

Paananen Tommi

**Off-Ice Training Handbook for Coaches of G-to-D-Juniors**

Thesis

Kajaani University of Applied Sciences

School of Health and Sports

Sports and Leisure Management

12<sup>th</sup> of November 2013



School Health and Sports	Degree Programme Sports and Leisure Management
Author(s) Paananen Tommi	
Title Off-Ice Training Handbook for Coaches of G-to-D-Juniors	
Optional Professional Studies Coaching	Supervisor(s) Partanen Kari and Rouvali Tommi
	Commissioned by Juniiori-KalPa, Peltola Pekka
Date 12 <sup>th</sup> of November 2013	Total Number of Pages and Appendices 31
<p>This thesis was commissioned by Juniiori-KalPa as there was no proper handbook for junior coaches of G-to-D-juniors (aged 7-14 years). The purpose of this thesis was to provide exercises based on the latest guidelines and further develop instructions for each session to maximize the development of every player in every age group. To achieve this, different sources and the needs of the commissioner had to be considered critically. The author had previous knowledge of strength and conditioning from studying coaching at Kajaani University of Applied Sciences.</p> <p>The general guidelines for the handbook given by the commissioner were to develop exercises that develop the abilities of the youngest players and offer more difficulty to the more mature also. The instructions were also expected to be simple and short enough for a parent to use. To explain the details of each exercise, research on the following issues had to be conducted: core analysis of hockey, physiological development of children and adolescents, optimal training intensity, volume and frequency, knowledge level of coaches and parents, and environment used in the training.</p> <p>As the author completed the second practical training period in Juniiori-KalPa in spring 2013 and focused on off-ice training, different junior teams were supervised during their practice. Based on this knowledge the quality control and organizational aspects of the product could be further developed. The commissioner also wanted a simple model for an exercise diary to be attached to the handbook, but it had to be left out due to lack of resources.</p> <p>There are no specific handbooks in Finnish for off-ice training in ice-hockey. However, available literature on different aspects of auxiliary training was used to support the planning of the exercises. Research had previously been conducted on the effects of certain off-ice training in comparison to performance on ice. For example Maukonen et. al. (2010, 53) had researched the effects of mobility exercises on skating speed but had not been able to provide further evidence to point out any link between the two. Therefore, the exercises included in this handbook had to be planned as versatile as possible and aimed to develop every aspect possible off the ice.</p>	
Language of Thesis	Report in English. Product in Finnish.
Keywords	Coaching, conditioning, handbook, hockey, off-ice, strength, training
Deposited at	<input type="checkbox"/> Electronic library Theseus <input type="checkbox"/> Kajaani University of Applied Sciences Library

## PREFACE

“Ninety percent of hockey is mental and the other half is physical”. –Wayne Gretzky

## CONTENTS

1 INTRODUCTION	1
2 ICE HOCKEY CORE ANALYSIS	3
2.1 Hockey specific skills	3
2.2 Physiological needs	4
2.2.1 Energy production	4
2.2.2 Training needs	5
2.2.3 Sensitivity periods	5
3 OPTIMIZING THE PRACTICE	9
3.1 Group size and number of coaches	9
3.2 Didactical principles	9
3.2.1 Education	10
3.2.2 Awareness and activity, clarity	10
3.2.3 Systemization, step by step approach	10
3.2.4 Stabilization/motivation and individuality	11
4 DEVELOPMENT TASKS	12
5 THE PRODUCT DEVELOPMENT PROCESS	13
5.1 Production manuscript	13
5.1.1 Manuscript	13
5.1.2 Production plan	13
5.2 Choosing the topic	14
5.3 Target group	15
5.4 Limitations	15
6 DISCUSSION	17
6.1 Reliability	17
6.2 Ethicality	17
6.3 The product evaluation	18
6.4 Professional development	19
SOURCES	21

## APPENDICES

## 1 INTRODUCTION

Ice hockey is the most popular sport in Finland. The sport has 195 000 people participating in hockey as an active hobby, from which there are 66 425 licenced players. These players participate in hockey in 438 clubs that are separated into 2999 different teams. (FIHA 2012).

Juniori-KalPa, the commissioner of this thesis, was awarded as the best sports organization in Finland in 2009 (Juniori-KalPa 2012). However, the organization lacks proper coaching material for off-ice practices off the ice. This thesis was an opportunity to further develop the authors' competences within hockey, physical activity, coaching, and strength and conditioning. The thesis topic was a great opportunity to develop as a future strength and conditioning coach and have a product to present the knowledge and competence of the author.

Juniori-KalPa has been honoured as the best sports club in Finland in 2009. The organization has also won several awards in promoting active and healthy lifestyle of children and adolescents. The organization has ranked high almost every year in the quality auditions of the Finnish Ice Hockey Association (SJL). However, junior coaches lack a proper handbook for auxiliary training that can be understood as well by a professional coach as an active parent. (Juniori-KalPa 2012).

The purpose of this thesis was to provide a handbook for junior coaches as for everyday planning and applying exercises. The first objective for the author was to consider how the sensitivity periods affect each exercise. This was a key aspect in maximizing the effect of each exercise. Kajaani University of Applied Sciences can get the final product for future use. The handbook can be used as a reference for future coaching and developing strength and conditioning in the process. The exercises planned are specific by age and skill level, starting from simple to difficult, and were optimized to the two ice halls (Tuplajäät and Lippumäki) used by Juniori-KalPa.

Promoting physical activity is an important competence when considering 6 to 9 year-olds, as they are still in the FUNdamental stage of development (Hockey Canada, 2008). Also the factors affecting human growth, development and social behaviour must be considered as the sensitivity periods define when to start training different physiological skills of a child.

To get children interested and keep them within the sport, a coach has to inspire and motivate players to do the sport not only during practice, but on their own as well. One key issue in modern hockey is that physical activity is considered compulsory (Väliaho 2011). This is why pedagogy and didactics were considered in planning the handbook. Setting goals for each practice and being able to give individual feedback and quality control for the exercises were just a few stepping stones considered in planning the final exercises.

As the author completed the second practical training in Juniori-KalPa and will focus on the off-ice practices, the exercises were overseen and could be further developed for the final product. The commissioner also wanted a simple model for an exercise diary form to be attached to the handbook. According to Hakkarainen & Nikander (2009, 149) the need for setting goals and achieving and analyzing them requires the ability to have facts for comparison. The diary had to be discarded due to lack of time.

There are no specific handbooks just for off-ice practices in Finnish. However, literature concerning different aspects of auxiliary training is available and was used to support the planning of the exercises. Also research has been conducted on the effects of certain auxiliary training in comparison to the performance on ice. For example Maukonen et. al. (2010, 53) researched the effects of mobility exercises in comparison to skating speed but did not find further evidence to point out a link between the two. This is why the exercises had to be planned as versatile as possible to maximize the development off the ice.

## 2 ICE HOCKEY CORE ANALYSIS

Ice hockey is the most popular sport in Finland. The sport has 195 000 people participating in hockey as an active hobby, from which there are 66 425 licenced players. These players participate in hockey in 438 clubs that are separated into 2999 different teams. During one season (beginning in August and finishing in May) 41 239 matches are played around Finland in 217 ice halls. (FIHA 2012).

Ice hockey is an intensive sport, which requires multiple physical qualities and also demands sport-specific skills and psychological abilities. A game of hockey consists of three 20 minute periods and two 15-minute long intermissions in between them. The duration of one game is approximately two hours. (Huovinen 2009, 6). An average shift includes multiple maximal effort sprints, shots, passes and body checks last for approximately 45 seconds (Twist, 1987). According to Twist & Rhodes (1993, 68) during one shift a player mainly uses immediate energy sources also known as ATP-CP and lactic acid systems.

### 2.1 Hockey specific skills

Skills in hockey could be divided in different ways. Westerlund (1997, 541) divided the skills according to different situations on the ice: 1 on 1 situations, stick handling and shooting, hockey sense and skill. The most sport-specific skill which is done during all of the above is skating.

Skating is the most fundamental and important skill in hockey. As Wayne Gretzky once said: “If you can’t skate, you can’t play our sport; skating is an art.” There is no going to the highest level of hockey if a player is not able to perform every hockey skating maneuver with speed, agility, power, quickness and efficiency. A proper skating technique should be built like a pyramid:

- First, teach players to skate correctly.
- Second, teach them to skate correctly and powerfully.
- Third, teach them to skate correctly, powerfully, and explosively.



- Fourth, 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, 11-12)

Stick handling and shooting is defined by the precision and speed in handling the puck and the stick are requirements of a good hockey player. Handling the puck and stick, shot speed, stick checking and 1on1 situations all require sport-specific development of the muscles in the arms, shoulders and core muscles. (Westerlund 1997, 541).

In the end hockey is all about 1on1 situations. By winning them a player is improving his team's chance of winning. According to Westerlund (p. 541, 1997) winning a 1on1 situation requires abilities such as timing, technical ability, speed and/or good force production ability.

Hockey sense refers to the individual tactics of a player. It can be divided into three categories: understanding the game, anticipating the game and decision-making. A player with good hockey sense is able to his physical, mental and skill abilities optimally. A hockey player must be able to apply himself to practice, which requires all the abilities mentioned above. (Westerlund 1997, 535).

## 2.2 Physiological needs

In strength and conditioning, the physiological needs have to be considered. Understanding of the sensitivity periods had to be considered due to the age span of players ranged from 7 to 14 and the changes in a child's physiological needs vary.

### 2.2.1 Energy production

As Twist (1987) said, an average shift during a game lasts for 45 seconds. Adding to this Twist & Rhodes (1993, 68) suggest that during one shift a player mainly uses immediate energy sources (ATP-CP, lactic acid systems). However, a good aerobic endurance level is

needed for a player to be able to perform challenging skills for the nervous system during practice and competition (Piispanen et al. 2009, 400).

### 2.2.2 Training needs

Versatile training on and off the ice ensures the players' possibility to learn the techniques required for playing the game of hockey. The goal for a player is to know all the sport specific techniques before the pubertal growth spurt. To enhance the techniques further, the automated techniques should be varied by different exercise set-ups. Under the age of 14 the focus in the exercises is to teach both general skills and sport-specific skills. However, keeping in mind the importance of versatile games on and off the ice enhances the ability to adapt learned skills in a different setting. Adding to games the development of players should be monitored with different tests and performance controls. (Piispanen et al. 2009, 399).

Even though the peak height velocity (pubertal growth spurt) generally starts for males at the age of 14, it should be monitored and considered already in D-juniors that can be up to 14 years old. The growth spurt may increase the risk of injury due to the relative weakening of the bones, muscle imbalances between the flexor and extensor groups around a joint, and the relative tightening of the muscle-tendon units. Emphasizing flexibility training, correcting muscle imbalances or decreasing the volume and intensity of training are possible modifications in a player's program to prevent any overuse injuries from occurring. (Feigenbaum 2008, 143).

### 2.2.3 Sensitivity periods

When planning and instructing exercises for children and adolescents, there should be considerations of the sensitivity periods of different attributes set by biological development of a human being. On the peak of each phase, it is the easiest to learn and regulate different physical attributes. Figure 3.2.3. is a tool for a coach in a sports club in planning a long-term seasonal plan. (Nuori Suomi 2010).

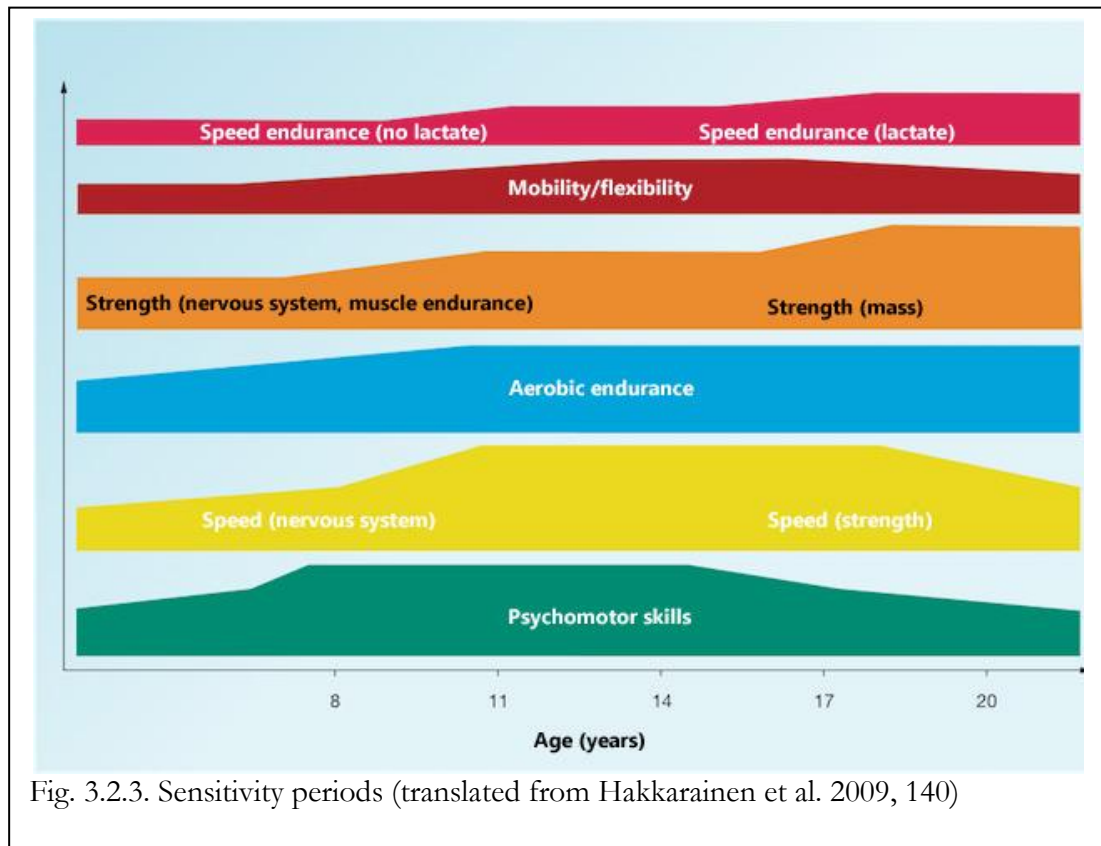
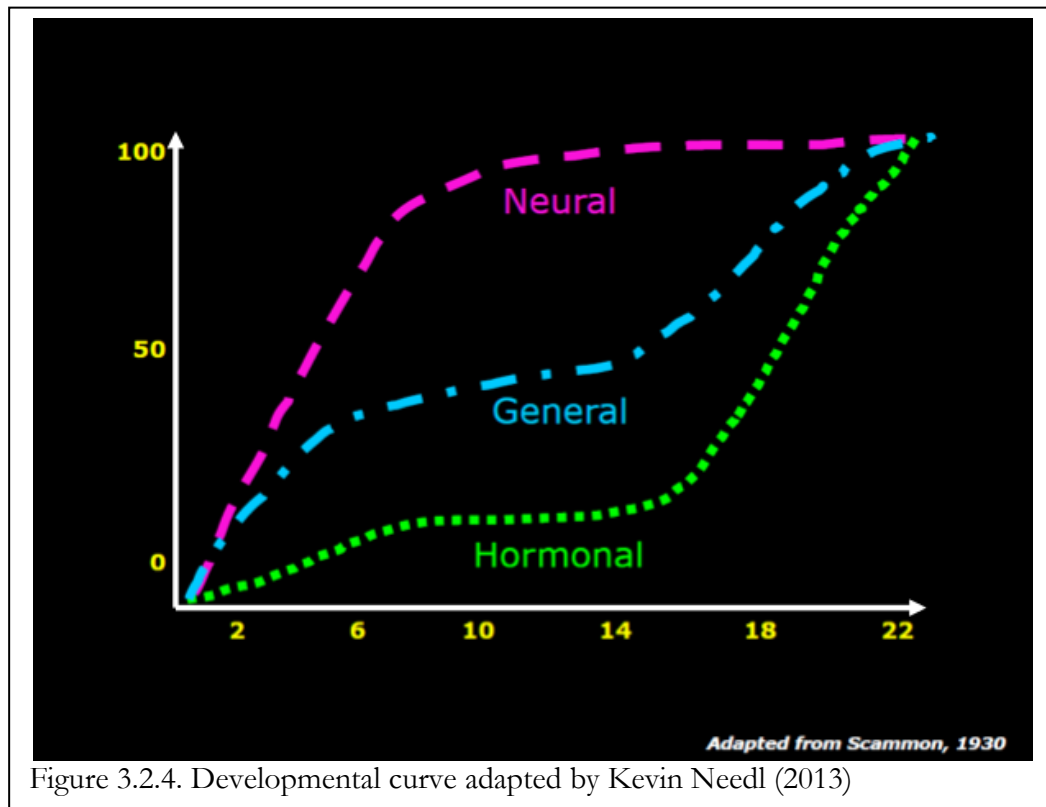


Fig. 3.2.3. Sensitivity periods (translated from Hakkarainen et al. 2009, 140)

However, individual differences should always be considered as they can vary many years from the averages of the graph (Nuori Suomi 2010). Kevin Neeld (2013) also points out the issue of absence of markers of variability with the graph of developmental curves for neural, general and hormonal growth (Fig. 3.2.4.).



The graph (Scammon 1930) has been redefined by Kevin Needs (2013) to be more specific. The neural system curve remains the same and even with individual differences it can be determined that the nervous system is possible to use at 80-90% at the age of 6-8 (Väliaho 2011). Especially the development with the correct amount of repetitions of the following aspects within the nervous system should be considered with children: skill, balance, agility and speed (Väliaho 2011).

The development of different cognitive and social abilities varies, (Väliaho 2011):

- 4 years: Strong will to compete.
- 8 years: Improved coping with stress.
- 9 years: Respecting rules, improved ability to focus, aiming to behave according to accepted manners.
- 14-15 years: Accepting norms within a group, developing ones ethical principles.

According to Hakkarainen & Nikander (2009, 149) there should particularly be exercises for common motor skills prior to the age of 12, and the need for added weights would be dur-

ing the years 12-15. This is why this handbook was focused on working with your own body weight. Hakkarainen & Nikander (2009, 148) have singled out three challenges for the ages 12 and below:

- There is not enough aerobic exercise (at least one hour per day). This could be achieved easily by walking or cycling to and from practice and/or school.
- The lack of muscle exercises especially within core muscles (after the age of 10 once every two days).
- Activities developing common psychomotor skills are not included and the focus is too often on sport-specific skills. Reaction, orientation, and balance are skills that can be developed with simple exercises such as forward rolls, starts etc. They create important skills base for sport-specific skills. By planning each warm-up and cool-down well, all of these skills can be developed.

### 3 OPTIMIZING THE PRACTICE

To get the children interested and keep them within the sport, a coach has to inspire and motivate the players to do the sport not just in practice, but on their own as well. One big issue in modern hockey is that physical activity is felt compulsory (Väliaho 2011). This is why pedagogy and didactics are considered in planning the handbook. Setting goals for each practice and being able to give individual feedback and key points for the process are just a few stepping stones considered in planning the final exercises.

#### 3.1 Group size and number of coaches

In the age group from 5 to 7 years old, it is possible to organize training for 50-60 children simultaneously. The optimal amount of coaches would be one for each child, but as this is in most cases not possible, an achievable ratio is 8-10:1. There should be the main trainer who is responsible for overseeing the correct practice of individual groups and leads the training of new skills. The assistants working with the groups can be active players or parents. These basics are also valid for exercises with 25-30 children. In a group this size at least 3-4 assistants should be available. (Pavlis 2004, 15).

Juniori-KalPa is achieving these limits already, as the biggest group size is 30 and there are always 2-4 adults present. Therefore no changes are needed and these amounts can be implemented to the designing process of the handbook.

#### 3.2 Didactical principles

The success of a coach depends on the selection of training methods. The basic methods are demonstration, observation, explanation, repetition, passive movements (with aid from a partner), contrasts (pointing out right and wrong), and competition. Furthermore there are principles to consider when planning and instructing exercises for children. (Pavlis 2004, 10).

### 3.2.1 Education

Moral education aims to prevent some of the negative tendencies such as selfishness or thinking that the training is more important than school. In this connection, it is important to keep in mind the following regulations. Accept and value fellow team members, opponents and referees. Keep to the training schedules. Keep changing rooms clear. Be able to accept defeats. (Pavlis 2004, 10)

### 3.2.2 Awareness and activity, clarity

In the principle of awareness and clarity a player; knows what he will practice, has an idea of the solution to a task and knows what the task is and what the aim of it is (Pavlis 2004, 10).

The principle of clarity is defined by Pavlis (2004, 10): the coach provides a clear explanation of the training session. The most effective ways to do this are:

- A demonstration presented directly on the ice (done by the trainer or assistant).
- Video recordings.
- Pictures, illustrations.
- Commentary should be provided with each demonstration. (Pavlis 2004, 10).

### 3.2.3 Systemization, step by step approach

The most important aspect in coaching is planning and the accomplishment of the plan. The plan consists of key points, which have to be learned to be able to progress through the rest of the training process. (Pavlis 2004, 11). Key points were included to the product.

#### 3.2.4 Stabilization/motivation and individuality

The solidity of the skills gained is achieved by internalization, which is called stabilization. Stabilization means the positive or negative assessment of the skill by the coach. Positive assessment (praise) motivates the player and builds up confidence for future tasks. (Pavlis 2004, 11).

The children should be addressed as individuals as often as possible by the trainer. This is especially important during the first years of training. This defines the need for sufficient amount of assistants to give feedback. (Pavlis 2004, 11). Giving individual feedback is already important within the organization.



## 4 DEVELOPMENT TASKS

The product development process consists of different tasks that are to be considered to create the best product possible. The tasks were developed in cooperation with Juniori-KalPa and their supervisor Tommi Rouvali.

1. How to optimize the exercise from simple and develop it further?
2. How to use the latest and most sport-oriented material with the knowledge of the sensitivity periods?
3. How to create a product understandable for every coach with different knowledge levels?

## 5 THE PRODUCT DEVELOPMENT PROCESS

### 5.1 Production manuscript

The production manuscript is a compilation of the manuscript and the production plan. This concept provides key information on how the whole process was completed and what kind of issues there were.

#### 5.1.1 Manuscript

The content of the product will have versatile exercises that benefit hockey juniors in different physiological aspects including: aerobic capacity, body control, agility, mobility, psychomotor skills, speed, hand-eye coordination, and balance.

This handbook was designed for Juniori-KalPa and the coaches within G to D-juniors. The coaches can be educated professionals or parents who do not have the knowledge base to understand or instruct with academic and very sport-specific terms. This was taken into consideration.

The structure is based mostly on the exercises, but before there will be a proper introduction and a brief description on how to instruct using the handbook and giving out all the necessary information for the juniors. The exercises will have different skill levels according to the age group of the juniors. The handbook will have references at the end to clear out what has been used as a source when planning the product.

#### 5.1.2 Production plan

The most important practical matters were discussed with Juniori-KalPa during the autumn of 2012. The size of the handbook would be A4 paper folded from the middle to make a handy book which will fit in a jacket pocket. Also the cost of printing was an issue, but after discussing the possibility between black and white printing and color printing, color was chosen more appealing even with a higher cost. This means the visual designing of the pages

will require more time, but the outcome should be more suitable for the reader. As Vilkkä & Airaksinen (2003, 51) suggest, the text should be designed favourable towards the target group. This is considered with the color-printing and with the use of everyday language so there is no need for a diploma in coaching to understand the text.

The organization is known for the colors black and yellow and wished for a similar setting for the handbook. Otherwise the choosing of the fonts and other designing was left for the author. Program used to design the handbook is Adobe InDesign CS6. Since the author has no previous experience with this specific program, learning the use of it will require significant amount of time.

The handbook will be printed out to all the coaches ( $n=60$ ) from G to D juniors, aged from 7 to 14. As the age scale is this big, the exercises must be started from a simple level and further developed as the ability and physiological attributes of a child improve. The handbook will be given to the coaches prior to the season 2013-2014 which starts in September.

## 5.2 Choosing the topic

One of the goals in completing the degree is to be employed after graduating. The employment could have already been affected when planning the idea for the thesis process. A good thesis topic is planned according to the competences of the profession studied and connected to working life, probably even to an earlier practical training organization. The process further improves knowledge and skills of the author in a specific subject of interest within the profession. (Vilkkä & Airaksinen 2003, 16-17).

Juniori-KalPa was interested in a variety of topics that would further improve their organization and development of their junior system. The working life coordinator, Markku Keinänen, was very open to any ideas and wanted to know the specific interest of the author in choosing the subject. These discussions started in the summer of 2012 during practical training and concluded in choosing the final subject in September 2012. The future profession of strength and conditioning coach was the deciding factor in choosing the topic focused on off-ice training and improving the strength and condition of youth hockey players within the organization.

### 5.3 Target group

The most important issue to consider when planning is the target group of the thesis and how to limit it (Vilkkä & Airaksinen, 2003, 38). The limitations for the thesis were done by drawing the line to the age group of the juniors being from 7 to 14 years. This meant the handbook will be done for approximately 60 coaches that have no professional background within coaching hockey. The key points should therefore be singled out in a way that even a parent just helping out the team can do an exercise based on the handbook with beneficial effect on the players.

The environment was a limitation but as well a strength in the planning process. As the handbook was created for the environment in the two ice halls in Kuopio, the coaches can rely on the information to work within these facilities.

### 5.4 Limitations

As the thesis is a 15 credit process, there are limitations that have to be done to keep to the timetable and not make the work load too high. The organization did not set any specific limitations except the age group from 7 to 14 year-olds and creating suitable exercises for the environment (Lippumäki and Tuplajää ice halls). This is why the author had to do remove some ideas to keep the work load at a sufficient level.

The content of the booklet has to be limited just for the instructing and actual exercises. Juniori-KalPa suggested to put in a chapter on nutrition and an exercise diary, but these would all be not just time-consuming topics to do, but also reduce the amount of exercises in the final product.

To be able to plan the exercises for each age group and to be understood also by a parent that has no degree in coaching, the instructions have to be explained in a short, understandable and informative way. To be able to explain the details of each exercise, research to be conducted has to include: core analysis of hockey, physiological development of children and adolescents, optimal training intensity, volume, and frequency, the knowledge level of the coaches and parents, the environment used in the exercises.

Promoting physical activity is an important competence when considering 6-9 year-olds, as they are still in the FUNdamental stage of development (Hockey Canada, 2008). Also the factors affecting human growth, development and social behaviour must be considered as the sensitivity periods define when to start training different aspects of a child.

## 6 DISCUSSION

### 6.1 Reliability

There are no specific handbooks for the needs of hockey juniors in Finnish. However, literature concerning different aspects of off-ice training is available and was used to support planning of the exercises. Also research has been conducted on the effects of flexibility training to the performance on ice. For example Maukonen et. al. (2010, 53) researched the effects of mobility exercises in comparison to skating speed but concluded there was no evidence to point out a clear connection between the two. This is why the exercises had to be planned as versatile as possible and focused to develop every aspect possible off the ice. To create a handbook with not just the most accurate background material to support it, but also optimizing each practice for each age group and the environment available was not simple.

The purpose of the thesis was to provide exercises with the latest guidelines and quality control to the practice to support optimal development of every junior within the age group. To achieve this, different sources had to be considered critically and determine which practices were beneficial. Aiding through the process were the competences gained from the Kajaani University of Applied Sciences studies, the authors' familiarity with the environment and the organization. This is why the facilities could also be considered when planning the final exercises. Therefore the handbook may not be optimal for a different organization and should always be considered critically in different circumstances.

### 6.2 Ethicality

Finding the most suitable thesis topic of interest is arguably a deciding factor how well the author can perform through the process. Working in the future with Juniori-KalPa was a target from the beginning, and developing the organization was a start. There were some different topics to choose from, the most interesting ones were planning a hockey coach handbook to teach different levels of on-ice exercises and the handbook for off-ice training for junior coaches. Choosing either, the motivation would have been great to improve the

organization and junior players. This motivation encouraged to consider all the ethical factors through the process. These factors are defined by Resnik (2011): honesty, objectivity, integrity, carefulness, openness, and respect.

In reporting data, methods and procedures honesty is required so the client or reader is not misinterpreting the results (Resnik, 2011). Honesty was needed during the process to develop the handbook acceptable by Juniori-KalPa as the commissioning organization and therefore can be said to be fulfilled. Objectivity is required in avoiding bias in choosing personnel, experimental design etc. (Resnik, 2011). Certain objectivity was required during the process, but the specificity of the target group the final practices had to be developed considering only Juniori-KalPa as the organization and not a hockey club in general.

Keeping promises and agreements, integrity (Resnik, 2011), was followed through the thesis process. The timetables were set on finishing certain phases of the process and were met on time. Resnik (2011) also defined carefulness as critically examining the authors own work and recording research activities. All the theory gathered was presented in the thesis report, but the practices left out are not recorded public.

As the author completed two practical training periods with Juniori-KalPa and focused on the off-ice exercises, the first hand information and how to alter the exercises was present before planning the final exercises. According to Hakkarainen & Nikander (2009, 149) the need for setting goals, and achieving and analyzing them requires the ability to have facts for comparison. To compare the results in the future with similar products, openness is required. Defined by Resnik (2011), openness is sharing the data, results, ideas, tools and resources. This thesis is public for everyone to read and critically go through.

The environment and knowledge level of the coaches were factors considered when the product was compiled. Therefore the handbook is optimized to the facilities of Juniori-KalPa and would not work the same in a different setting.

### 6.3 The product evaluation

Prior to creating the exercises, complete knowledge of the theoretical background had to be studied and compiled on paper. Knowledge of the actual facilities used by Juniori-KalPa af-

fecting the organizational part of the exercises. After the foundation of the final booklet was written down, the actual designing of the exercises could begin.

Planning the exercises was more straightforward than going through all the theory, although it was rather time consuming to actually test the majority of the exercises with the juniors or with a different team. Some of the exercises were studied from different coaches responsible for off-ice practices within junior teams of Juniori-KalPa. These fathers were professional athletes once, in volleyball, boxing or hockey. The list of exercises could be much longer, but going through with applying them with a group was very time consuming and a line had to be drawn at some point.

The outlook of the handbook was something that was never pleasing enough. The best solution would have been to leave it to a professional graphic designer and just focus on the material inside. The layout was to be simple, clear and present the colours of KalPa. The end product could have been far more pleasant to look at if the layout was done by a different person.

As the product will be distributed to the coaches after the compilation of the thesis, it was not tested by the actual target group being the coaches within Juniori-KalPa. The author will have an information session for the coaches prior to handing out the handbooks so the coaches go through the material and can ask any questions before testing the handbook with their own team.

#### 6.4 Professional development

Prior to beginning the thesis process, the author had knowledge within the sport of hockey. Two practical training periods with the commissioner organization Juniori-KalPa and additional coaching during different hockey camps supported with knowledge from literature, there was an understanding of the sport and its requirements. During the process it helped in planning the exercises, but there were other issues to consider too.

During the process there were different competences that were discussed in the theory section and were developed during the whole process. Overseeing the exercises by other coaches was a factor to study didactical principles closely and supporting the organizing of



each exercise with a style required. Testing the exercises during the process improved not just the final practices in the handbook, but the ability of the author to coach and organize different size groups that cannot be seen in the final product.

The theory research process was efficient due to the knowledge gained from Kajaani University of Applied Sciences. The most challenging task was to find the proper literature to best present the theory needed for each section of the theoretical background. Also some of the literature, especially the Finnish Ice Hockey Federation were all in Finnish, so translating had to be performed with precision.

Creating a product following all the steps set by Kajaani University of Applied Sciences helped to understand how to create a product from start to finish. Also setting up the time-frames for the whole process supported the process and continue to the next step in creating the best possible exercises for the juniors. The only issue during the process was that there was no education for using any software in creating a product like the handbook. The look of the handbook is not stunning, even though that is not the most important aspect. Consuming so much time researching, planning, testing, and then the final product is something one would actually love to look at – it was disappointing.

Through the ups and downs the thesis was a learning process and helped to understand what is required to develop a product from the beginning to the end. The next step is to ask for the junior coaches' feedback during the next few months and how useful they see the product during off-ice training. Creating a product to develop the organization and the knowledge of coaching was a motivating subject and it remains to be seen how positive effect the handbook will have in the future.

## SOURCES

- Baechle, T. & Earle, R. (2008). *Essentials of strength training and conditioning*. Leeds, UK: Human Kinetics
- Finnish Ice Hockey Association. (2012). *Suomen Jääkiekkoliitto ry*. Retrieved 14.1.2013 from <http://www.finhockey.fi/info/>
- Hakkarainen, H., Jaakkola, T., Kalaja, S., Lämsä, J., Nikander, A., Riski, J. (2009). *Lasten ja nuorten urheiluvalmennuksen perusteet*. Lahti: VK-Kustannus Oy
- Hakkarainen, H., Jaakkola, T., Kalaja, S., Lämsä, J., Nikander, A., Riski, J. (2009). *Lasten ja nuorten urheiluvalmennuksen perusteet*. Lahti: VK-Kustannus Oy
- Hockey Canada. (2010?). *Core Skills Initiation*. Retrieved 11.1.2013 from [http://hockeycanada.ca/index.php/ci\\_id/63519/la\\_id/1.htm](http://hockeycanada.ca/index.php/ci_id/63519/la_id/1.htm)
- Hockey Canada. (2008). *Long Term Athlete Development*. Retrieved 11.1.2013 from [player-devcardinal.pdf](#)
- Huovinen, H. (2009). *Jääkiekon lajiansalyysi ja harjoittelun perusteet*. Jyväskylän yliopisto: Valmentajaseminaari VTEA008
- Juniori-KalPa. (2012). *Juniori-KalPa ry*. PowerPoint presentation information seminar at Tuplajäät, June 2012.
- Maukonen, I. Piekkola, V. Taira, A. (2010). *Liikkuvuuden muutosten vaikutukset luistelunopenteen – Interventiotutkimus jääkiekkojunioireille*. Thesis Savonia Ammattikorkeakoulu
- Neeld, K. (2013). *The state of youth hockey*. Retrieved 11.1.2013 from <http://www.kevinneeld.com/2011/the-state-of-youth-hockey>
- Nuori Suomi. (2012). *Hyvä harjoittelu*. Retrieved 11.1.2013 from [http://www.nuorisuomi.fi/files/ns2/Urheiluseurat\\_PDF/Hyva\\_harjoittelu\\_A4vedos.pdf](http://www.nuorisuomi.fi/files/ns2/Urheiluseurat_PDF/Hyva_harjoittelu_A4vedos.pdf)
- Pavlis, Z. (2004). *Hockey First Steps for Kids*. Oxford: Meyer & Meyer Sport (UK) Ltd

Resnik, D. (2011). *What is Ethics in Research and why is it important?* Retrieved 10.11.2013 from <http://www.niehs.nih.gov/research/resources/bioethics/whatis/>

Stamm, L. (2010). *Laura Stamm's Power Skating*. United States: Human Kinetics

Twist, P. & Rhodes, T. (1993). *The bioenergetics and physiological demands of ice hockey*. National strength & conditioning association journal: October 1993 – Volume 15 – Issue 5. Retrieved 14.1.2013 from [http://journals.lww.com/nsca-scj/Citation/1993/09000/EXERCISE\\_PHYSIOLOGY\\_\\_The\\_Bioenergetic\\_and.13.aspx](http://journals.lww.com/nsca-scj/Citation/1993/09000/EXERCISE_PHYSIOLOGY__The_Bioenergetic_and.13.aspx)

Vilkkä, H. & Airaksinen, T. (2003). *Toiminnallinen opinnäytetyö*. Jyväskylä: Gummerus Kirjapaino Oy

Väliaho, K. (2010). *2. HKV Valmentamisen ja opettamisen perusteet*, Suomen Jääkiekkoliitto

Westerlund, E. 1997. *Jääkiekko*. Within: Mero, A. Nykyaikainen urheiluvalmennus. Mero Oy, Gummerus kirjapaino Jyväskylä, 527-544.

LIST OF APPENDICES

MANUSCRIPT

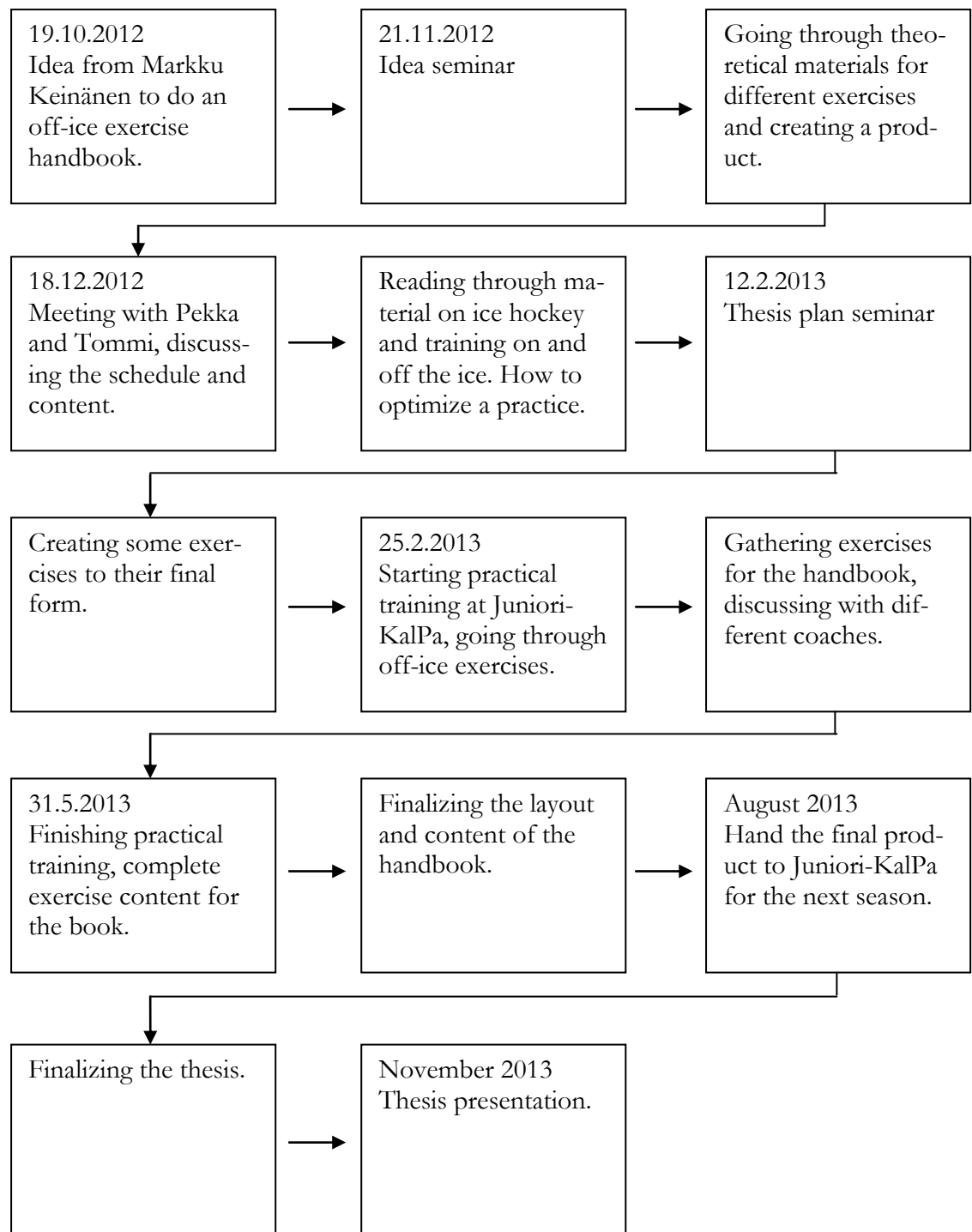
TIMETABLE

HANDBOOK LAYOUT

## MANUSCRIPT

<p>Oheisharjoittelu</p> <p>Juniori-KalPa</p> <p>Tommi Paananen</p>	<p>Johdanto</p> <p>Lyhyesti taustat oppaalle ja miten se on toteutettu.</p>
<p>Sisällysluettelo</p> <ol style="list-style-type: none"> <li>1. Teoria (herkkyyskaudet, olosuhteet..)</li> <li>2. Liikkuvuusharjoite 1</li> <li>3. Tasapainoharjoitus 1</li> <li>4. Kehonhallintaharjoitus 1</li> <li>5. Motoriikkaharjoitus 1</li> <li>6. Nopeusharjoitus 1</li> <li>7. Silmä-käsi-koordinaatio 1</li> <li>8. Aerobinen/pelit 1</li> <li>9. Treenipäiväkirja</li> </ol>	<p>Teoria</p> <p>Herkkyyskaudet</p> <p>Olosuhteet</p> <p>Vaatimukset</p> <p>Valmennuksessa huomioitavaa</p>
<p>Liikkuvuusharjoitus 1</p> <p>Yleiset avainkohdat</p> <p>Taso 1</p> <p>Taso 2</p> <p>Taso 3</p> <p>Kuva/havainnollistaminen</p>	<p>Tasapainoharjoitus 1</p> <p>Yleiset avainkohdat</p> <p>Taso 1</p> <p>Taso 2</p> <p>Taso 3</p> <p>Kuva/havainnollistaminen</p>
<p>Treenipäiväkirjamalli</p> <p>Viikko 1</p> <p>Hymynaamoja/skaala</p> <p>Viikko 2</p> <p>...</p> <p>Yhteensä:</p> <p>Vähän, OK, paljon</p>	<p>Lähteet</p> <p>Lähde 1</p> <p>Lähde 2</p> <p>Lähde 3</p> <p>...</p>

## TIMETABLE



## HANDBOOK LAYOUT

Koordinaatiotikkaat  
Välineet, ryhmäjako..

Askellus joka ruutuun molemmilla jaloilla juoksunomaisesti.

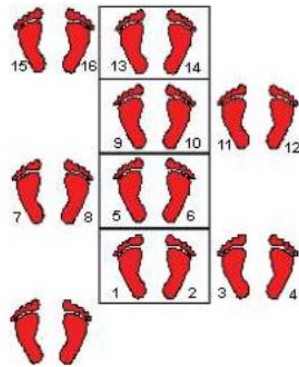
Keskity kästen liikkeeseen ja terävään askellukseen.

Askellus kaksi ruutua eteen - yksi taakse.

Keskity katseen ylhäällä pitämiseen, rytmi sama taaksepäin.

Askellus viistosti ja sivulle.

Keskity asennon leveyteen, pyri pitämään se samana.



Johdanto

Opas tehtiin, koska Juniori-KalPan käytössä ei ollut yhtenäistä, optimoitua opasta, joka soveltuu ikäluokille G-junioreista D-junioreihin.

Ravinto, treeni, lepo



Sisällysluettelo

1. Yleiset linjaukset (ravinto, treeni, lepo..)
2. Harjoitteet
  - Aerobinen
  - Kehonhallinta
  - Ketteryys
  - Liikkuvuus
  - Motoriikka (taitoharjoittelu)
  - Nopeus
  - Silmä-käsi-koordinaatio
  - Tasapaino