

Backhand Techniques in Ice Hockey

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<p>The main objective of this project based multimedia thesis is to show video material of how to use a backhand side of the ice hockey stick's blade in different ways. The video material is to spread the awareness as well as present the idea that the backhand is as important side on the hockey sticks blade than what the forehand side is.</p> <p>There are three sections in the DVD. On these three sections the focus is only in the use of a backhand. These skills are straight related to the ability to release the puck quickly from the backhand in the scoring situations when there is no time to turn the puck on the forehand, as well as being able to handle the puck on the backhand while moving all directions on ice.</p> <p>Theoretical part for thesis was collected from the written literature and online material related to ice hockey. This project was started in the June 2012 and finished in the fall 2012. All the on ice-video shooting was done in the months of July - August 2012. The final product is made for the use of Haaga Helia's Degree Programme of Sports and Leisure Management and ACTIHA (Australian Capital Territory Ice Hockey Association).</p>	
<p>Keywords Backhand, individual skills, shooting, scoring, ice hockey, DVD</p>	

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1 Introduction

In ice hockey the generally known fact is that the more higher level the game is played, less time there is to react and act in the scoring situations. There are lot of players from junior players to pro-players who are excellent skaters, stickhandlers and shooters. Still often during the game there is limited amount of time in the scoring situations and a lot of good scoring opportunities are not being used efficiently. This is because of the lacking ability of finishing the play or putting the puck to the net because too much time is being used to release the puck from the stick. One of the main objectives of this thesis is to emphasize how important it is to react and act fast on tight scoring situations where there is no time to turn the puck on the forehand.

The theory part of this thesis is gathered from online and written literature, to give the reader an introduction and information about:

- Hockey as a game in general level.
- Sport specific technical skills that includes the main topic of thesis, backhand.
- Present ideas and methods from players and coaches point of view that are needed to be able to use backhand effectively and efficiently through individual skills training.

First part of this thesis's theory part will give an overlook of hockey as a game, players positioning and roles on the ice and summarizes the most important physical and sport specific skills in hockey, including forehand shooting techniques. Second part of the theory part presents required elements and some on ice training guidelines to master the usage of a backhand, and finally techniques presented in the DVD are gone through.

The end result of this product- based multimedia thesis is a DVD that consists of three chapters: different backhand shooting techniques, backhand shooting drills, and puck handling drills only on a backhand.

In the DVD's first chapter the focus is purely on the shooting techniques. The second chapter adds techniques presented in the first chapter to be used in the shooting and scoring drills. Connection between chapters one and two, excluding the normal backhand shot, is a quick reaction time and quick release in the scoring situations when there is no possibility to turn the puck on the forehand. Third chapter closes the usage of backhand with backhand puck handling skills. These three individual skills are the most necessary ones for a player to learn to solidly master the backhand usage as a whole at some point of his/hers career.

There is generally more information about forehand shots than there is from backhand shots. This is easy to accept as the backhand is not used naturally in ice hockey, starting from the fact that there is a curve in the stick and that hockey sticks are made for left or right handed players:

A player's handedness is determined by which side of their body they hold their stick. A player who shoots left (alternatively called a left-handed shot) holds the stick such that the blade is (normally) to the left of their body, with the left hand on the bottom and the right hand on top; a player who shoots right (a right-handed shot) holds the stick such that the blade is to their right, with the right hand at the bottom and left hand on top. (Wikipedia b 2012.)

Shooting or puck handling with the backhand is a much harder skill than a forehand shooting or puck handling is to master. Backhand also does without arguments need more practise to master than forehand side does.

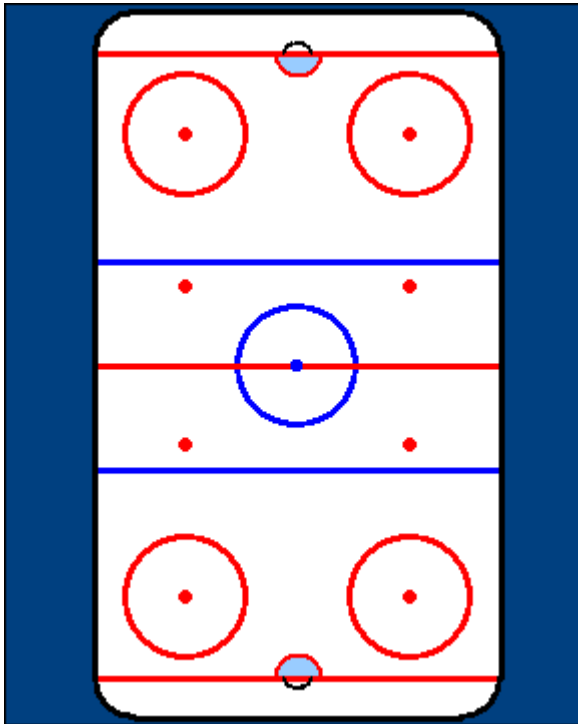
2 Hockey as a game

Ice hockey is a team sport played on ice, in which skaters use wooden or composite sticks to shoot a hard rubber puck into their opponent's net. The game is played between two teams with five players and one goalie on the ice from each side at the same time. Team usually consists between 16—20 players. Players are always goalies, defensemen or forwards. Team line-up usually consists of four lines of three forwards, three pairs of defensemen, and two goalies. Five members of each team skate up and down the ice trying to take the puck and score a goal against the opposing team. Each team has a goaltender who tries to stop the puck from going into the goal or "net". (Wikipedia a 2012.)

Ice hockey sticks are essential to play the game; it is fair to say that after skate's, sticks are the second most important equipment hockey player needs. The shafts of player's sticks are made of wood or aluminum and the maximum length can be 5 feet 2 inches (160 centimeters) from the tip of the stick to the bottom of the heel. The heel of the stick is where the handle ends and the blade begins. Blades of the sticks vary more or less, depending on the type of curve player wants. It is the curved part of the stick that joins the handle shaft and the blade. The blade of the stick can be a maximum of 14.5 inches (37 centimeters) long and 3 inches (7.7 centimeters) wide. Different blade sizes and curves do exist, but it is fair to say that these mean more among more older or professional players. The blade can be made of wood or a composite material but never aluminium. Goalies also have sticks while they are on the net and stopping the pucks. The maximum length of a goalie's stick is 63 inches (160 centimeters). The blade is 15.5 inches long (39 Centimeters) and 3 Inches (9 centimeters) wide. The goalkeepers stick has one major difference to player's sticks: The goalie's blade stays wide to just a little less than halfway up the shaft. This is so the goalkeeper can use the stick to block the puck with the wider blade. The actual puck itself is made of vulcanized rubber, and is one inch thick and three inches in diameter and weighs between five and one-half ounces and six ounces. (Fuzilogik 2012.)

Ice hockey as a game also has several rules. Most of the rules are related to the several lines that are painted to the ice surface. All the lines have specific purpose.

There are five lines that go across the ice. There is a red line, which is a centerline and goes across the center of the rink. There are two goal lines that the puck must pass over to score a goal. There are two blue lines, one on each side of the red line and each blue line is 60 feet from each of the goal lines. (Fuzilogik 2012.)



Picture 1: Ice hockey Rink (Hockey play book)

Fuzilogik (2012.) describes the zones in ice hockey rinks surface, and the definition of defensemen and forwards:

Zones: Each team has an offensive and defensive zone. Both share the neutral zone.

- Defending Zone: Is that portion of the ice rink where the goal is located, and so each team's defending zone is the area in front of the goal they are defending.
- Neutral Zone: The area on the ice between the blue lines.
- Attacking Zone: Is that portion of the rink farthest from the defended goal. So that area closest to your opponent's goal is the attacking zone.

- Defensemen: This is a player whose purpose is to concentrate on defense. He does not care about scoring himself, but he wants to keep the other team from scoring. There are usually two defensemen on the ice for each team.
- Forward: There are three forwards on a hockey team and they are the main offensive players. Their job is to score goals.

Players on the ice are divided to defensemen and forwards for a reason. Player's position on the ice also has more in to it than just determine whether they're primarily task is to defend or attack. Hockey Canada's Program of Excellence (2008.) describes the positional characteristics of defensemen and forwards:

Defense:

- Must be mobile and agile with good lateral movement.
- Be able to contain players in 1on1 situations.
- Must be a good positional player.
- Must be able to read and react in order to move the puck quickly.
- Must understand the team concept.

Forwards:

- Must possess excellent skating qualities such as speed, quickness, agility and strength.
- Must be an intelligent player that understands offensive and defensive systems.
- Must understand the team concept.

Next step after defining the primary positions of defensemen and forwards on the ice and the positional characteristics of these positions, are the game situation roles. When talking about game situation roles inside the flow of the play, there are four game situation roles that apply at all times, regardless which one of the team has the puck.

First role is the puck carrier, who is attacking player as he holds the puck. In second role are the puck carrier's teammates, who all are called offensive players without the puck. Third role is playing defense against the opponents puck carrier, and the final and fourth role is to play defense against non-puck carrier (opponent players without the puck). (IIHF 2008, 2.)

2.1 Scoring goals through defensive game

When two teams are playing against each other, one team is always attacking and the other one is always defending. General opinion from previous studies and among today's experts seems to be, that through good defending, the defensive team is able to win the possession of the puck away from the attacking team and is this way able to transform its play from defence to attack and try scoring a goal to opponents net. In ice hockey, for a team to be able to score goals through defence is a compulsory element of the game.

There are many different defensive styles or strategies to play the game that professional coaches and other experts involved in hockey have and are developing constantly. These styles and strategies depend greatly on the level of the players. Level of the players acts as a corridor, that determines the level that the game is being played. Generally recognized factor is that the higher the individual skill level of the players, the more advanced tactical game the team is able to play. For younger juniors or players who are just at fundamental stage of learning to play hockey, there is no use for the advantage defensive systems or strategies.

As stated by Patt Quinn (in Chambers 2008, foreword), "It is clear that unless athletes have developed the basic individual and technical skills, they will not be able to master the more complex and tactical team skills for competing and winning at a high level."

2.2 Scoring goals through attacking game

When the defending team gains the possession of the puck, they are starting to play attacking or offensive game through the possession of the puck.

Puck Control: Like in all sports based on possession, the principle of puck control is an important factor that contributes to offensive success. A team that is capable of keeping puck possession is capable of creating scoring chances. (Hockey Canada 2008.)

Just like for defensive game, professional coaches and experts involved in the game at various levels have created different offensive styles or strategies to play the game. As well just like in defensive play, these styles and strategies depend greatly on the individual skill levels of players in it, and through this the level that the game is being played is determined. The higher the individual skill level of the players, the more advanced tactical offensive game coaches can create for their team to play. For younger juniors or players who are just at a fundamental stage of learning to play hockey, it can be argued that there is not much use for the advantageous offensive systems or strategies. General opinion by previous studies and researchers seems to be that playing offensive hockey is easier than playing defensive hockey for players whose skill level is intermediate or lower.

Argument that too early introduction of a systematic team play to younger juniors can be negative, is also shared by Twist (2008, introduction xiii.): “Why do coaches spend time forcing players to memorize Xs and Os and comply with a team system when players do not yet have the skating, puck handling, and passing skills to get the job done.”

2.3 Shooting in the big picture

When talking about the actual mechanics of the different shots in hockey, especially to the beginners among the game it might be confusing as there is different ways and techniques to shoot the puck.

Shooting a hockey puck accurately and effectively has a large amount of physics involved in it. Depending on what type of shot it is, the pucks muzzle velocity, flight path or direction, and most of all the pucks travelling speed are variables that the shooters choice determines according which type of shot is being taken. Team Canada skills of Gold (2005, In Haapea 2011, 28.) states that different shooting techniques

include: backhand shot, wrist shot, snap shot, and slap shot. Which one of these is the shooter's shot of a choice, is determined by the current game situation.

In hockey, the shared opinion among experts around the game seems to be that it is not enough being able to skate faster than other players on the ice as there is a puck involved. Without good shooting skills a player is not able to finish scoring opportunities and deliver the puck into opponent's net, which is the ultimate purpose in the game. If a player has good skating, shooting and puck handling skills, he or she will have a chance to be a good hockey player.

According to Oala (2012.), general technique of a hockey shot is not only simple as merely swiping the hockey puck across the ice, but that it rather involves a technique called loading the player's stick. In loading the hockey stick actually makes contact with the ice as far as a foot behind the puck. As the stick is then brought forward at a high velocity of speed, it will bend slightly, adding a flex and snap to the shot when the blade of the hockey stick finally makes contact with the puck. This technique is arguably applicable in all different types of recognized shots.

Besides the mechanics and overall knowledge that physics are involved in a hockey shot, the physical key thing that a player needs to be successful in shooting (as well as in puck handling), lies in the hand-grip strength.

Kevin S. Ziegler, Director of Strength & Conditioning for Octagon Hockey, employed by Tampa Bay Lightning- NHL team, states:

Great hands and a quick release are a must if you are planning on making it into the NHL and staying there. As a strength coach, I am always looking for ways to improve hand-grip strength of the athletes I work with, along with improving the speed and release of their shot. (Ziegler 2008).

2.4 Puck handling in the big picture

Team Canada skills of Gold (2005, In Haapea 2011, 28.) states that when speaking about puck control, it consists of stationary puck control and moving puck control. Stationary puck control means controlling the puck on the stick in front, on both sides

of the body, as well as behind the body when applicable. Moving puck control means player's ability to first carry and then handle the puck at increasing speeds while skating and moving to all directions on the ice.

If the fundamentals of puck carrying and handling are learned at a young age, most of the times puck handling skills develop hand in hand to a certain point with the increasing speed in skating as the player grows older and becomes faster on skates. (Hockey shot a.)

Luhtanen (1989, in Martinmäki 2010, 27.) states about puck handling: Puck carrier needs to have good control to puck. Skillful puck handler doesn't need to concentrate too much of the pucks position in receiving, passing, carrying, or scoring situations, nevertheless the puck is always on his/hers site and under control. Good puck control allows observation of different game situations and effective decision making.

[Translated from the Finnish.]

Nuori Suomi booklet (2006, in Suomalainen 2010, 12.) states that player who masters puck handling is usually a good passer too. Such a player can work in confined space and make creative decisions while being in possession of the puck.

2.5 Physiological demands in hockey

Ice hockey players need agility and reactivity, balance, strength & power, and explosive speed to be able to perform on the ice.

2.5.1 Agility and reactivity

For players to be able to get to scoring situations, and use their shot in those situations to make the difference on scoreboard, they have to be agile on the ice. Many times when watching a hockey game, we can see that agility and reactivity can make the difference in a number of offensive and defensive situations all over the ice.

Quick reactions and agile movements with or without the puck can make or break plays, win or lose games, and be the difference between avoiding and sustaining and injury. Agile hockey player with no doubt has the ability to change direction quickly, effectively, and efficiently while under control and visually aware of the flow of the game. An agile hockey player is also able to move dynamically but remain ready to respond by adjusting movements in any direction. Elite level players often display agility as a series of continuous changes in direction. For an agile hockey player, shooting the puck from uncomfortable position and this way if not scoring a goal, at least leaving good rebound opportunities for teammates to put in is also easier than for non-agile player. Non-agile player will be guaranteed to struggle of getting a good release to the shot if and when agility is needed in these types of unnatural shooting positions. (Twist 2007, 137.)

Argument that even at the elite level there are differences between player's agility can be justified by referring to Stamm's (2010, 223.): Agility often marks the difference between a mediocre hockey player and a star. It allows a player to outfox an opponent and keep the opponent at bay. Agile hockey players can execute a wide range of moves with dazzling speed and mobility, which allows them to get to better scoring situations, whether with or without the puck.

When talking about reactivity, the actual reaction time is moderated by agility, which provides the fluid movement skills, and reactivity, which contributes fast responsiveness of both mind and the muscles to speed direction change. Reactivity is also related to the scoring situations that happen very rapidly when the game is being played. Reactivity refers to muscle responsiveness, the ability of a nimble mind to make quick decisions and whole-body adjustments to environmental challenges, like shooting a puck from one-timer. The speed of muscle responsiveness is moderated by the mind for responses that are not reflective but actually reactive. These cognitive decisions can happen faster when more automatic after training. (Twist 2007, 137.)

2.5.2 Balance

Many different balance situations exist in hockey and all of them should be mastered. Good balance will help not only in skating, but especially in front of the net where shooting rebounds takes place. This is where releasing the puck quickly from often unbalanced position is a must. Balance is controlled by proper weight distribution over the skates along with proper upper body positioning. In ice hockey, skating maneuvers and ability to pass or shoot the puck depend on shifting the center of gravity outside the base of support in high speed with or without the puck. Great hockey players have such great balance that they appear to be linked to the ice by a magnetic force. Players commonly take it for granted and overlook its importance, but balance is one of the most important aspects of hockey. (Stamm, 2010, 11.)

Twist (2007, 103-104.) states that ice hockey features speed and impact played out on slippery terrain. This makes falls a given and rapid body adjustments are necessary requirement. Whether shooting the puck from unbalanced position close range from the opponents net, coming down fast and shooting the puck from the stride, or shooting a one-timer, excellent balance on skates is needed. Twist continues: "I teach my athletes balance skills to help them extend the limits of balance, so that they can shift their center of gravity farther outside their base support, allowing them to skate more aggressively under control."

2.5.3 Strength & power

According to Montgomery (1988, in Tiikkaja 2002, 13), for the constant body-contact that takes place in hockey, hockey-player players must have a sufficient strength base in both lower and the upper body. Arm and hand compression power is needed in stick handling and shooting the puck hard with different types of shots according the situation. Lower-limb power effects to skating speed, sudden changes in skating rhythm and when body checking the opponent or receiving a body check occurs inside the flow of the play.

Tikkaja (2002, in Pesola, 2009,11) suggests that upper body's strength, and lower limb's power output is used effectively specially in one –on- one situations. These qualities are also used near the boards in tight spaces and battles, as well as on open ice on a larger ice space. Strength and power's effective combination is a hard shooting and fast skating player's important attribute. Obvious is that both upper and lower body's combination at professional level is a must requirement which without player won't be able to skate, battle, or pick up a right shot in a fracture of a second to score and finish the play.

Hockey players need great leg strength, particularly eccentric strength is needed to negotiate turns at high speeds, stops constantly, and change directions on a dime, as well as shooting the puck explosively when needed. (Twist 2007, 69.)

2.5.4 Speed and applying the force

Like in any other sport, also hockey requires that force is to be applied correctly, powerfully, explosively, and with precise timing. The result is movement- of an object (puck, bat, ball, and so on), opponent, or oneself. Although the methods of applying force vary with each sport, the principles are essentially the same. The pushes of every skating maneuver or a shooting technique can be compared to a pitcher's throw. Every stride and shooting technique in hockey requires a windup, a release (application of force from the coiled position), and a follow-through (completion of motion) – along with accurately timed use of body weight (weight shift or transfer) during the push or follow-through. (Stamm 2010, 33.)

Stamm (2010, 33.) continues about recovery of the skate, which is very important part of applying the force correctly. In hockey, an additional element that is not necessarily applicable in other sports- the return (recovery) of the pushing skate and leg is needed. This element is important regardless of the skating maneuver being performed. After completing each push, the skate and the leg must quickly return to center under the body in order to prepare for the next push. Stride's recovery could be compared to a shooting practise where same player shoots series of pucks from stationary position.

After every follow-through the player returns to the starting position, having the weight on the back skate.

Speed depends not only on rapid leg motion but also on correct and powerful use of the edges, legs, and body weight. A serious misconception is that skating fast simply means moving feet fast. Too many players are taught to move their feet fast regardless how they move their feet or whether they are following the principles of force application. Moving feet fast without following the principles of force application is like shooting the puck quickly but without no proper technique, which means the puck most likely ends up anywhere else except to the net. (Stamm, 2010, 41.)

3 Sport specific technical skills

In ice hockey, the sport specific technical skills are shooting, skating, passing and puck handling.

3.1 Backhand shot

Definition of a backhand: To shoot, pass or carry the puck using the backside of the stick blade. (Fitzpatrick b 2012.)

When majority of the shots taken and goals scored in hockey can be expected to be scored with the forehand, it is quite the opposite on the backhand. Backhand shot is technique wise considered only as a one backhand shot, regardless of the type of backhand shot it is. Also technically and philosophically, the backhand is the complete opposite of the forehand. While the forehand is all about speed and brawn, the backhand utilizes deception and finesse. Any goalie agrees that the backhand shot is the most deceptive shot of all the shooting techniques in ice hockey. Backhand shot is not a shot that will come in at a high rate of speed, but when it is executed in timely fashion and correct technique, it can be a potent weapon. (Cunningham 2002.)

The backhand shot shouldn't be a dying skill. It's just as important as a good wrist shot. Most players don't have a strong backhand shot because they don't practice it enough. Coaches need to develop drills that will help you practice this very important, but under-used shot. I think the backhand shot is one of the most seldom used but effective shots in a sniper's arsenal, especially when taken from in close. Sometimes you don't have the time to move the puck onto your forehand. That's where a backhand shot comes into play. (Gionta 2007.)

The backhand shot is the most difficult shot to learn for goalies. Most goalies fear the backhand shot because its trajectory is so difficult to read. One of the recognizable elements in the backhand shot is that it usually is targeted to higher parts of the net (top corners). This is happening because when player shoots the puck from close range towards the net, goalie usually will be down on the ice and the higher parts of the net have more free space in them.

A player will lose many scoring opportunities if he has not mastered the backhand shot. Players should practice the backhand shot as much if not more than any of the forward shots. (Hockey shot b.)

Positives & negative attributes of a backhand shot listed by Iспорт ice hockey (2012.):

Positives:

Backhand shots are quick, sneaky, and difficult to predict. While they're not normally a shooter's best shot, they can be the only one available in a certain situations.

Negatives:

Backhand shots are generally slow and inaccurate. Backhanders are not a good option if there is enough time to release the puck from the forehand, as they are less accurate than wrist shots and slower than snapshots or slap shots.

3.2 Other shooting techniques

Excluding the backhand shot, all the other shots in hockey are being executed with the forehand side of the blade. Definition of a forehand: To shoot, pass or carry the puck using a player's "natural" side, with the blade of the stick and puck facing forward from the player's body. (Fitzpatrick a 2012.)

Mattila and Saarinen (2000, 23) were analyzing different variables in four Finnish elite league level games. One of the analyzes focused on type of shots that were taken during these games. In the four games, totally 444 shots were taken. Out of these shots majority were shot by forehand side of the blade: slap shots 44%, and wrist shots 43%. Backhand shots percentage was 6% out of all the shots. Remaining 7% of the shots came from the rebounds (either side of the stick) 2%, and the rest 5% assumingly were bounces from player equipment's or empty-netters at the end of the game. [Translated from the Finnish.] General knowledge as well as the example from this study shows, that majority of the shots taken and goals scored in hockey game can be expected to be shot and scored with the forehand.

In ice hockey the three other most common shots taken from the forehand are wristshot, snap shot and the slapshot.

Wrist shot

The wrist shot is probably the most effective shot in hockey. It is the most accurate shot and it can be released fairly quickly. This is the shot that a player should learn first. While not as fast as the slap shot, with practice, proper technique and upper body strength, the wrist shot can be a very powerful shot. (Hockey shot d.)

Snap Shot

Within 15 to 20 feet from the net, an accurate snap shot is the ultimate shooting weapon. This shot has the quickest shot release with plenty of power. Mastering the snap shot is difficult and takes a lot of practice but it is well worth learning. The benefit is being able to shoot a powerful shot with almost no wind-up and no warning. (Hockey shot c.)

Slap Shot

The slap shot is the most powerful shot in hockey. The mechanics of a slapshot involve keeping your head down, transferring your weight into the shot, and having a good shoulder turn. A good slap shot doesn't involve wrists and arms. The whole body has to function cohesively. (Cunningham 2002.)

3.3 Skating

Wayne Gretzky once said, "If you can't skate, you can't play our sport:skating is an art." (Stamm 2010,introduction, xi.)

Learning to play hockey should start with the skates and legs. If players can't get from point A to point B instantaneously and effeciently, nothing else will work. Even with all the training devices available in hockey today, skating technique is still the single most important element that any player can have. Like in any other sport specific technical skill, skill development in skating techniques should be structured like a pyramid- in other words, players first need to build a strong foundation.

More advanced techniques should be incorporated later stage as players mature and as their abilities improve. The process of teaching skating:

- First, teach players to skate correctly.
- Then teach them to skate correctly and powerfully.
- Then teach them to skate correctly, powerfully, and explosively.
- Then teach them to skate correctly, powerfully, explosively, and quickly.
- Finally, teach them to skate correctly, powerfully, explosively, and quickly- with the puck, under lots of pressure and in game situations.

(Stamm 2010, introduction, xi.)

Skating ability is the most crucial technical fundamental skill in ice hockey. We believe that a player who does not have strong skating skills and who is not able to perform versatile skating variations does not have chance to develop to be a national or international level player. [Translated from the Finnish.] (Paananen & Rätty 2002, introduction.)

3.4 Passing

For attacking unit, defensive pair, or generally any team that plays the game, successfully surpassing zone by zone is the key for success. When in the possession of the puck whether moving forward in offense, or backing down in defence, passing and receiving are key aspects of play that must be understood and mastered if success is to follow. Players and coaches who have studied and played hockey at any level realize that hockey consists more than the obvious sport specific skills of skating, shooting, and puck handling. (Gwozdecky & Stenlund 1999, foreword: x.)

Team full with good passers can fake pass or outplay opponent as a unit. Good passing play can also sometimes make the opponent look worse than they actually are. In more advanced levels of hockey, opponent might have to change its defensive formation if it is facing a team that moves the puck extremely well. (Mattila & Saarinen 2000, 23.)

Gwozdecky and Stenlund (1999, 5-8.) discuss about mastering the three zones that are all critical elements of passing and receiving whether using the forehand or backhand:

In passing, Zone 1 is the setup area at the beginning of the pass. Zone 2 is the release location, and extremely important element in delivering a smooth, effective pass. Zone 3 is the follow through area into which the player carries the stick as the puck is released.

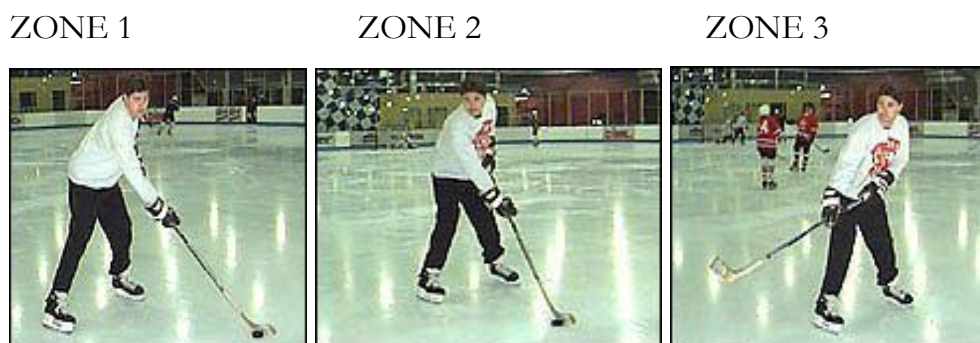


Figure 2. Backhand sweep pass (Coaches Corner.)

The proper hand position and knee bend are key elements in Zone 1. Zone 2 is the critical zone for ensuring that the pass will be on target. In Zone 3, the player shifts the body weight to front skate and points the stick blade at the intended target. Also in Zone 3 the follow through is critical, as follow-through helps the player deliver the puck on target.

According to Gwozdecky and Stenlund (1999, 5-8.), passing is only half of the equation. Most passes have naturally teammate waiting to receive them. Zones 1, 2 and 3 still apply in receiving, with some modification.

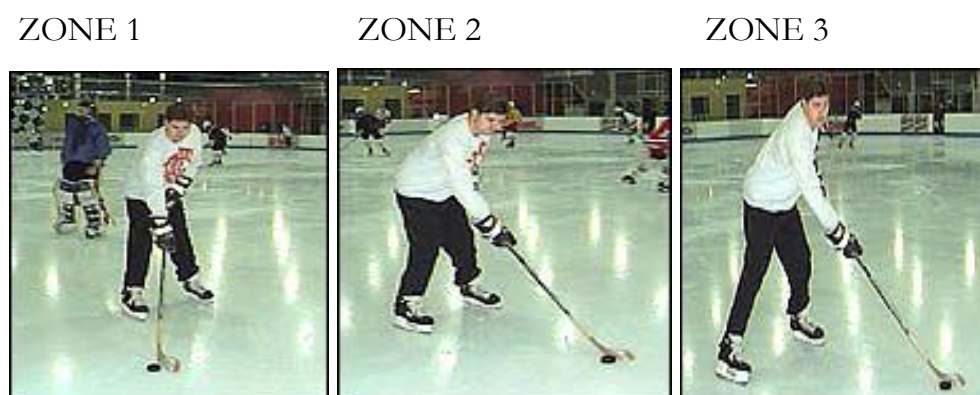


Figure 3. Receiving a pass on backhand (Coaches Corner)

The receiver should reach to accept the puck (Zone 1) to gain full control as the puck nears the midline of the body (Zone 2), and then move the puck toward a buffer area to protect it (Zone 3). When receiving a pass, the weight now shifts from front skate to back skate, opposite way than when giving a pass.

The first option for players should always be trying to pass the puck from tape to tape (the puck leaves the passer's stick and goes directly to receivers stick). Tape to tape is the fastest, most efficient way to move the puck when players want to increase or maintain the game speed. Practising passing and receiving from both sides of the blade, forehand and backhand should also be emphasized by junior coaches from the start. Using the puck more on the forehand side is not a good habit, as it doesnt strenghten the weaker side, which arguably is the backhand side of the stick with all the players. Forehand play might be easier and more comfortable, especially early in the players career, but the time will come when the player will have to execute passes from both sides. (Gwozdecky & Stenlund 1999, 7-10.)

3.5 Puckhandling

Nuori Suomi booklet (2006, in Suomalainen 2010, 12), states that the best way to learn puck handling is to experiment all kinds of figures with a puck or a ball and by playing other closely related sports like rink bandy or floorball. A good puck handler does not have to spend energy on thinking of puck handling, but instead concentrate on game situation and reading the play. This will come more automatic as the player progress in his/hers individual puckhandling skills.

Stick handling is one of the most important fundamental skills in hockey. One needs good stick handling skills to play heads up hockey, to take and maintain possession of the puck, to win face-offs, to receive and make passes and to shoot the puck. All the great puck carriers, great passers and great shooters can stick handle, position and shoot or pass the puck with their head up; this requires a lot of focused repetitive training. (Hockey shot a.)

4 Tools for scoring

4.1 Teaching individual skills

The ultimate goal in ice hockey is to score goals. Scoring is related to individual sport specific technical skill of shooting, as shooting with right techniques is the last trim that allows player/s to make the right decision in scoring situations. For a young player to hone and one day master all the individual sport specific skills that lead up to elite level, the base is created among coaches and teachers of the game through teaching individual on-ice skills. (IIHCE.)

Teaching individual skills is the most important element of young players' path to professional hockey if he/she is to make it. This is why the drills used for practising the skills should be challenging and as game-like as possible from young age. (Chambers 2008, 6.)

There is difference between coaching a drill/s through, and actually teaching a drill. Often in team practise, coaches are giving too hard and complicated tasks for players when compared to personal skill level that players have. The difference between coaching a drill and teaching a drill is significant. Coaching a drill involves running a drill, making sure that everyone is positioned correctly on the ice, making good decisions, jumping in at the right time. Teaching a drill requires having a critical eye from the coach to detect mechanical errors and having the ability to purposefully give corrective cues to help athletes improve technically within that drill. (Twist 2008, introduction xiii.)

According to Jaakkola (2009, in Suomalainen 2010, 8), different qualitative stages in skills learning can be recognized. These stages describe the development of learner's performance, automation of performance and the alteration of learner's observational functions.

First stage Jaakkola means is the cognitive stage, during which the learner attempts to piece together and understand the given task as wholeness and tries to create an image

of it. In this stage, the performances are marked by ineffectiveness and inconstancy, because every performance requires a large amount of brainwork. Performances may seem slow and clumsy and the learner does not necessarily trust in his ability to successfully fulfill the task. (Suomalainen 2010, 8.)

Jaakkola (2009, in Suomalainen 2010, 8) states about the automation of performance: The second stage is called the associative or the training stage. During the stage, performances are relatively consistent due to learner's success in forming a comprehensive image of the skill. Learner executes a large amount of repetitions during this stage, which is very characteristic to this stage. Ineffective performances can be corrected through increased understanding.

Finally Jaakkola (2009, in Suomalainen 2010, 8) presents that at the final stage; a skill can be produced unconsciously, without any significant thinking or effort. The number of errors is minimal, performances are consistent and the learner is able of multi-tasking. This means, for example, the ability to control the playing object and observe the game play at the same time. Jaakkola (2009, in Suomalainen 2010, 8) presents that to reach this stage of automated skills; it takes years and thousands of hours of hard work.

If these different qualitative stages are thought through hockey, it is very easy to understand that a player needs to be able to skate in all directions before any more complicated team systems plays should be taught as an example.

4.2 Feedback

Definition of feedback:

Feedback is information, which is related to performance's execution, requirements, behaving, attitude, or the result/s of the performance itself. The purpose of feedback is to maintain or shape execution, requirements, behaving, attitude, or the result/s of the performance itself. According the feedback that is given, the athlete can learn how he/she did:

- Behaved or accomplished the task given.
- What was the difference between performance and the optimal performance?
- The result.
- Reasons that affected to result.
- How others valued performance.
- Personal value & experience of the performance.

(Mattila & Saarinen 2000, 35.)

Coaches and instructors may feel sometimes that giving individual feedback in the middle of team practise takes too much time away from running the drill properly. This is the never-ending problem with feedback. How much time is really available at the end of the day, and is it worth of correcting bad habits soon as spotted or just let the flow of the drill continue?

Coaches and teachers need to constantly give proper feedback from the individual skills that players are performing on the ice. If there is no feedback by the coach/teacher, the wrong techniques and the bad habits won't get corrected by anyone else. Rarely will they get corrected automatically either. That is why the proper feedback absolutely should go hand-in-hand with the teaching of individual sport specific technical skills, as athletes need to know how they are doing in their efforts. Specific feedback during and after practicing a skill should be provided as much as possible. When the athletes practice skill, coaching assistants should circulate among athletes, giving individual feedback and correction. (Chambers 2008, 6.)

4.3 Repetitions

Saarinen & Nackel (2007) talk about the importance of repetitions when players are practising goal scoring, and different methods of doing these repetitions. Their first recommendation is to always shoot the pucks towards the net. Also learning to shoot from a bad hockey stance (unbalanced position) as well as learning to shoot when the puck is almost out of reach is important. They also recommend to constantly shooting variety of shots:

- Wrist shots
- Backhand shots
- One – timing from lateral and diagonal passes
- Lifting the puck up high when close to the net

According to Saarinen and Nackel, good goal scorers always shoot lot of shots in the practices as well, not just in the games.

By repeating over and over again the harder shots and through this strengthening the weaknesses like a backhand compared to a forehand shot is, is the only way to learn to master shooting perfectly.

Chambers (2008, 7.) writes that drills should have an optimal number of repetitions for each player who is on the ice. For drills used to work on basic skills, best idea would be to divide the players into smaller groups so that each player gets more repetitions. Forming stations over the ice is very effective way and makes coaches task also easier. By observing younger junior's practises, it is common to see stations formed over the ice while high numbers of repetitions of skill are being practised.

4.4 Scoring & reacting

Hockey is a fast game and for player the key thing to be able to score goals is that he/she needs to be able to react quickly when the time is right to try scoring. Wasted or well-used scoring opportunities have a lot to do besides individual skill that allows player to try scoring, also with player's ability to react fast to situations when they happen. What is goal scoring? To be an effective goal scorer, player needs to have following elements:

- Determination to score from every situation.
- Quick reaction in front of the net.
- Quick choices.
- Automatic actions = lot of repetitions.
- Creative, surprising and deceptive decision.

Often goal scoring actually starts with the shot from a bad spot or an angle, and the power of the shot is only one of the many factors that determines the result. [Translated from the Finnish] (Saarinen & Nackel, 2007.)

“If you want to score, shoot the puck. Shoot it from any angle. When you shoot the puck, anything can happen. The goalie can be screened; there can be a deflection, a tip-in, a rebound. If you want to increase your scoring, my advice is shoot the puck.” - Mike Vernon in book: Hockey Tough (Miller 2003, 144.)

Saarinen & Nackel (2007) suggest in their presentation that when player is in close range of the net and gets a scoring opportunity, the key elements what it comes to shot's direction and aiming are:

- Instant shot (quick release).
- Quick lateral movement and aiming high.
- Five-hole = puck leaves the stick before goalie reacts and prepares.
- When playing rebounds, one-time shots high.

The ability to understand situations without having to see the actual people or objects involved and to anticipate or “think ahead” toward predicting possible outcomes is abstract thinking. In the game of chess, for example, players must think abstractly to plan advantageous moves without actually touching the pieces. Once a move or series of moves is decided upon, the actual “first” move is actually taken.

(Macdonald 1997, 22-27.)

It is specificity that conditions the player. It conditions in such a way as to allow for easier replication and performance of a desired skill or decision during actual competition. An example would be to use drills that directly mimic situations as they may occur during the course of an actual game. A shooting drill in which the shooter is under pressure intensifies not only the decisions-making process but the physical demands as well. As a result the athlete is placed into a game – like situations. (Macdonald 1997, 22.)

5 Backhand techniques

Player with an intermediate forehand skills who can also shoot, puck handle and score goals on his/hers backhand is a more complete player than a player with superior forehand skills, but hardly with no skills on a backhand. Learning to use the backhand as much as possible every time when it is possible is a way to improve the overall backhand skills in hockey. Backhand skills can be honed with:

- Backhand shooting exercises
- Backhand scoring drills
- Backhand puck handling drills

5.1 Backhand shooting techniques

When a backhand shot is mentioned, it is suggested that most commonly there are only the “normal” two foot backhand shot. One of this videos main goals was to raise the awareness that different kind of backhand shooting techniques do exist, and that they are being used everywhere to score goals all the time. These other techniques on video are not too much different from the normal two-foot backhand shot however, and this video aims to show the little differences not for the first time ever, but to raise the awareness to junior players.

5.1.1 Normal backhand shot

First backhand shooting technique in the video is normal two – foot backhand shot. Kärki (IIHCE) lists key things when performing a normal backhand shot [Translated from the Finnish]:

- Puck should be between the heel and the middle part of your blade (on backhand side) where the puck then rolls towards the toe of your backhand.
- Backhand shot starts by transferring the weight from the grip hands side leg to the power hands side leg (back skate to front skate).
- Rotating the upper body and shoulders, giving the puck “wipe” like push.
- Range of motion starts from the grip hand leg (back leg) and finishes turning the wrists.

- Power hand's pull turns to push when puck becomes aligned to the body's middle section.
- Turning the wrists gives more power and accuracy to backhand shot.

5.1.2 Backhand snapshot

Second backhand shooting technique in the video is a backhand snapshot. Same principles, weight transfer from back skate, getting power from wrists and clean follow-through are important elements in the backhand snap shot. Difference to normal backhand shot is that in backhand snapshot the normal backhand shot's dragging, sweeping motion is eliminated. When in the normal backhand shot shooters power hand's pull turns to push when puck becomes aligned to the body's middle section, in backhand snapshot the motion is more violent and quicker, and the puck leaves the blade latest before it reaches vertical line with shooters front skate.

If a player is able to shoot the puck from backhand it makes him/her more complete player. If a player can release it with quick snapshot from the backhand it will be even more deceptive for the goalie to stop. The snap shot should be launched quickly, almost as soon as the puck is on your stick. The idea is basic: get rid of the puck fast and hard. Although the shot can be executed on a skate-in, close-range attempt, the feel of the shot is very much like the traditional one-timer. (Cunningham 2002.)

5.1.3 One – foot backhand snapshot

Sometimes there is time to only release the puck quickly from backhand in an uncomfortable and unstable position. Usually this situation occurs when puck is bouncing puck in good scoring situations near the opponents net.

Saarinen & Nackel (2007) state in their presentation about typical elements of effective shots, taken from close range to the net when purpose is to score [translated from the Finnish]:

- Quick shots
- One timing or two timing the shots

- Wrist shot
- Shooting from the uncomfortable or bad positions
- Shooting from where the puck is in bad position

Third shot in the video is a one-foot backhand snapshot. In this shot the shooter should be feeling uncomfortable and being in bad position, having only one skate on ice. Puck is being moved from front skate to back skate and back, purpose being that shots would be taken also where the puck is in bad position. This is done to demonstrate the surprising situations that happen fast in hockey, often in best scoring areas in front of the net where the traffic is.

Key things in a one-foot snapshot is that the shooter's weight is on the supporting skate and more power to shot should be created through his/hers core as much as possible, as well as from the hand grip strenght from wrists. Good and clean follow-through is also important.

5.1.4 Backhand one-timer

Fourth backhand shooting technique in the video is shooting one-timers from lateral and diagonal passes. Like other backhand shooting techniques, the purpose is to release the puck quickly from the backhand, assuming there is no time or space to turn it on the forehand. One timer has the quickest release from the backhand shots presented in this video.

Timing for the one-timer should be accurately gauged by the shooter, because there is only a fraction of a second opportunity for the shooter's stick to contact the puck and put it into the net. Practice is the only way to improve the timing, whether we are talking about forehand or backhand shot. The shot of choice on a forehand for the one-timer is usually the slap shot; however players should begin practicing this play using the snapshot. The snap shot will allow the shooter a little more margin for error due to the shortened backswing (as compared to the slap shot). On the backhand, the slap shot is very limitedly used, and the shot of choice is usually snapshot. (Stiller.)

Video does not present backhand slap shot because it is not truly recognized shot.

5.2 Backhand shooting drills

Second section in the video consists of backhand scoring drills. Three of the four drills have passers in them, so that the shots could be taken by one timing them from the backhand.

The one-timer combines three main elements: quickness, accuracy, and timing. The quickness and accuracy come from the passer; as this player must setup the shooter with a crisp and accurate pass, moving the puck toward the shooter's front skate. Generally, a pass across the slot or from deep in the offensive zone to the point works best because as the goaltender attempts to follow the puck, it is moved from the initial location toward the net before the goaltender has a chance to prepare him for the shot. Also notable is that the passer, if possible, should give the passes from the backhand to maximize the benefits of passing play. (Stiller.)

5.3 Backhand puckhandling drills

Third chapter in the video presents different puck handling drills on the backhand. Practising the puck handling only on the backhand is a good way to not only develop the backhand puck handling skills, but as it also develops the forehand puck handling skills. After handling the puck only on the backhand it makes going back to the forehand more natural and comfortable.

How can you develop a good backhand? First off, a solid backhand often goes hand-in-hand with excellent puck handling skills. You need to get the puck on your stick in a position to shoot, and working on your stickhandling will help you do that. When handling the puck on the backhand through the drills, the most challenging task for the player is to keep eyes up and away from the puck, readiness to turn hands in front of the body in turns and pivots, and generally not allow any touches to the puck with a forehand side of the blade. (Cunningham 2002.)

6 Project planning

I had the idea to create some kind of teaching DVD/video material about different backhand shooting techniques and stickhandling skills that hopefully would be useful for some organization that I would be working in the future and also because the topic itself interest me. There are almost endless amount of existing material from different kind of stickhandling and shooting skills and methods. In my mind however I also wanted to specialize more deeply specifically to the use of backhand. Mostly because I believe that backhand skills can never be taught or practised enough.

Planning of this project started during Northern hemisphere spring 2012 in Australia, more specifically in Canberra. I have been spending same parts of the calendar year in recent years in Canberra and gotten involved in the local ice hockey scene. As it also happens to be, Australia is in the Southern hemisphere and the winter months run from May until August, so I was again in Australia during the Australian hockey season.

On the first week of May 2012, when I was talking to the president of ACTIHA (Australian Capital Territory Ice Hockey Association), about my thesis and that I didn't really have any club or organization that I was making my thesis project for, except Haaga Helia's Degree Programme in Sports and Leisure Management that operates in Vierumaki.

After offering the possibility to give the thesis to the use of ACTIHA when it would be ready, president of the association happily agreed and so I had an organization to hand out the project and the DVD when it would be ready. President didn't give me any guidelines for the work because I offered to give him the ready DVD when it would be ready, and I already had many ideas on the paper what would be on the DVD. What it also meant was that I now had free hands of deciding what would be in the DVD and what kind of drills it would include.

After weighting the options of youngest age-group the DVD could be targeted for, I ended up in conclusion that it was not going to be for the youngest junior teams ACTIHA has (U-8, U-10) because most of the drills in the DVD require basic- to intermediate hockey skills. However in my opinion and after talking and giving the president idea what would be in it, we agreed that Atoms (U-12) and older ACTIHA players could benefit from the drills.

When I was weighting the options of where to get the players for DVD, I turned to the local AIHL (Australian Ice Hockey League) team Canberra Knights. Because of the good relationship with the team's General Manager and most of the players as well it was easy for me to approach them. After talking with some of the Canberra Knights import players I managed to persuade them to come out to and perform some of the drills and skills that are on the DVD. However some of these players who I knew would have been skill wise able to perform on DVD and show good quality demonstrations, had different working hours than I was hoping for. The end result was that I had to perform myself in most of the scenes in the DVD. However the project was already in that stage that changing the whole topic of the thesis would have meant lot of wasted hours and work, so I decided to do it myself. Obviously as non-professional and non-active player I knew that the quality of demonstrations would now not be as good I was hoping it to be in the first place.

A good thing for shooting the video in Australia, was that I had my brother – in-law, Mr Rick Long, living in Canberra who is currently studying media Productions in University of Canberra. After talking about my project with him and my desires of wanting to get video shooting done on ice, he agreed to help me and to be director for the DVD. All the material in the DVD was taped between 10th of July – to 23rd of August 2012 at the Philip Ice Skating Centre in Canberra, Australia.

6.1 Making the structure (script)

As I was able to use totally my own judgement on the drills that would be on the DVD, I also made up the structure myself. My original plan was that I would have

been able to use players with advantageous skill level on the drills and tell and guide them on the ice while it was being recorded to the camera.

I had never performed on ice in front of the camera in this kind of situation before and this made it “blurry” of how long the exact length of the DVD would end up to be while I was making the script. I estimated its length to be roughly 45 minutes long before the first on-ice shooting session that we had on the 10th of July 2012. The final length of DVD ended up being roughly 25 minutes.

When I was writing the script I wanted to start every section from easier drills according to which section it was, and move towards bit more advanced drills towards the end of each section. On winter 2011 I had watched lot of Sean Skinners puck handling teaching DVD: s. Rememorizing Skinner’s DVD’s gave me few ideas about the drills that I wanted to have on DVD when I was making the script. ACTIHA neither did had any video material before this so they were very open minded about all the material they could get from the project.

We only had one camera in use all times so it made shooting the drills that included moving bit harder when it came to getting the player skating fully into the shot all times. Other option would have been to place the camera further away down the ice and we did try this. However when we were trying this method, the player’s blade, when releasing the puck from a backhand, would have been too unclear and on the wrong side of the camera.

6.2 Videotaping the DVD

All the scenes in the DVD are taped at Philip Ice Skating Rink in Canberra, Australia. As I had not previously performed drills on the camera on ice I underestimated the time it took to get my own talking added in it. The most natural option for us was to record the sound while we were on the ice. This meant that I had a microphone on me all the times when I was performing the drills whether they were stationary or moving drills.

During the time that DVD was taped, between 10th of July – to 23rd of August, we had the ice in our use in very vaguely times. The time we could go on had to be a weekday time between 12pm-1pm when there was no-one else on the ice. That was the time we were able to use the ice for a free of charge. This turned up to be problematic because in reality during those hours the ice was only really free 1-2 times a week. Also because of the directors own schedules and my schedules were totally different, we struggled in the beginning. This led up to decision that I had to rent the ice with my personal cost. This was the only way we would get the whole ice for 1.5 hrs. at the time. This again obviously increased the budget. I had to rent the ice totally four times, each 1.5hrs cost me 150 Australian dollars. I also paid the director for participating to the project. The whole cost of the budget was 1100 Australian dollars.

The DVD was recorded with Canon 5 D camera. Majority of the stationary shooting drills were executed and taped on the same end of the ice. We choose to do it this way because the end we used was further from front door (noise factor), and also the lighting was better on that end. In some drills also the other end was being used when we needed more ice surface.

Section 1 that contains mostly stationary shooting was taped on the further end of the rink. Camera was either 2-3 metres in front of myself (I was standing roughly between the hash marks) so that my whole body fitted in, or then camera was behind the net as I was executing stationary shots from hash marks.

Section 2 that consists of backhand scoring drills was also shot on the same, further end of the rink. In this section the camera man was behind me on the blue line in the drill 1. In the drill 2 the camera was placed in the near-corner and on the bottom of the far-face-off circle.

In drills 3 & 4 the camera was on both sides of the net along the goal line. In these two drills it would have been good to have more than one camera because the skater is moving in wider area in drills 3 & 4 than in 2 first drills of this chapter.

In the section 3, drills 1, 2 & 4 were taped on the neutral zone and the camera was roughly between the red line and the blue line close to the boards. Drill 3 was taped in the further end, and the camera was in front of myself first closer and then further away. Also in drill 3 the camera is placed in the middle of the "track" which gave a different close-up camera angle.

Intros for the sections as well as the intro & outro for the DVD were done different places on the ice, always accordingly wherever the lighting was the best at that time. Most of the times we were able to get all the lights on, but some of the lights didn't work properly which meant that at times the lightning was not the most ideal.

Director had experience of shooting longer and shorter documentaries, and business-promotion videos, but he never before had worked on ice so it was all new to him. I had a shooting script with me for every different day that we went over to rink, and we went through it with director each time before we stepped onto ice to shooting session. Because ice hockey as a sport was new to him, sometimes I had to explain and direct him where the best angle would be to shoot certain drills.

The shooting script for each session included the drills, the estimated time frame it would take to get one drill done, position on the ice, and what would be the best place for the camera. I always made sure I had more drills written out than we had time just in case something would have happened and we should have moved to next drill over one. For section two I was able to get Lucas Schutt from Canberra Knights to skate with me that helped tremendously. I also had other Canberra Knights players to come out for the drill 2 in section 2.

6.3 Editing the DVD

In the editing process of the DVD, the material was analyzed on different days, starting on the day of the first on-ice session (10th of July). Normal routine was that after on ice session, I went to director's house where his home studio is and we started to go through the material and made sure all the clips taken on that day would be usable in the final DVD. While we were watching the clips through I was telling to direc-

tor which clips would be good to use and which ones were not usable. If they were not, this way we already knew for next time whether we needed to take retakes or if we were able to move forward in the script next time when we would have the ice for us. While the time went on and the more work we did together, I noticed that director was able to pick up details here and there and to give feedback regarding the actual execution, which I found beneficial.

When we were going through and editing material in director's studio with Premiere C5 program, I was writing down on my computer the progress on a shooting script. Whether the clip we were going through included movement, stationary shooting or talking, and it was good to be used in the final DVD, we added the sound straight away for that specific clip. Sound for the DVD was recorded with ZOOM H4N recorder, and after that the audio was imported to the time line and synchronized to video clips with the Premiere C 5 program. In some of the drills more than one camera angle was being used because that gives a viewer bit better angle to watch specific drills and also makes it bit more interesting to the watch. I hadn't worked with Premiere C 5 program before but it was familiar for director as he had worked with this program in the past in his previous projects.

English was the natural language to choose for this DVD as it was done in Australia. While I was performing the demonstrations for drills on ice, I had a microphone on me all times so I was able to speak at the same time whether it was moving down on the ice or showing stationary demonstrations. We did a multimedia course with DP class in Vierumaki, and on that course our class got interviewed by Haaga-Helia's students who were studying multimedia. That was the only time I had spoken to the camera before in English language.

Voice on the DVD is my voice all times. For the intro & outro for whole DVD, as well as intro's in each section, I had learned beforehand what I was going to say. Hard part in this was not to get confused what I was saying next as I had to speak straight to the camera without looking the text I had written down. Also to get the tone of my voice sound right for the camera was sometimes bit problematic as I was not use to

talk straight to camera. I speaking to the camera was also the one the part in the DVD that required most retakes as it was either myself or the director who was not happy with the way my speak was flowing, my pronouncing, or my body language. In this part I also got lot of good tips from the director how to try and be more natural and relaxed when speaking in front of the camera.

When we had the whole DVD in order with right drills and sounds of the clips, we needed to make the colours right. This needed to be done because the lighting at the ice rink varied between the times we were shooting on ice. Animation and the graphics where added by using Adobe After Effects Program. When all the animation was done, we added the texts to the DVD.

6.4 Product description

The final product of the project is a DVD that has 13 different backhand drills divided in three chapters: Backhand shooting techniques, backhand scoring drills, and backhand puck handling drills. Drills are targeted for ACTIHA junior players 12 (u-12) years and old older.

7 Discussion

The aim of this product oriented thesis was to create a DVD that shows basic-to-intermediate backhand shooting and puck handling skills. I believe these are both useful tools if and when a player wants to master his/hers backhand.

If player, regardless of the gender, wants to be an elite class hockey player, I believe it is crucial element to master the use of the backhand in hockey. This DVD presents mostly basic backhand skills, but like everything in hockey that involves skating, more advanced players are also able to practice with these drills in a way that develops their backhand. If and when more advanced players practise drills that are on this DVD, it just means more speed, tighter angles and turns in skating, harder passes, and most of all better aiming of the actual backhand shooting, where goal should perfection, = putting the puck every time exactly where wanted from the backhand. This is also the real challenge in backhand. I don't think there is a hockey player in the world, which is as good with backhand as with forehand.

When writing the theory part of the project I struggled to find a research from different backhand shooting or puck handling techniques which made it challenging enough. Data I found from backhand was mostly emphasizing that backhand shot is the hardest shot to master and that it is deceptive shot for the goalies to face as it is a faster shot than forehand shot is. Looking back at the theory part, I believe that the main emphasize is besides raising the awareness of the importance of mastering the backhand through individual skill training like repetitions and learning to react fast is also to keep trying new innovative things like the one-foot backhand snapshot in section one. This shot might not seem important shot at all, but again very often can be used in the scoring situation inside the flow of the play.

The video production could have been more effective = fit more drills in the DVD. Talking and explaining the drills took too much time in each ice session because there was not enough ice time and it was not free ice-time every time either. Looking back, the better option perhaps would have been to just shoot the drills and leave all

the talking out. However the other original, longer version with two interviews from active pro-players will stay with me and I am sure it will be useful to have in the future. Executing the actual on-ice drills was fairly easy and didn't need many retakes.

If this kind of video material is being produced in the future, I would hope that whoever does it, would do even more innovative things with the backhand. I cannot say that sky is the limit when talking about usage of backhand, but maybe someday there will be a player who can play both fore and backhand at equal level. Think about what kind of advantage that would be and how hard for any goalie it would be to face that kind of a player. Obviously I am a big believer that backhand is a weapon if used and mastered perfectly. The fact also is that backhand definitively is not in same category than skating, but what about other sport specific technical skills: passing, shooting, puck handling. What if it would be equal to these? Could this be possible in the future is interesting question I believe.

I hope that saying "picture speaks more than thousand words" will become true with this project in viewers eyes. I personally think that self-learning on-ice skill techniques and transferring them to on-ice teaching through video material is easier than through written material, and I believe many will agree on this. I was also satisfied with the quality of the video and was lucky to be able to use a professional camera man/ editor in this project. Recommendation would be to watch the video after reading the theory part.

In my own opinion this project is serving the two main purposes it was built for: demonstrating different backhand methods on video formation, and to raise the overall awareness of the importance to use the backhand more often. I believe that the use of a backhand can never be emphasized enough. Without the ability to learn it properly at the early stage of player's career and developing it constantly through the career, just like any other individual skill, there is no realistic change for a player to reach elite level in hockey.

Bibliography

Chambers, D. 2008. The hockey drill book. pp. foreword, 6-7. Human Kinetics. USA.

Coaches Corner. Forehand & Backhand sweep pass.URL:

<http://www.scootter.net/Coaches%20Corner/passing.html>. Quoted: 31.7.2012.

Cunningham, B. 2002. 4 basic shots of hockey. URL:

<http://www.hockeyshot.com/v/hyperlinks/4basicshotshockey.pdf>. Quoted:
21.8.2012.

Fitzpatrick, J. 2012. a. Definition of a forehand. URL:

<http://proicchokey.about.com/od/hockeyglossarydg/g/forehand.htm>. Quoted:
26.10.2012.

Fitzpatrick, J. 2012. b. Definition of backhand. URL:

<http://proicchokey.about.com/od/hockeyglossary/g/backhand.htm> Quoted
26.10.2012.

Fuzilogik 2012. Ice hockey glossary. URL:<http://www.fuzilogik.com/Sports-Library/Ice-Hockey/Ice-Hockey-Glossary.html>. Quoted: 01.11.2012.

Gionta, B. 2007. Backhand shot. USA Hockey magazine. Article.URL:

http://www.hockeyshot.com/v/hyperlinks/usa/backhand_usa.pdf. Quoted:
26.10.2012.

Gwozdecky, G. & Stenlund, V. 1999. Hockey Drills for Passing & Receiving, pp. x, 5, 7 -10. Human Kinetics. USA.

Hockey Canada 2008. Program of Excellence. Under 17 Technical Curriculum. URL:

http://www.hockeycanada.ca/index.php/ci_id/63531/la_id/1.htm. Quoted:
01.11.2012.

Hockey Canada 2005. Team Canada skills of Gold. In Haapea, I. Defining skill variables between U16 national team and non- national team ice hockey players, pp. 28. Bachelor's Thesis Degree Programme in Sport and Leisure Management 2011.

Hockey playbook. URL: <http://www.jes-hockey.com/hockey/index.html>. Quoted: 30.10.2012.

Hockey shot a: Hockey stickhandling tips. URL: <http://www.hockeyshot.com/articles.asp?id=232>. Quoted: 24.10.2012.

Hockey shot b: Backhand shot. Tips & videos. URL: <http://www.hockeyshot.com/articles.asp?id=154>. Quoted: 11.7.2012.

Hockey shot c: Snap shot. Tips & videos. URL: <http://www.hockeyshot.com/articles.asp?id=156>. Quoted: 21.8.2012.

Hockey shot d: Wrist shot. Tips & videos. URL: <http://www.hockeyshot.com/articles.asp?id=153>. Quoted: 21.8.2012.

IIHCE. Harjoittelu ja pelaaminen: Lajitekniikat- ja taidot. URL: <http://www.iihce.fi/suomeksi/Suomeksi/tabid/549/Default.aspx>. Quoted: 25.11.2012.

IIHF 2008. Developing the hockey sense, pp. 2. URL: <http://www.marbleheadyouthhockey.com/league/download.aspx?FT=1&ULL=7443866&LID=80&FileID=36328&Inline=true&Thumb=false>. January 2008. Quoted: 18.11.2012.

Isport ice hockey. 2012. How to take a backhand shot in hockey. Article. URL: <http://icehockey.isport.com/icehockey-guides/how-to-take-a-backhand-shot-in-ice-hockey>. Quoted: 11.7.2012.

Jaakkola, T. 2009. Lasten ja nuorten taitoharjoittelu. In Suomalainen, J. 2010. Ice Hockey Instructor's Guide for EC Dornbirner Bulldogs, pp.8. Thesis Vierumäki Unit Degree Programme in Sports and Leisure Management. Spring 2010.

Jyväskylän Yliopisto Liikuntabiologian laitos Liikunta fysiologian Pro gradu-tutkielma. URL: http://www.iihce.fi/DesktopModules/A_Repository/Download.ashx?id=9. Quoted: 30.7.2012.

Kärki, T. Rystylaukaus paikaltaan yläkäsi- alakäsi painonsiirrolla. IIHCE. URL: <http://www.iihce.fi/suomeksi/Harjoittelujapelaaminen/Lajitekniikatjataidot/LaukomiLau/Rystylaukaus/tabid/431/Default.aspx>. Quoted: 16.7.2012.

Luhtanen, P. 1989. Taktiikka ja sen harjoittaminen. In Martinmäki, S. 2010. pp. 27. Jääkiekon lajianalyysi ja valmennus: Kehittykö A-juniorista ammattilainen? Valmennus- ja testausoppi. Valmentajaseminaari. VTEA008. Kevät 2010. Liikuntabiologian laitos Jyväskylän yliopisto.

Macdonald, L.1997. Perfect practise, pp. 22, 27, Centax Books. Canada.

Mattila, P. & Saarinen, M. Jääkiekon lajitekniikan opettaminen, pp.23,35, AMVT 8 Syksy 2000.

Montgomery, D. L. 1988. Physiology of ice hockey. In Tikkaja, J. 2002. Aerobinen, Anaerobinen ja Neuromuskulaarinen suorituskyky sekä sykevaihtelu pelikauden aikana jääkiekkoilijoilla, pp.13. Jyväskylän Yliopisto Liikuntabiologian laitos. Liikuntafysiologian Pro gradu –tutkielma. Syksy 2002.

Nuori Suomi booklet, 2006. Juniorit jäällä. In Suomalainen, J. Ice Hockey Instructor's Guide for EC Dornbirner Bulldogs .pp. 12. Thesis Vierumäki Unit Degree Programme in Sports and Leisure Management. Spring 2010.

Oala, I. 2012. How to Load a Stick in Ice Hockey. Article.URL:
http://www.ehow.com/how_7693093_load-stick-ice-hockey.html#ixzz2B75xbVjE.
Quoted: 3.11.2012.

Paananen, J. & Rätty, T. 2002. Eteenpäinluistelu: Jääkiekon perustaito
Liikuntapedagogiikan pro gradu – tutkielma. Liikuntakasvatuksen laitos
Jyväskylän yliopisto. URL:
<http://www.iihce.fi/suomeksi/Artikkelit/tabid/246/Default.aspx?SearchString=luistel>
u. Quoted: 1.8.2012.

Pesola, A.2009. Jaakiekon lajiantalyysi ja fyysisten ominaisuuksien valmennuksen
ohjelmointi. pp11. Valmentajaseminaari VTEA008 Kesä 2009 Liikuntabiologian laitos
Jyväskylän yliopisto. URL:
[https://jyx.jyu.fi/dspace/bitstream/handle/123456789/24511/VTE.A008%20Pesla_
%20%20Arto%20J%C3%84%C3%84KIEKON%20LAJIANALYYSI%20JA%20FYYSIT-
EN%20OMINAISUUKSIEN%20VALMENNUKSEN%20OHJELMOINTI_FINAL.pdf?sequence=1](https://jyx.jyu.fi/dspace/bitstream/handle/123456789/24511/VTE.A008%20Pesla_%20%20Arto%20J%C3%84%C3%84KIEKON%20LAJIANALYYSI%20JA%20FYYSIT-EN%20OMINAISUUKSIEN%20VALMENNUKSEN%20OHJELMOINTI_FINAL.pdf?sequence=1) .Quoted: 30.7.2012.

Quinn, P. 2008. Foreword. In Chambers, D. 2008. The hockey drill book. Human
Kinetics. USA.

Saarinen, M. & Nackel, I. 2007. Työkaluja Maalintekoon. Maaalinteko koulutuspaivat,
14-15.12 2007. Vierumäki. URL:
http://www.iihce.fi/Portals/0/Seminaarit/Maalinteko%20koulutuspaivat%2014iv%2015iv%202007/Mikko%20Saarinen_HC.pdf. Quoted: 20.7.2012.

Saarinen, Mikko 14.12.2007. Työkaluja maalintekoon. Luentomateriaali. Maalinteon
koulutuspaivat 14–15.12.2007 Vierumäki.

Stamm, L. 2010. Power skating 4th edition, pp. xi, 11, 33, 41, 223. Human
Kinetics.USA.

Stiller, G. Executing one-timer. Hockey shot. Article.URL:
<http://www.hockeyshot.com/v/hyperlinks/executingonetimer.pdf> . Quoted:
28.10.2012.

Tiikkaja, J. 2002. Aerobinen, anaerobinen ja neuromuskulaarinen suorituskyky sekä sykevaihtelu pelikauden aikana jaakiekkoilijoilla. In Pesola, A. Jääkiekon lajiansalyysi ja fyysisten ominaisuuksien valmennuksen ohjelmointi, pp. 11. VTEA008 Kesä 2009. Liikuntabiologian laitos. Jyväskylän yliopisto.

Twist, P. 2007. Complete conditioning for hockey, pp.xiii, 69, 103, 104, 137. Human Kinetics. USA.

Vernon, M. 2003. In Miller, S. 2003. Hockey tough. pp.144. Human Kinetics. USA.

Ziegler, K. 2008. Testimonials. Heavy metal hockey. URL:
<http://www.heavymetalhockey.com/testimonials.htm>. Quoted: 02.11.2012.

Wikipedia 2012. a: Ice hockey. URL: http://en.wikipedia.org/wiki/Ice_hockey.
Quoted: 21.10.2012.

Wikipedia 2012. b: Ice Hockey handedness. URL:
[http://en.wikipedia.org/wiki/Shot_\(ice_hockey\)](http://en.wikipedia.org/wiki/Shot_(ice_hockey)) Quoted: 1.11.2012.

Attachments (appendix 1)

APPENDIX 1

Content of the “Backhand techniques in Ice Hockey ” DVD

1. Normal Backhand shot (technique)

Range of motion starts from the back skate, transferring the weight to front skate, arms out from the body, lower hand motion turns from pulling to pushing, carry through, rotating the upper body, turning the wrists.

2. Two- foot backhand snapshot (technique)

Range of motion starts from the back skate, transferring the weight to front skate, arms out from the body, lower hand motion turns from pulling to pushing, carry through, rotating the upper body, turning the wrists.

3. One –foot backhand snapshot (technique)

Weight always on the supporting skate in the start. Hands away from the body, wrists tightly on the stick, hitting the puck with heel-to-middle part of the blade, carry through, turning the wrists.

4. Backhand one-timer from lateral & diagonal passes (technique)

Whether stationary or moving backwards: eyes on the puck, one-time it from the backhand with heel-to-middle part of the blade, range of motion starts from the back skate, arms away from the body, carry through, turning the wrists.

5. Free style- shooting around the net (drill)

Low gravity, handling the puck on a forehand & backhand. Perform different backhand shooting techniques.

6. One-timer with pivots (drill)

Low gravity on turns, weight transferred on the back skate, blade of the stick on the back skate, range of motion starts from the back skate, arms away from the body, carry through, turning the wrists.

7. One-timers & puck exchange (drill)

First 5 pucks: Eyes on the puck, one-timers from backhand with heel-to-middle part of the blade, range of motion starts from the back skate, arms away from the body, carry through, turning the wrists.

Last 6th puck: Eyes on the puck, stick on the ice, motion starts from the back skate, arms away from the body, carry through, turning the wrists.

Passer: All six passes from the backhand.

8. One-timers from diagonal pass (drill)

Low skating stance all times, eyes on the puck, stick on the ice, motion starts from the back skate, arms away from the body, carry through, turning the wrists.

Passer: All four passes from the backhand.

9. Freestyle puckhandling warm-up (drill)

Low gravity, readiness to turn & pivot to all directions all times, hands away from the body, readiness to turn hands other way around, puck only on a backhand.

10. Figure 8 around pylons (drill)

Low gravity, chest facing forwards all times, hands away from the body, readiness to turn the hands other way around, eyes up as much as possible.

11. 3-1 pyramid (drill)

Puck always from the other side of the pylon than skater & switching the sides which way to go around at every pylon. Low gravity, hands away from the body, readiness to turn hands other way around, eyes up as much as possible, finish with a backhand shot.

Between the legs variation (drill)

Puck always through skaters front leg before the pylon & switching sides wick way to go around at every pylon. Low gravity, hands away from the body, readiness to turn hands other way around, eyes up as much as possible, finish with a backhand shot.

12. Agility & backhand (drill)

Hands away from the body, readiness to turn the hands other way around, eyes up as much as possible, finish with a backhand shot, turns in order: tight turn, pivot, 360 degrees spin forward & backwards depending.

13. Hand – eye coordination (drill)

Low gravity, ability to lift the puck up with the toe of the blade.

Straight from the air variation: Low gravity, eyes on the puck, range of motion starts from the back skate.