of hockey after having difficulty with body checking or injury during their 2 years in Peewee.

Additionally, Emery et al. (2011, 152) research shows the possible risk reduction for Peewee and Bantam injury rates for players in the top 30% as possibly eliminating:

- 17 injuries/100 players
- 3 severe injuries/ 100 players
- 7 concussions/ 100 players
- 0.5 severe concussions/ 100 players

Furthermore, the data shows that the concussions risk in Bantam in Alberta is much higher than Bantam players in Quebec.

### **4.3 Risk factors of body checking**

Aside from policy that permits body checking, Houghton et al. (2012, 509) noted that scientific literature has investigated a number of other risk factors for injury within Hockey. The evidence from the research supports that body checking is the most common mechanism of injury, and that injury increases due to decreased age of exposure (Cusimano 2011, 57).

The most commonly investigated risk factors for injury within the scientific literature on body checking (Houghton et al. 2012, 509) are as follows:

- Age.
- Session type (practice vs. game).
- Level of play.
- Player position.
- Physical Size.
- Previous history of injury.

#### **4.3.1 Age**

Studies that examined age as an injury risk factor found inconsistent results. The majority of the studies observing age found that there was an increased risk of injury with increasing age (Bjorkenheim, Syvähuoko & Rosenberg 1993; Emery et al. 2006; Emery et al. 2010a; Stuart, Smith & Rock 1995). Alternative studies suggested no elevated risk in older age groups such as Bantam or Midget (Wiggins, 1998 & Williamson 2006). Relative age has been examined by Wattie et al. (2007, 143) to “describe the potential advantages (or disadvantages) that result from age differences between peers within an annually age grouped cohort”. What the study found was that relatively older players within hockey age groups are at increased risk of injury compared to their younger peers (Wattie et al. 2007, 146). Another study that examined relative age found no evi-

dence that younger (or older) players within an age group were at an elevated risk of injury (Wiggins 1998).

#### **4.3.2 Session type (practice vs. game)**

Injuries that occur throughout the hockey season will happen in practice and games, therefore studies observed the risk factors of both session type. Studies that examined both session types found that injury risk was consistently reported higher in games than in practices, with rate ratio (RR) estimates ranging from 2.45 to 6.32 times higher in games. (Benson & Meeuwisse 2005; Brust, Leonard, Pheley & Roberts 1992; Smith, Stuart, Wiese-Bjornstal & Gunnon 1997; Stuart et al. 1995.) One study examined game related injuries throughout the season and indicated that injury rates were higher in regular season play than during preseason, postseason or tournament game (Wiggins, 1998).

#### **4.3.3 Level of play**

Studies examining level of play across all age groups have found that injury risks rise with increasing skill levels, meaning that the players at the top level within their age category are at the highest risk of injury (McKay, Emery, Campbell & Meeuwisse 2008; Wattie 2007, 146; Willer 2005, 496). However, the Emery et al. (2006) study indicated that only Peewee players in the top skill division were at the greatest risk of injury, with no significant increase by skill level in older groups. Further studies consistently confirmed greater risk of injury amongst top-level Peewee players with similar trends not appearing in the Bantam age group. Additionally the rate of concussions increases with increasing skill level of play with the highest risk at the most elite levels of play. (Emery et al, 2010b, 2068; Emery et al. 2011, 1251).

#### **4.3.4 Player position**

Player position related to risk of injury has been examined and studies have provided conflicting evidence. Some researchers found that forwards were at a higher risk of injury than defensemen or goalies. (Roberts, Brust & Leonard 1999; Wiggins 1998). Stuart, (1995) research reported that the relative risk of injury was 2.18 times higher for

defencemen than forwards. Goalies were at the lowest risk of injuries within all three studies providing the assumption that it may be the safest position in Hockey (Emery et al. 2010b, 2268; Emery et al. 2011, 1253; Wiggins 1998; Roberts et al. 1999; Stuart 1995).

#### **4.3.5 Physical size**

Player size is another risk factor that research has produced conflicting results on. Studies have results showing an increased risk for smaller players in age groups such as Peewee. The data presented a significantly greater risk of injury for the Peewee player in the lowest 25<sup>th</sup> percentile weight of their group. (Emery et al. 2010b, 2267.) However Emery et al. (2011) study did not reflect the same results in its Bantam group study. Additional research has found lighter bantam players to be at greater risk of injury while others reported significant weight difference, at all levels, amongst players who have sustained a body checking related injury and players who haven't (Brust et al. 1992; Wiggins 1998). Finke et al. (1988) study examined body weight as a risk factor and found that heavier players were at a greater risk of sustaining shoulder injuries. One study looked at the height of Bantam players as a risk factor for injury and found no evidence of effect (Brust et al. 1992).

#### **4.3.6 Previous history of Injury**

Previous history of injury or concussion has been consistently reported as a significant risk factor for becoming reinjured or receiving further concussion (Emery et al. 2010a). One group study showed that the risk of injury double for players in Peewee who reported being injured within the past year with an IRR of 2.07, while the risk of concussion tripled for the Peewee players reporting any previous concussion with an IRR of 2.76. Within the same study, the Bantam group showed greater risk of reinjury and concussion in players who reported previous injury within the past year, IRR of 1.39, or any previous concussion, IRR of 1.87. (Emery et al. 2011, 1252.) In addition to previous concussion being a significant risk factor for future concussion athletes that have sustained a concussion are considered 3-6 times more likely to suffer a further concussion (Canadian Paediatric Society 2006; Emery et al. 2011, 1252; Johnson 2011; Kirkwood et al. 2005, 1365). Evidence from the research showed that multiple concussions

could have a cumulative, detrimental effect on the brain, which could lead to the potential of long-term damage (Cusimano 2011; Johnson 2011; Stuart 2011). The results that this research provides leads to physicians advising athletes who have sustain 3 or more concussions in one sport to discontinue participation in that sport or modify their play to reduce risk (i.e. non-body checking hockey versus body checking hockey).

#### **4.4 Types of injury associated with body checking**

Clarification of the types of injuries sustained by minor hockey players who are exposed to body checking is important. In the study comparing Ontario to Quebec players, head injuries and fractures were more common in the body checking leagues. In other words, there was a significantly higher rate of fractures and concussions sustained by minor hockey players exposed to body checking at the Peewee level when compared to those who are not exposed. (McPherson et al. 2006, 145.) Comparing Peewee aged players in Quebec and Alberta, Emery et al. (2010b, 2269-2270) found that the Alberta players were at a 3 fold greater risk for all types of injuries measured including overall injury, concussion (less than 10 days lost), severe injury (7 or more days lost due to injury) and severe concussion (10 or more days lost due to injury). A combined estimate of the increased risk of severe injury (defined as fractures, concussions, injury requiring hospitalization or emergency medical attention) related to body checking exposure was 1.7(ranging from 1.2-11.7) (Emery et al. 2010a). “Body checking is a major source of serious injury, especially concussions, in hockey players” (Johnson 2011, 183).

Given the clear association between body checking and concussion, further research was done in this area. Concussions are a relatively frequent childhood injury in Canada. The Canadian Paediatric Society (2006) indicated that sport related head injuries account for approximately 18.2% of all serious head injuries in children under 10 years of age as well as 53.4% in 10-14 year olds, and 42.9% in 15-19 year olds, with the majority of sport-related head injuries occurring in individuals under the age of 20 years. Despite these numbers researchers speculate that many sport-related concussion have been, and are being, overlooked due to under-reporting by young athletes and insuffi-



ciently education adults supervising the sport (i.e. coaches, parents). (Johnson 2011, 921; Kirkwood et al. 2006, 1363.)

## 5 Research objectives

The purpose of this study was to take an event, which was the body checking rule change, and analyze the process leading up to it, how it happened, why it happened, and the decisions that were made by the decision makers. The aim was to determine how the decisions were made based on the policy change process. Additionally it was not to determine whether the rule change itself was considered good or bad, but more to analyze how Hockey Canada and its associate members review and present evidence on the issue to the voter's and how it reflects in the decisions that potentially change a policy.

The author's research questions are as follows:

- 1) What are the most important factors that influence the decisions made by the hockey administrators through the policy change process?
- 2) Did the hockey administrators receive or review the relevant information available on the topic of body checking?
- 3) Do the hockey administrators agree with all the recommendations proposed by the Hockey Canada advisory committee?
- 4) Did the policy change process consist of a thorough review on the issue of body checking?

## **6 Research methods**

The following chapter will cover the research design, and data collection methods used by the author. The research method chosen was quantitative, using a survey as an instrument of data collection. The survey was designed as a questionnaire and the author focused on the importance of developing relevant questions that represented or were closely related to the theoretical framework of this study. This further assisted in making the data analysis easier and provides the bases for answering the research questions.

### **6.1 Research design**

The research study was conducted during November 5<sup>th</sup>, 2013 through to November 21<sup>st</sup>, 2013. The data was collected via questionnaire that can be found as an attachment to this thesis (attachment 1). The questionnaire was posted online using the host site [www.surveymonkey.com](http://www.surveymonkey.com), and was designed as a web-based survey. The link to the questionnaire was then used for distribution to the target group.

The desired target group for the survey was members from Hockey Canada and the 13 provincial branches it governs. As it has already been mentioned within the chapter “Hockey Canada decision makers”, Board of Directors vote on policy changes. Additionally, in the chapter “Policy change process” Ad Hoc Committees or work groups are tasked to bring forth recommendations based on review of a given topic. Therefore the more specific target group of the questionnaire was volunteers who were required to vote on the policy change, and staff members who were tasked to review body checking as a topic.

The selected target group would prove difficult to communicate with directly therefore a connection to a Hockey Canada staff member was considered essential by the author in order to establish proper distribution of the questionnaire. After the questionnaire was refined and produced an email was sent to a member of Hockey Canada’s staff in order to have the questionnaire approved for distribution. The President of Hockey Canada, Bob Nicholson, reviewed the questionnaire and approved it for distribution amongst the 13 provincial branches. The survey was then distributed via email with a link to the questionnaire to Hockey Canada Officers, Branch presidents, Branch Exec-

utives, athletic representatives, council directors, associate members from the Canadian Hockey League (CHL) and the Canadian Interuniversity Sports with expectations of further distribution amongst all voting board members and Ad Hoc Committee members from each provincial organization. Hockey Alberta and Hockey Nova Scotia were asked to distribute the questionnaire amongst their Branches Board of Directors and work groups since their branches went through the same policy change process at the Provincial level that Hockey Canada had at the National level.

A calculation of the total Board members and Ad Hoc committee members who could have responded to the email was 81. Of the 81 potential responses, 32 questionnaires were returned giving the questionnaire a response rate of 40%.

## **6.2 Data collection**

The questionnaire was divided into three sections, a short description of Administrators Branch and Organizational Role, volunteers and staff insight and perspective, and a likert scale questionnaire section. The goal of data collection was to collect as many responses from the target group in order to obtain comprehension about the National and/or Branch policy change process and the viewpoint of those directly involved in the decision-making. The questionnaire had a series of questions and statements designed to address the research questions that have already been outlined in the chapter “Research Problems”.

The likert scale was designed with a rating scale in order to calculate the weighted average based on the weight assigned to each response option. The weighted average will be displayed in the place of the response options selected in order to clearly identify the results as a whole. The respondent’s selected response options are displayed within attachment 2 at the end of this thesis.

The response options were weighted as follows:

- Strongly Agree = 1
- Somewhat Agree = 2

- Somewhat Disagree = 3
- Strongly Disagree = 4
- N/A = 0

The response option “N/A” was added to correct the validity of the questions and was given a weight of 0 so that it would not skew the average rating

Studies carried out by questionnaires are often viewed with reservations due to a perceived lack of reliability. Different people will often interpret questions differently. In this particular questionnaire making the questions and statements as clear as possible, keeping all personal opinion and bias out of the questions, was required to increase reliability. With the survey being set up electronically ready made answer were designed to give the respondent the ability to answer “not sure” or “N/A” to correct the validity problem that occurs with questions like these.

After the questionnaire was closed on November 21<sup>st</sup>, 2013 the data was collected via direct download from the host website. The results of the survey were reviewed and analyzed in a way that provides insight about the policy change process and perspective from the decision makers about the policy change. Conclusive evidence can be considered but is not concrete.

## 7 Results

The questionnaire was distributed amongst the 13 provincial branches and a total of 32 responses were completed within the allotted timeline. Of the 13 branches, Hockey Quebec and Hockey Eastern Ontario were the only branches that did not complete the questionnaire.

The following figures and tables will display the results of the surveys questions in the order the author developed them. Further discussion of the results will be analyzed throughout the chapter “Discussions” of this thesis. The data presented first is of the total responses from each Branch and the respondent’s roles within the organization as well as their role within the policy change process (Figure 1 – Figure 5). The responses that follow are broken down into separate entities, volunteer, staff, and total in order to create clarity amongst the insight and perspective of both entities separately as well as together (Table 3. – Table 7.) The final section displays the likert scale questionnaire in three separate entities, voter, non-voter, and total in order to once again create clarity for the insight and perspective of decisions made by the Board of Directors who voted on the issue (Table 8).

### 7.1 Administrators branch and organizational role

The questionnaire was distributed to 81 members from the 13 Branches governed by Hockey Canada. 32 responses were collected with Hockey Quebec and Hockey Eastern Ontario being the only Branches of the 13 that did not provide responses to the questionnaire. The Ontario Hockey Federation and the Hockey Nova Scotia Branch had the highest response rate (Figure 2).



Figure 2. Indication of respondent's associated Branch.

The questionnaire was designed to target the volunteers and staff members from each provincial branch. The amount of volunteers who completed the survey was higher than the amount of staff members (Figure 3).

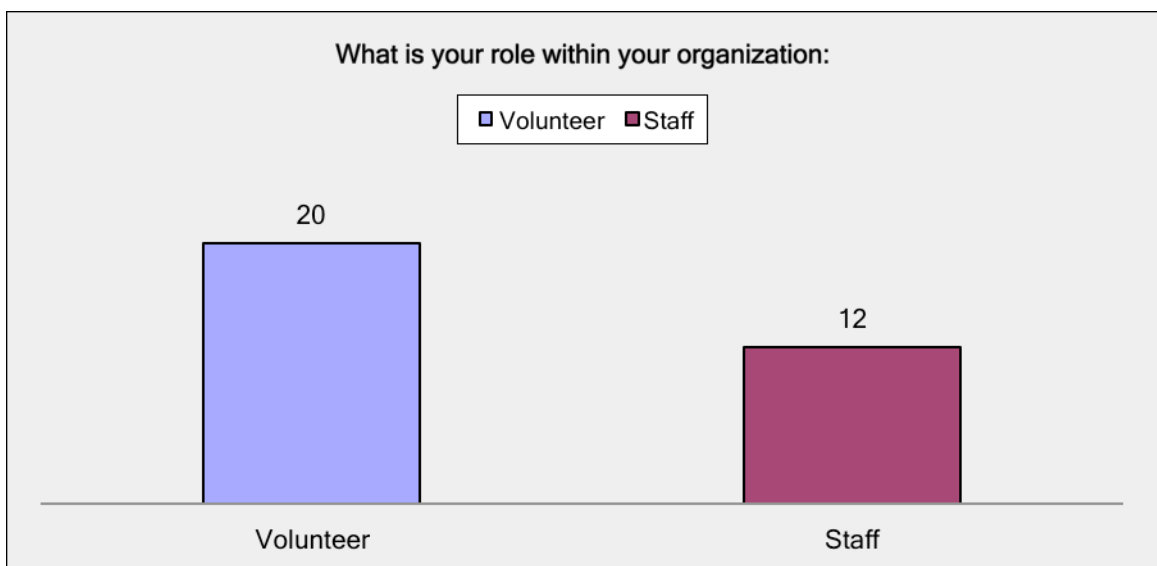


Figure 3. Respondent's role within their organization.

Voting took place at the Provincial level in Hockey Alberta, Ontario and Hockey Nova Scotia prior to the vote by Hockey Canada's at its 94<sup>th</sup> AGM. Therefore the survey required distinction between voting members at the Branch or National level and non-voting members. The results indicated that 19 were Board voting members and 13 were not (Figure 4).

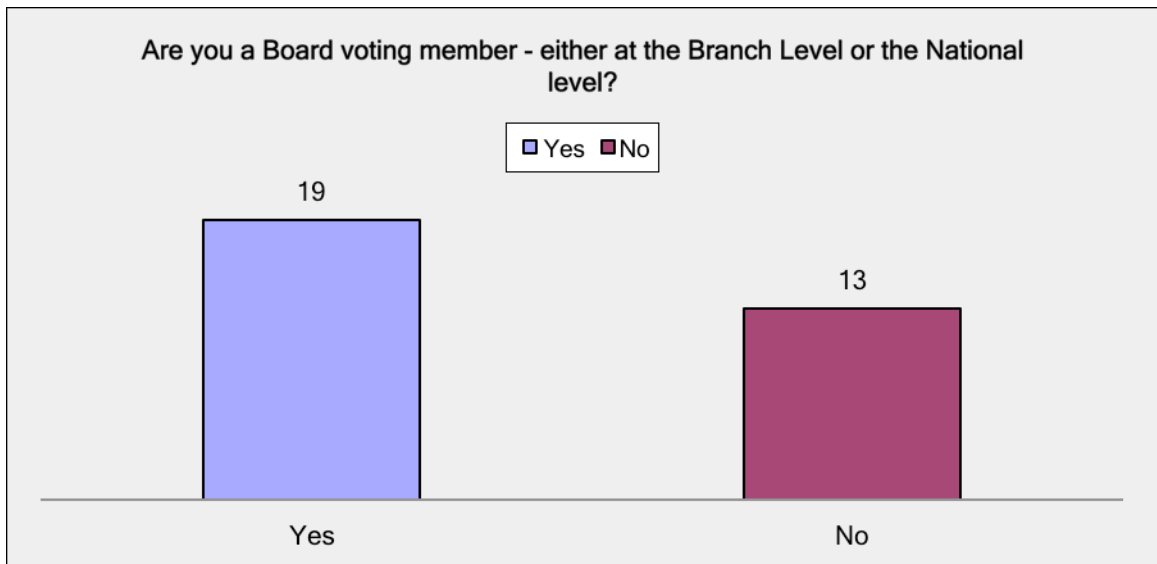


Figure 4. Voting Board members at the Branch or National Level.

Additionally it was important to determine whether the Board voting members were required to vote on the current body Checking Rule Change motion. The results indicate that 18 members were required to vote and 14 members did not vote on the issue (Figure 5). This indicates that one Board voting member at the Branch or National level was not required to vote on the body checking Rule Change motion at the Branch or National Level.

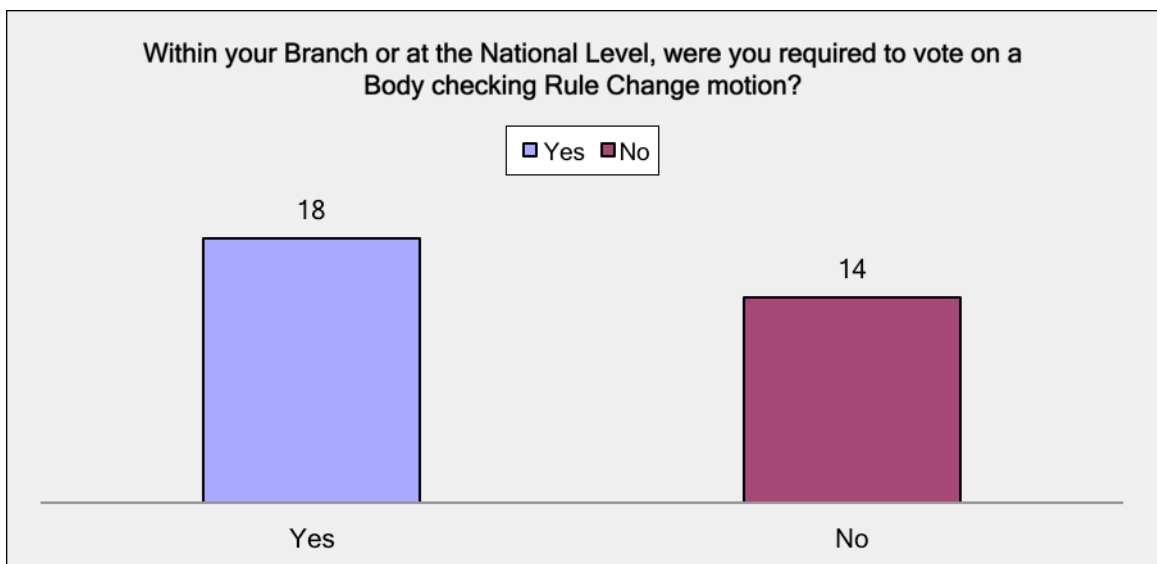


Figure 5. Board members who voted on the Body checking Rule Change motion

The result of the Hockey Canada Board of Directors vote was covered by many news sources around Canada, and they made it clear that the majority vote had gone through



with only Hockey Saskatchewan being apposed. Figure 6 demonstrates how the surveyed members of the Board of Directors voted on the motions at the National or Branch level (CBC Sports 2013). It is important to note that the author made a technical error in the original format of the questionnaire, which can be seen in the questionnaire attached to this thesis (attachment 1). Question 5 of the survey was designed with two fixed answers, “In Favour” and “Not in Favour”. It was later taken into account that the question did not allow non-voting members at the National or Branch level that completed the survey to select non-applicable as a response to the question. Therefore using the data provided by Figure 5 the author was able to take the respondents who answered “No” and modify their response to the question represented in Figure 6. A third fixed response was then added to the question, “N/A”, in order to indicate members who did not vote on the issue. Although these members did not have a vote it is worth mentioning that 14 non-voting members originally responded with “In Favour” to the proposed motion to change the Body Checking Rule.

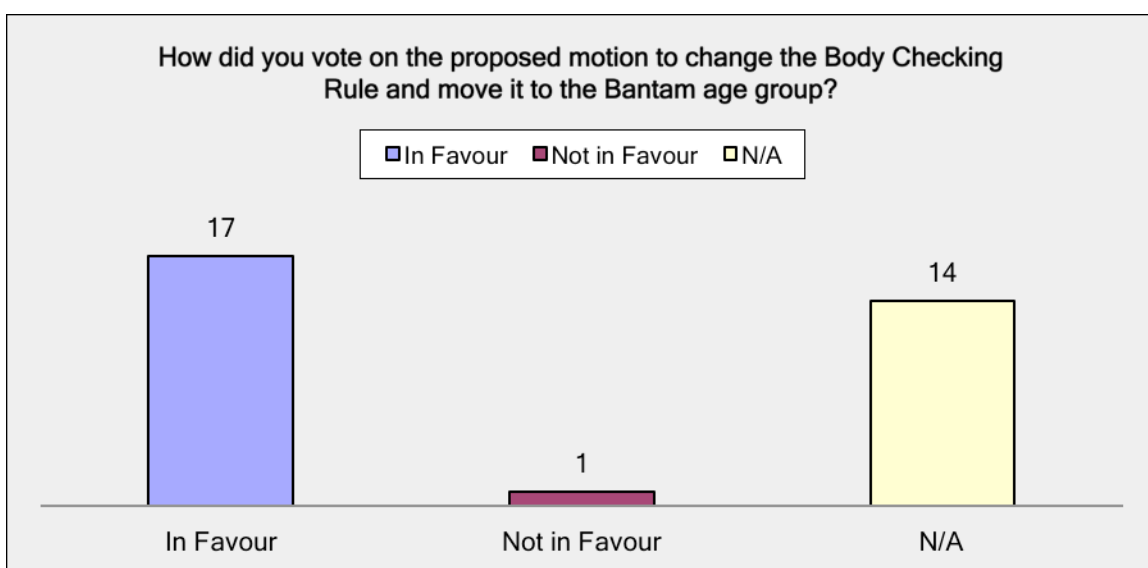


Figure 6. How respondent’s voted on the proposed motion to change the Body Checking Rule.

## 7.2 Volunteer and staff insight and perspective

Table 3. Responses to question regarding Coaches need to participate in mandatory checking clinics.

| Question 6: With this policy change is there a need for coaches to participate in mandatory checking clinics? |                  |              |              |
|---|------------------|--------------|--------------|
|   | Volunteer (N=20) | Staff (N=12) | Total (N=32) |
| Yes   | 19 (95%)         | 10 (83.3%)   | 29 (90.6%)   |
| No  | 1 (5%)           | 2 (16.7%)    | 3 (9.4%)     |
| Not sure  | 0 (0%)           | 0 (0%)       | 0 (0%)       |

90.6% of the volunteer's and staff responded "yes" to the need for coaches to participate in mandatory checking clinics. Carson (6.4.2013) stated that 12 of the 13 Branches provide Checking Clinics, although 7 Branches did not make it mandatory for coaches before the policy change. 9.4% indicated that mandatory checking clinics are not required with the policy change.

Table 4. Responses to the rule changes impact on recruitment and retention amongst Pee-wee, Bantam, and Midget Levels

| Question 7: Do you feel the rule change will positively impact on recruitment and retention of players at the Pee-wee, Bantam and Midget Levels? |                  |              |              |
|--|------------------|--------------|--------------|
|  | Volunteer (N=20) | Staff (N=12) | Total (N=32) |
| Yes  | 17 (85%)         | 10 (83.3%)   | 27 (84.4%)   |
| No   | 1 (5%)           | 2 (16.7%)    | 3 (9.4%)     |
| Not sure   | 2 (10%)          | 0 (0%)       | 2 (6.3%)     |

Table 4 indicates that 85% of volunteers and 83.3% of staff member feel the rule change will positively impact recruitment and retention of players at the Pee-wee, Bantam, and Midget Levels. 9.4% of volunteers and staff members feel that it will not have a positive impact, while 6.3% are not sure how the rule change will effect recruitment and retention.

Table 5. Responses to question regarding knowledge translation and its concern amongst coach education at the grassroots level

| Question 8: Do you feel that knowledge translation (coaches applying in practices what they learn in clinics) is a concern for coach education at the grassroots level? |  |  |  |
|---|--|--|--|
|---|--|--|--|

|          | Volunteer (N=20) | Staff (N=12) | Total (N=32) |
|----------|------------------|--------------|--------------|
| Yes      | 18 (90%)         | 11 (91.7%)   | 29 (90.6%)   |
| No       | 0 (0%)           | 1 (8.3%)     | 1 (3.1%)     |
| Not sure | 2 (10%)          | 0 (0%)       | 2 (6.3%)     |

The results show that 90.6% of the respondent's feel that knowledge translation is a concern for coach education at the grassroots level. 3.1%

Table 6. Responses to question about whether coaches are providing proper instruction of body contact and body checking skill in their practices

| Question 9: Are you confident minor hockey coaches are providing proper instruction of body contact and body checking skills within their practices? |                  |              |              |
|--|------------------|--------------|--------------|
|  | Volunteer (N=20) | Staff (N=12) | Total (N=32) |
| Yes  | 0 (0%)           | 0 (0%)       | 0 (0%)       |
| No   | 13 (65%)         | 12 (100%)    | 25 (78.1%)   |
| Not sure   | 7 (35%)          | 0 (0%)       | 7 (21.9%)    |

The results from the respondents suggest that there is an issue with coaches providing proper instruction of body contact and body checking skills within their practices with 100% of the staff members and 65% of the volunteers answering "no" to the question. 0% responded as being confident in minor hockey coaches providing proper instruction of body contact and body checking skill in their practices.

Table 7. Responses to question about whether coaches are teaching the proper checking progressions, preparing players for checking at the next levels

| Question 10: Are you confident coaches are teaching the proper checking progressions, preparing players for checking at the next levels? |                  |              |              |
|--|------------------|--------------|--------------|
|  | Volunteer (N=20) | Staff (N=12) | Total (N=32) |
| Yes  | 2 (10%)          | 0 (0%)       | 2 (6.3%)     |
| No   | 14 (70%)         | 12 (100%)    | 26 (81.3%)   |
| Not sure   | 4 (20%)          | 0 (0%)       | 4 (12.5%)    |

Similar to the previous questions in Table 6, 100% of staff members responded “no” to the question about coaches teaching the proper checking progressions, preparing players for checking at the next levels. 70% of volunteers responded as not being confident that coaches are teaching the proper checking progressions, preparing players for checking at the next levels, while 10% were confident coaches are and 20% were not sure.

### 7.3 Likert scale questionnaire

The likert scale questionnaire was carefully designed with statements about the topic of body checking in relation to, the information they received, decisions based on the information, decisions validated by information, impact on retraction and retention of athletes, decisions based on coach education, decisions based on skill development, and decisions based on the evidence (scientific literature) provided. The author chose to divide the entities into three separate categories indicating voters, non-voters, and total.

Table 8. Rating Average of Voter, Non-voter, and Total.

| Question 11. Please review each statement and provide your perspective on the information and materials available for review: |                 |                     |                 |
|---|-----------------|---------------------|-----------------|
| Statements:   | Voter<br>(N=18) | Non-Voter<br>(N=14) | Total<br>(N=32) |
|   | Rating Average  | Rating Average      | Rating Average  |
| 1. I was provided with relevant information to support the decision-making process.   | 1.11            | 1.38                | 1.23            |
| 2. My decision was based on information and materials I received on the subject.  | 1.28            | 1.23                | 1.26            |
| 3. The decision was validated by the body of research information available.  | 1.17            | 1.14                | 1.16            |
| 4. The Body Checking rule change will have a positive impact on grassroots hockey.  | 1.22            | 1.36                | 1.28            |

|   |      |      |      |
|---|------|------|------|
| 5. Hockey Canada national checking education and instructional resources support the policy change.                       | 1.28 | 1.23 | 1.26 |
| 6. The rule change enhances and promote player skill development at the grassroots level.                                 | 1.28 | 1.29 | 1.28 |
| 7. The decision to implement the recommendations proposed by the Checking Advisory Committee was based on sound evidence. | 1.28 | 1.21 | 1.25 |

Statement one and two in the questionnaire were directed at the voters since they made up the Board of Directors that voted on rule change proposal by the Ad Hoc committees. In response to whether the voters were provided with the relevant information to support the decision-making process the voters reported a rating average of 1.11. The administrators agree that they were provided with information, which supported them in their decision making. The following statement about whether the Voters decision was based on information and materials they received on body checking had a rating average of 1.28.

Statement three about whether the decision made by the Voters was validated by the body of research information available showed a rating average of 1.16 total. Voters and non-voters felt that the scientific literature, as described through the chapter “Scientific literature”, validated the decision made by the Board of Directors to change the body checking rule. The following statement inquired the respondent’s perspective on the rule change potentially having a positive impact on grassroots level hockey to which the rating average was 1.28 total.

Statement five about Hockey Canada’s national checking education and instructional resources supporting the policy change resulted in a rating average of 1.26 total. The following statement about the rule change enhancing and promoting player skill development at the grassroots level received a rating average of 1.28 total. Finally, statement seven about whether the decision to implement the recommendations proposed by the Checking Advisory Committee was based on sound evidence indicated a rating average

of 1.25 total. The hockey administrators considered the four recommendations, as highlighted in the chapter “Policies and procedures”, to be based on sound evidence.

## 8 Discussion

This section of the thesis will provide the authors interpretation of the results. Analyzing the results, although very insightful, proved to be a difficult task. The questionnaire used for data collection was designed based on the information already known to the author about the issues of body checking. Therefore it may be assumed that the questionnaire was bias and provoked the respondent to answer positively. However this was not the author's intent. The goal was to collect data that either supported or did not support the policy change process in a way that could bring forth insight and perspective of how and why the policy change happened as well as answer unknown questions about the decisions made. Taking this into consideration the majority of the responses support information that was initially researched throughout the literature review. One notable accomplishment of the results was the insight and perspective of the only voter who was not in favour of the policy change because the results increase the reliability of the research. For instance if that research was to be duplicated and received more responses from volunteers who voted, it could be assumed that the rating averages would not significantly vary because of the known amount of voters in favour of the policy change. In order to create clarity the author will discuss how the results have answered the thesis questions this study intended to answer.

Safety has been an emphasize issue of body checking when covered by media sources, making statements about how the body checking rule change will reduce injuries or minimize aggression within the game. What a lot of this media coverage fails to inform the public about are the other issues that influenced the decision to change the rule. Results obtained by the questionnaire show that there is concern with Coaches education and instruction of body checking. This result is surprising considering that Hockey Canada has developed a wealth of national resources since 1989 to develop and support Coach education and the implementation of body checking within practices (Carson 24.5.2013). Regardless of the resources Hockey Canada have developed, 95% of the volunteers answered "yes" that there is a need for mandatory checking clinics across Canada. Additionally 100% of the total respondents answered either "no" or "not sure" when asked if they thought Coaches were providing proper instruction of body checking. It can be assumed that the decision makers do not believe Coaches

within their community are facilitating an environment where proper acquisition of the body checking skill can be obtained. Results of the study further support recommendation 3 from the Hockey Canada advisory committee, that recommended, “a Hockey Canada and Branch workgroup build a mandatory national checking educational and instructional resource program to support the progressive implementation of checking skills at the Atom and Pee wee level and to better prepare players for body checking at the Bantam and Midget level.” (Carson 24.5.2013). The results show that this recommendation was strongly supported by the hockey administrators. Further research should be done to indicate the results of implementing mandatory checking clinics across Canada.

In regards to whether the respondents were provided with relevant information to support the decision making process, voters produced a rating average of 1.11. This result can be interpreted as successful and thorough delivery of the available information. Hockey Canada agreed to review Dr. Carolyn Emery’s study on body checking upon completion and committed to assessing Hockey Canada’s policies on body checking at the Pee wee level if it provided significant risk to young players with limited reward. (Isberg 2013, 2-3.) Hockey Canada’s decision to review the research upon completion supplied the advisory committee with recent and relevant information that could then be used to further educate the voters on the findings. (Emery et al. 2010b; Emery et al. 2011). There were many other studies reviewed and presented by the advisory committees although Emery’s research was published by two very high profile medical journals and developed indisputable research findings. Though previous research compiled on the issue of body checking in youth hockey has been done, the majority of it was not sufficient in changing the ongoing debate. (Isberg 2013, 7, 9.) It is valuable to understand how Hockey Canada’s communication with researchers can further assist in collection of relevant information for the review process of policies that are considered an issue.

The author questioned whether or not the administrators agreed with the recommendations made by the advisory committee in order to understand if they chose to accept the conclusions of the decision made. The results of the question regarding whether the recommendations were based on sound evidence produced a rating average of



1.28 from the voters. Based on the result the majority of the voters accepted the recommendations because they were supported by sound evidence. Additionally the results of the question regarding whether the body of research validated their decisions, produced a rating average of 1.17 from the voters. This result further supports that author's interpretation that the majority of the voters accepted the conclusion of the decision because the body of research available validated a need for policy change.

The policy changes at the Branch levels indicate that the evidence was spreading about body checking in a way that promoted policy change. While changes were being made to body checking policies in Hockey USA, Hockey Alberta, and Hockey Nova Scotia, Hockey Canada was continuing its review of the information to further insure that a thorough investigation of the information was completed (Anton 2011; Carson 24.5.2013.) Carson stated "if you do things right, and you do things well, when you get to the board meeting, your presentation is brief" (Isberg 2013, 8). The current study found that 90.6% of the total respondents strongly agreeing with the statement about whether the decision was validated by the body of research information available. It seems possible that these results can be the outcome of a thorough review on the issue of body checking.

Further research, which applies the results of this study, could be conducted to complete a comparative evaluation of the policy change process between two governing bodies of ice hockey or other sport. For example, Hockey USA undertook a policy change process prior to Hockey Canada's. The two processes could be evaluated and a possible conclusion of who reviewed and presented the information in a more professional manner could be established.

Since the policy change has occurred so recently the intended and unintended outcomes of the policy change, like injury rates, adjustments to skills development and registration trends, have yet to be identified. When rules or regulations in hockey change, the way the game is played is likely to change as well. An example of this is when the rule was changed to incorporate firmer penalty assessments for sticking infractions. Following the policy change penalties increased drastically and the games

took longer to play. Further research should be done on the intended and unintended outcomes of the policy change to monitor the effect of the policy change.

## **8.1 Limitations**

These studies discoveries have a number of limitations, some more obvious than others. The study was limited to one governing body of Hockey and the decisions made within the organization. Therefore it is unclear how these results would compare to other organizations that have other policies and procedure in place for amendments to rules and regulations. The sample size of the research could be considered small for the quantitative method used. Qualitative research could have produced more descriptive result by means of direct interview, although with the time frame established and the interviewees being overseas, collection of data was considered quickly accessible through means of quantitative data.

The design of the questionnaire itself had limitations. An error was made in the original format of the questionnaire, which would have been perceived as confusing to the hockey administrators the survey was distributed to. There is no way of checking misinterpretations and unintelligible replies by the respondents. Therefore that results were interpreted in the manner they were collected which could be considered an issue of validity. It can also be assumed that lack of response from the Branch Hockey Quebec was a result of not supplying a French version of the questionnaire to their hockey administrators.

## **8.2 Conclusion**

Ultimately, the results discovered answers to the research question and provided a considerable amount of insight and perspective from the point of view of the decision makers and advisory groups of Hockey Canada and its associate members. The author gained a considerable amount of knowledge about the internal structure of a governing body of ice hockey and how it regulates the policies of an every changing and constantly growing sport. The authors desired outcome of the thesis was met and a broader understanding of the decisions made throughout the policy change process has been established.

Conclusive evidence of the success or failure of the body checking policy change requires further research into the intended and unintended outcomes in terms of, but not limited to, player safety, skill development, and participant retraction and retention. However these findings enhance the understanding of a policy change process and the decisions that resulted in a majority vote for the approval of the body checking rule change, as well as the recommendations made by the advisory committee.

## Bibliography

American Academy of Pediatrics. 2000. Safety in youth ice hockey: The effect of body checking. *Pediatrics*, 105, pp. 657-658.

Anton, K. 2011. USA Hockey Body-checking Rule Change Proposal. URL: <http://www.coloradoavalanchecares.com/columns/usa-hockey/usa-hockey-body-checking-rule-change-proposal/>. Quoted: 11.11.2013.

Benson, B., Meeuwisse, WH. Ice Hockey injuries. 2005. Maffulli, N., Caine, DJ. Epidemiology of Pediatric Sports Injuries: Team Sports. *Medicine and Sports Science*. Basel, S., Karger, AG. Vol 49, pp. 86-119.

Bjorkenheim, JM., Syvähuoko, I., Rosenberg, PH. 1993. Injuries in competitive junior ice-hockey. *Acta Orthop Scand*, 64, 4, pp. 459-61.

Brust, JD., Leonard, BJ., Pheley, A., Roberts, WO. 1992. Children's ice hockey injuries. *Am J Dis Child*, 146, 6, pp.741-7.

Canadian Academy of Sport Medicine. 1988. Position Statement: Violence and Injuries in Ice Hockey. URL: <http://casem-acmse.org/wp-content/uploads/2013/07/violence-in-hockey-20071.pdf>. Quoted: 10.11.2013.

Carson, P. 18.10.2013. Vice President of Hockey Development. Hockey Canada. Presentation (A Status Report on: "Checking in Hockey")

Carson, P. 24.5.2013. Vice President of Hockey Development. Hockey Canada. Presentation (Checking in Hockey)

Carson, P. 6.4.2013. Vice President of Hockey Development. Hockey Canada. Presentation (Checking in Hockey)

CBC Sports. 2013. Hockey Canada Votes to ban bodychecking in Pee wee Hockey. URL: <http://www.cbc.ca/sports/hockey/nhl/hockey-canada-votes-to-ban-bodychecking-in-Pee-wee-hockey-1.1340868>. Quoted: 5.11.2013.

Cusimano, M., Taback, N., McFaull, S., Hodgins, R., Tsegaye, B; Canadian Research Team in Traumatic Brain Injury and Violence. 2011. Effect of bodychecking on rate of injuries among minor hockey players. *Open Medicine*, 5, 1, pp. 57-64.

Darling, SR., Schaubel, DE., Baker, JG., Leddy, JJ., Bisson, LJ., Willer, B. 2011. Intentional versus unintentional contact as a mechanism of injury in youth ice hockey. *Br J Sports Med*, 45, 6, pp. 492-497.

Emery, CA. 2003. Risk factors for injury in child and adolescent sport: A systematic review of the literature. *Clinical Journal of Sport Medicine*. 16, 6, pp. 256-268.

Emery, CA., Hagel, B., Decloe, M., & Carly, M. 2010a. Risk Factors for injury and sever injury in youth ice hockey: A systematic review of the literature. *Injury Prevention*, 16, 2, pp.113-118.

Emery, CA., Kang, J., Shrier, I., Goulet, C., Hagel, BE., Benson, BW., Nettel-Aguirre, A., McAllister, JR., Hamilton, GM. & Meeuwisse, WH. 2010b. Risk of injury associated with body checking among youth ice hockey players. *JAMA*, 303, 22, pp. 2265-2272.

Emery, CA., Kang, J., Shrier, I., Goulet, C., Hagel, BE., Benson, BW., Nettel-Aguirre, A., McAllister, JR., Hamilton, GM. & Meeuwisse, WH. 2011. Risk of injury associated with bodychecking experience among youth hockey players. *CMAJ*, 183, 11, pp. 1249-1256.

Emery, CA., Meeuwisse, WH. 2006. Injury rates, risk factors, and mechanisms of injury in minor hockey. *American Journal of Sports Medicine*, 34, 12, pp. 1960-1969.

Finke, RC., Goodwin, Gerberich, S., Madden, M., Funk, S., Murray, K., Priest, JD., Aamonth, GM. 1988. Shoulder injuries in ice hockey. *J Orthop Sports Phys Ther*, 10, 2, pp. 54-58.

Hagel, BE., Marko, J., Mryden, D., Couperthwait, AB., Sommerfeldt, J., Rowe, BH. 2006. Effect of bodychecking on injury rates among minor ice hockey players. *CMAJ*, 175, pp. 155-160.

Hockey Canada. 2001. Age groupings in minor hockey will change for 2002-2003 season. URL: <http://www.hockeycanada.ca/en-ca/news/2001-nr-057-en>. Quoted: 09.11.2013.

Hockey Canada. 2002. CHA's AGM Concludes in Toronto, ON. URL: <http://www.hockeycanada.ca/en-ca/news/2002-nr-046-en>. Quoted: 6.11.2013.

Hockey Canada. 2003. CHA Board of Directors Carries Motions on Checking in Minor Hockey. URL: <http://www.hockeycanada.ca/en-ca/news/2003-nr-054-en>. Quoted: 6.11.2013.

Hockey Canada. 2008. Hockey 101 an introduction to Canada's game. URL: [http://cdn.agilitycms.com/hockey-canada/Hockey-Programs/Safety/Parents/Downloads/2008\\_hockey\\_canada\\_101.pdf](http://cdn.agilitycms.com/hockey-canada/Hockey-Programs/Safety/Parents/Downloads/2008_hockey_canada_101.pdf). Quoted: 10.11.2013.

Hockey Canada. 2010a. Policy and Procedures Manual. URL: [http://cdn.agilitycms.com/hockey-canada/Corporate/About/Downloads/policy\\_procedures\\_manual\\_july\\_2010\\_e.pdf](http://cdn.agilitycms.com/hockey-canada/Corporate/About/Downloads/policy_procedures_manual_july_2010_e.pdf) Quoted: 14.11.2013.

Hockey Canada. 2010b. Developing Checking Skills Coach Clinic Facilitator's Guide. Hockey Canada Specialty Clinic: Checking, ver. 2, pp. 1-39.

Hockey Canada. 2011. Developing Checking Skills Coach Clinic Coach Manual. Adopted from: Teaching Checking a Progressive Approach, ver. 2, pp. 1-44.

Hockey Canada. 2013a. Official Playing Rules 2012-2014. URL: [http://cdn.agilitycms.com/hockey-canada/Hockey-Programs/Officiating/Downloads/rulebook\\_casebook\\_e.pdf](http://cdn.agilitycms.com/hockey-canada/Hockey-Programs/Officiating/Downloads/rulebook_casebook_e.pdf). Quoted: 5.11.2013.

Hockey Canada. 2013b. 2013 Annual Report. URL: [http://cdn.agilitycms.com/hockey-canada/Corporate/About/Downloads/2013\\_annual\\_report\\_e.pdf](http://cdn.agilitycms.com/hockey-canada/Corporate/About/Downloads/2013_annual_report_e.pdf). Quoted: 10.11.2013.

Hockey Canada. 2013c. Hockey Canada's 94th Annual General Meeting concludes in Charlottetown, P.E.I.; body-checking rule change approved; Jim Hornell elected chair of Hockey Canada Board of Directors. URL: <http://www.hockeycanada.ca/en-ca/news/agm-concludes-in-charlottetown>. Quoted: 14.11.2013.

Hockey Canada. 2013d. Hockey Canada Articles Bylaws Regulations History. URL: [http://cdn.agilitycms.com/hockey-canada/Corporate/About/Downloads/2013\\_14\\_articles\\_bylaws\\_e.pdf](http://cdn.agilitycms.com/hockey-canada/Corporate/About/Downloads/2013_14_articles_bylaws_e.pdf). Quoted: 14.11.2013.

Houghton, KM., Emery, CA.; Canadian Paediatric Society, Healthy Active Living, & Sports Medicine Committee. 2012. Bodychecking in youth ice hockey. Abridged version: Paediatric Child Health, 17, 9, pp. 509.

International Ice Hockey Federation. 2007. Checking. URL: [http://www.iihf.com/fileadmin/user\\_upload/PDF/Sport/Coaching\\_manuals/6\\_Level\\_I\\_Checking.pdf](http://www.iihf.com/fileadmin/user_upload/PDF/Sport/Coaching_manuals/6_Level_I_Checking.pdf). Quoted: 10.11.2013.

Isberg, K. 2013. Body Checking in Pee Wee Hockey: A case study of the body checking rule change at Hockey Canada. Max Bell Foundation Public Policy Case Study Series. pp. 1-11.

Kirkwood, MW., Yeates, KO. & Wilson PE. 2006. Pediatric sport-related concussion: A review of the clinical management of an oft-neglected population. *Pediatrics*, 117, 4, pp. 1359-1371.

Macpherson, A., Rothman, L., & Howard, A. 2006. Body-checking rules and childhood injuries in ice hockey. *Pediatrics*, 117, 2, pp. e143-147.

Marchie, A., Cusimano, MD. 2003. Bodychecking and concussions in ice hockey: Should our youth pay the price? *CMAJ*, 169, 2, pp. 124-128.

McDonald, J. 1991. A position paper on body checking/contact in minor hockey. *Canadian Amateur Hockey Association Bulletin*. Bulletin NO: 92/19, pp. 1-7.

McKay, C., Emery, CA., Campbell, T., Meeuwissee., W. 2008. The effects of premature return to play on re-injury risk in elite adolescent ice hockey and associated psychosocial predictors. *Br J Sports Med*, 42, 6, pp.532-533.

McPherson, A., Rothman, L., & Howard, A. 2006. Body checking rules and childhood injuries in ice hockey. *Pediatrics*, 117, 2, pp. 143-147.

Roberts, WO., Brust, JD., Leonard, B. 1999. Youth ice hockey tournament injuries: Rates and patterns compared to season play. *Med Sci Sports Exerc*, 31, 1, pp. 46-51.

Smith, AM., Stuart, MJ., Wiese-Bjornstal, DM., Gunnon, C. 1997. Predictors of injury in ice hockey players. A multivariate, multidisciplinary approach. *Am J Sports Med*, 25, 4, pp. 500-507.

Stuart, MJ., Smith, AM., Nieva JJ., Rock, MG. 1995. Injuries in youth ice hockey: A pilot surveillance strategy. *Mayo Clin Proc*, 70, 4, pp. 350-356.



Warsh, JM., Constantin, SA., Howard, A., & MacPherson, A. 2009. A systematic review of the association between bodychecking and injury in youth ice hockey. *Clinical Journal of Sports Medicine*, 19, 2, pp. 134-144.

Wattie, N., Cobley, S., Macpherson, A., Howard, A., Monterlpare, WJ., Baker, J. 2007. Injuries in Canadian youth ice hockey: The influence of relative age. *Pediatrics*, 120, 1, pp. 142-148.

Wiggins, W. 1998. Implication of introducing body checking in ice hockey at different ages. URL: <http://www.openthesis.org/documents/Implication-introducing-body-checking-in-182710.html>. Quoted: 01.11.2013.

Willer, B., Kroetsch, B., Darling, S., Hutson, A., & Leddy, J. 2005. Injury Rates in House League, Select, and Representative Youth Ice Hockey. *Medicine & Science in Sports & Exercise*, 37, 10, pp. 1658-1663.

Williamson, IJS. 2006. An epidemiological investigation of concussion in youth ice hockey. Simon Fraser University: MSc thesis 2006.

# Attachments

## Attachment 1. Body Checking Questionnaire

**Hockey Canada Body Checking Rule - Policy Change**

**\*1. Please indicate your Branch:**

|                           |                            |                           |
|---------------------------|----------------------------|---------------------------|
| <input type="radio"/> HBC | <input type="radio"/> HEO  | <input type="radio"/> HNS |
| <input type="radio"/> HA  | <input type="radio"/> OHF  | <input type="radio"/> HNB |
| <input type="radio"/> SHA | <input type="radio"/> HQ   | <input type="radio"/> HNL |
| <input type="radio"/> HM  | <input type="radio"/> HN   |                           |
| <input type="radio"/> HNO | <input type="radio"/> HPEI |                           |

**\*2. What is your role within your organization:**

Volunteer

Staff

**\*3. Are you a Board voting member - either at the Branch Level or the National level?**

Yes

No

**\*4. Within your Branch or at the National Level, were you required to vote on a Body checking Rule Change motion?**

Yes

No

**\*5. How did you vote on the proposed motion to change the Body Checking Rule and move it to the Bantam age group?**

In Favour

Not in Favour

**\*6. With this policy change is there a need for coaches to participate in mandatory checking clinics?**

Yes

No

Not Sure

**\*7. Do you feel the rule change will positively impact on recruitment and retention of players at the Peewee, Bantam and Midget levels?**

Yes

No

Not Sure

## Hockey Canada Body Checking Rule - Policy Change

**\*8. Do you feel that knowledge translation (coaches applying in practices what they learn in clinics) is a concern for coach education at the grassroots level?**

- Yes
- No
- Not Sure

**\*9. Are you confident minor hockey coaches are providing proper instruction of body contact and body checking skills within their practices?**

- Yes
- No
- Not Sure

**\*10. Are you confident coaches are teaching the proper checking progressions, preparing players for checking at the next levels?**

- Yes
- No
- Not Sure

# Hockey Canada Body Checking Rule - Policy Change

## Your Perspective

Each statement below should be ranked between Strongly Agree to Strongly Disagree.

**\*11. Please review each statement and provide your perspective on the information and materials available for review:**

|   | Strongly Agree        | Somewhat Agree        | Somewhat Disagree     | Strongly disagree     | N/A                   |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I was provided with relevant information to support the decision-making process.                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. My decision was based on information and materials I received on the subject.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. The decision was validated by the body of research information available.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. The Body Checking rule change will have a positive impact on grassroots hockey.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. Hockey Canada national checking education and instructional resources support the policy change.                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. The rule change enhances and promote player skill development at the grassroots level.                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. The decision to implement the recommendations proposed by the Checking Advisory Committee was based on sound evidence. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Attachment 2. Likert Scale Responses Voter, Non-Voter, and Total.

| Voter Responses (N=18)  |                  |                |                   |                   |           |                |
|---|------------------|----------------|-------------------|-------------------|-----------|----------------|
| Statements  | Response Options |                |                   |                   |           | Rating Average |
|   | Strongly Agree   | Somewhat Agree | Somewhat Disagree | Strongly disagree | N/A       |                |
| 1. I was provided with relevant information to support the decision-making process.                                       | 17<br>(94.4%)    | 0<br>(0%)      | 1<br>(5.6%)       | 0<br>(0%)         | 0<br>(0%) | 1.11           |
| 2. My decision was based on information and materials I received on the subject.  | 13<br>(72.2%)    | 5<br>(27.8%)   | 0<br>(0%)         | 0<br>(0%)         | 0<br>(0%) | 1.28           |
| 3. The decision was validated by the body of research information available.  | 17<br>(94.4%)    | 0<br>(0%)      | 0<br>(0%)         | 1<br>(5.6%)       | 0<br>(0%) | 1.17           |
| 4. The Body Checking rule change will have a positive impact on grassroots hockey.  | 15<br>(83.3%)    | 2<br>(11.1%)   | 1<br>(5.6%)       | 0<br>(0%)         | 0<br>(0%) | 1.22           |
| 5. Hockey Canada national checking education and instructional resources support the policy change.                       | 14<br>(77.8%)    | 3<br>(16.7%)   | 1<br>(5.6%)       | 0<br>(0%)         | 0<br>(0%) | 1.28           |
| 6. The rule change enhances and promote player skill development at the grassroots level.                                 | 14<br>(77.8%)    | 3<br>(16.7%)   | 1<br>(5.6%)       | 0<br>(0%)         | 0<br>(0%) | 1.28           |
| 7. The decision to implement the recommendations proposed by the Checking Advisory Committee was based on sound evidence. | 15<br>(83.3%)    | 2<br>(11.1%)   | 0<br>(0%)         | 1<br>(5.6%)       | 0<br>(0%) | 1.28           |

| Non-Voter Responses (N=14)  |                  |                |                   |                   |             |                |
|---|------------------|----------------|-------------------|-------------------|-------------|----------------|
| Statements  | Response Options |                |                   |                   |             | Rating Average |
|   | Strongly Agree   | Somewhat Agree | Somewhat Disagree | Strongly disagree | N/A         |                |
| 1. I was provided with relevant information to support the decision-making process.                                       | 10<br>(71.4%)    | 2<br>(14.3%)   | 0<br>(0%)         | 1<br>(7.1%)       | 1<br>(7.1%) | 1.38           |
| 2. My decision was based on information and materials I received on the subject.  | 10<br>(71.4%)    | 3<br>(21.4%)   | 0<br>(0%)         | 0<br>(0%)         | 1<br>(7.1%) | 1.23           |
| 3. The decision was validated by the body of research information available.  | 12<br>(85.7%)    | 2<br>(14.3%)   | 0<br>(0%)         | 0<br>(0%)         | 0<br>(0%)   | 1.14           |
| 4. The Body Checking rule change will have a positive impact on grassroots hockey.  | 11<br>(78.6%)    | 1<br>(7.1%)    | 0<br>(0%)         | 1<br>(7.1%)       | 0<br>(0%)   | 1.36           |
| 5. Hockey Canada national checking education and instructional resources support the policy change.                       | 11<br>(78.6%)    | 1<br>(7.1%)    | 1<br>(7.1%)       | 0<br>(0%)         | 1<br>(7.1%) | 1.23           |
| 6. The rule change enhances and promote player skill development at the grassroots level.                                 | 12<br>(85.7%)    | 1<br>(7.1%)    | 0<br>(0%)         | 1<br>(7.1%)       | 0<br>(0%)   | 1.29           |
| 7. The decision to implement the recommendations proposed by the Checking Advisory Committee was based on sound evidence. | 13<br>(92.9%)    | 0<br>(0%)      | 0<br>(0%)         | 1<br>(7.1%)       | 0<br>(0%)   | 1.21           |

| Total Responses (N=32)  |                  |                |                   |                   |             |                |
|---|------------------|----------------|-------------------|-------------------|-------------|----------------|
| Statements  | Response Options |                |                   |                   |             | Rating Average |
|   | Strongly Agree   | Somewhat Agree | Somewhat Disagree | Strongly disagree | N/A         |                |
| 1. I was provided with relevant information to support the decision-making process.                                       | 27<br>(84.4%)    | 2<br>(6.3%)    | 1<br>(3.1%)       | 1<br>(3.1%)       | 1<br>(3.1%) | 1.23           |
| 2. My decision was based on information and materials I received on the subject.  | 23<br>(71.9%)    | 8<br>(25%)     | 0<br>(0%)         | 0<br>(0%)         | 1<br>(3.1%) | 1.26           |
| 3. The decision was validated by the body of research information available.  | 29<br>(90.6%)    | 2<br>(6.3%)    | 0<br>(0%)         | 1<br>(3.1%)       | 0<br>(0%)   | 1.16           |
| 4. The Body Checking rule change will have a positive impact on grassroots hockey.  | 26<br>(81.3%)    | 4<br>(12.5%)   | 1<br>(3.1%)       | 1<br>(3.1%)       | 0<br>(0%)   | 1.28           |
| 5. Hockey Canada national checking education and instructional resources support the policy change.                       | 25<br>(78.1%)    | 4<br>(12.5%)   | 2<br>(6.3%)       | 0<br>(0%)         | 1<br>(3.1%) | 1.26           |
| 6. The rule change enhances and promote player skill development at the grassroots level.                                 | 26<br>(81.3%)    | 4<br>(12.5%)   | 1<br>(3.1%)       | 1<br>(3.1%)       | 0<br>(0%)   | 1.28           |
| 7. The decision to implement the recommendations proposed by the Checking Advisory Committee was based on sound evidence. | 28<br>(87.5%)    | 2<br>(6.3%)    | 0<br>(0%)         | 2<br>(6.3%)       | 0<br>(0%)   | 1.25           |