

Set of games and activities on roller skis for young skiers aged 12–14

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ABSTRACT

Aim of Study: To create a set of games and activities on rollers skis for young cross-country skiers aged between 12 and 14 years and have them checked by experts.

Material and Methods: The first method used in this work was an analysis of the available Czech and international documents about games and activities. Then a set of games and activities was assembled, which was customised for roller ski training. Furthermore, the collection of roller skis games and activities was vetted with the help of a panel of experts composed of experienced and licensed cross-country ski trainers and cross-country ski experts. An unstructured interview was conducted with them followed by a discussion about each game and activity.

Results: In the first part there is a chapter about the equipment used in the set we created. The main part consists of a customised and tested collection of roller ski games and activities for young cross-country skiers aged between 12 and 14 years. The panel of experts went through them and added their ideas and suggestions to specific games and activities in the form tips and suggestion. At the end of the final part a new chapter dividing up the collection was created as a result of discussion with the panel of experts. The division was made according to three main viewpoints, which are safety, space and the number of competitors.

Key words: cross-country skiing, games, roller skis, young athletes, verification

SOUHRN

Cíle práce: Vytvořit a experty ověřit soubor her a aktivit na kolečkové lyže pro mladé lyžaře běžce ve věku 12–14 let.

Metody: První metodou využitou v této práci byla analýza dostupných českých i zahraničních dokumentů o hrách a aktivitách, poté byl vytvořen soubor her a aktivit, který byl revidován pro trénink na kolečkových lyžích. Následovala verifikace souboru her a aktivit na kolečkové lyže za pomoci panelu expertů složeného ze zkušených a licencovaných trenérů běžeckého lyžování a dále expertů na běžecké lyžování. S nimi byl proveden nestrukturovaný rozhovor spojený s diskuzí o jednotlivých hrách a aktivitách.

Výsledky: V první části výsledků se nachází kapitola o pomůckách využívaných v námi vytvořeném souboru. Páteří část tvoří revidovaný a verifikovaný soubor her a aktivit na kolečkové lyže pro mladé lyžaře běžce ve věku 12–14 let. Panel expertů provedl verifikaci a formou variant a doporučení přidal ke konkrétním hrám a aktivitám své nápady a návrhy. Na závěr výsledkové části vznikla na základě diskuze s panelem

expertů kapitola, rozdělující soubor podle třech nejdůležitějších hledisek. Těmi jsou bezpečnost, prostor a počet soutěžících.

Klíčová slova: běh na lyžích, hra, kolečkové lyže, mladí sportovci, verifikace

INTRODUCTION

Currently roller skiing is starting to predominate in the summer athletic training of cross-country skiers more than in the past. The use of roller skis is starting in ever younger categories, and naturally coaches take on the training models designed for adults. This leads to early specialisation and a depletion of training capacity. We have attempted to contribute to this issue by creating a tested set of games and activities for youth categories (ages 12–14). Some exercises listed in the article have been worked with in a thesis written by Tomáš Korbelář.

This age category is the one when most publications published by national federations (e.g. Swedish, Norwegian, Canadian, American and Czech) recommend beginning with training on roller skis. Prior to this the Canadian and Czech sources recommend making use of roller skates. The reason is stated by Ilavský (2005) in his methodology. The greater mass of roller skis leads to the fixation of incorrect movement habits. Training should focus primarily on balance, coordination and practising skills (Balyi et al., 2013; Ilavský, 2005; Nordahl, 2017). The Canadian skiing federation supports this idea by organising competitions on skill courses (known as Roller SKI Rock) (Balyi et al., 2013; Norris et al., 2007). Norwegian and Swedish textbooks also recommend including as much training without poles as possible from the beginning, so as to improve stability and footwork, at least once a week (Limby, 2013; Nordahl, 2017). Most authors are hesitant to make use of classic skis and even shift the start to older age categories (Balyi et al., 2013; Ilavský, 2005).

In terms of individual development, at this age athletes find themselves on the threshold of the youth categories, where roller skis will be a standard means of training on which they must already be sure of themselves. For this reason, starting between 12 and 14 would seem optimal. Roller skis must not however become the prevailing means, and familiarisation with movement and training must be implemented in a fun way (Balyi et al., 2013; Banack et al., 2012; Bompa, 1995; Ilavský, 2005; Norris et al., 2007 & Smith et al., 2009). This means positively influencing the psyche of the athletes and respecting their developmental attributes (Balyi et al., 2013; Perič, 2004). This can be accomplished solely through play. Play is the primary non-work activity of man. It helps children become familiar with the working activities of adults. It provides us with feelings of joy, excitement and liberty. The important psychological aspects of play are considered to be freedom, lightheartedness and spontaneity. This creates what is called the illusion of play in the players, meaning simulating real situations in play. Play is one enormous pretence that makes use of the participants' imagination. The players identify with the game and create their roles. From an external perspective, play is relatively closed and defined (taking place in a certain space). Internally however, it is unpredictable and infinite. Associated with play is the paradox of friendly vanquishing, honourable battle and amicable aggression (Brewer, 2003; Slepíčka et al., 2009; Singer

et al., 2001). The emotional experience in the sense of vanquishing and overcoming brings with it a strong emotional dynamic. Competition is thus not only attractive due to victory, but even the course itself has a positive effect on the psyche of the player. In this sense the opponent can not only be a player, but also distance. Also positive is the experience of the feeling of solidarity and cohesion of the group – in this case the team or training group (Brewer, 2003; Slepíčka et al., 2009). All the aforementioned requirements of play are comprised in what is called the game principle, which is presented by Perič (2004). It is the philosophy of a coach who places emphasis on incorporating games into training preparations. No excessive psychological pressure can be placed on children, otherwise they lose motivation and interest. On the contrary, one must arouse curiosity, desire and a sense of challenge in them. First and foremost it is necessary to build a positive relationship to sport in them and with increasing age they must begin performance-oriented training themselves. Here there is a falling tendency towards games with the increasing time of training. Other authors of national sports methodologies also favour this philosophy (Balyi et al., 2013; Limby, 2013; Ilavský, 2005; Norris et al., 2007).

When creating training plans, coaches often resort to the most well established ones and those that are popular with children. With frequent use however these games become monotonous and routine. For this reason every trainer should constantly refresh and improve their repertoire (Balyi et al., 2013; Norris et al., 2007; Perič, 2004).

When organising a game, what must primarily be considered is how to prepare it in as short a time as possible in order to attain the desired result. Before starting to organise a game we must address how to choose it in connection with the set objectives of the training unit. Consideration must be taken for what part of the training unit the game is to be included in. To start out, games involving the whole group are best suited. All members of the team should know it or it should have simple instructions. The main section should include games that meet the objectives of the training unit and the end should comprise games for warming down – either activities of an easier nature or games where some of the trainees are exercising and the rest are resting (Hrkal & Hanuš, 1998; Rovný & Zdeněk, 1982; Zapletal, 1988). Another indispensable part of the game is dividing players into teams. There are several options. The coach can name captains, who then choose the rest of the team, or the children can be given a number one or two, or there can be a spontaneous selection of which captain they want to join. Each form of selection has its pros and cons. The main thing is that a poor decision should not end up disrupting the children's motivation to play. (Hrkal & Hanuš, 1998; Rovný & Zdeněk, 1982; Perič, 2004).

MATERIAL AND METHODS

In order to create a set of games and activities, we chose first did a literature search of the various publications focused on games and then we approached seven coaches and experts in cross-country skiing, from which a panel of experts was formed (Hendl, 2016). The panel of experts thus had the opportunity to comment on all the games. Their observations and requirements are incorporated in the recommendations, and in

some cases they helped create variants on the exercises or some games we proposed they rejected as inappropriate. With the help of an unstructured group interview, a tested set of games and activities was produced that corresponds to the requirements of cross-country skiing coaches and experts.

Document analysis

In the first phase of the study we attempted to find Czech or international sources on the given issue. Currently however there is no publicly published set of games and activities on roller skis. We did manage to find only a few isolated games in various methodologies for cross-country skiing. For this reason, the second step was a study of publications focused on athletics, cross-country skiing, ice hockey, inline skating, speed skating and sports games. Interesting games and activities were selected from these publications and used in the training of senior skiers in Jilemnice. The games and activities were adapted to the specific requirements of roller skis and the mental development of the category of seniors. The activities were then presented to the panel of experts.

Panel of experts

The panel of experts was comprised of seven coaches and experts in cross-country skiing from Jilemnice, Karlovy Vary, Vrchlabí and Prague. Everyone had undergone the highest possible level of education for acquiring a national licence for cross-country skiing or biathlon. The three of them are or were coaches of senior teams. In order to ensure continuity with the further stages of athlete training, three youth trainers were also included.

Unstructured group interview

Discussion took place during the second half of the preparation period, when roller skis were already being made full use of in training. We presented the set of games and activities to each member of the panel of experts with a concise description. Then we went through each game and activity on roller skis and each member had the opportunity to comment on the conciseness of the description and objective. Space was also provided for creating potential variants to the exercises and recommendations.

Skiers who want to complete the following games and activities must undergo at least basic preparation in cross-country skiing or complete five lessons on roller skis under the supervision of a skiing coach with an A, B or C licence. During the lessons they must be familiarised with the basics of moving and stopping on roller skis. The recommended age is 12–14.

RESULTS

The final version of the set contains 50 games and activities focused on roller skis. They are divided into five sections: games and activities for warming up, those for developing coordination, speed, endurance, and modified sports games (Korbelář, 2018). Samples of one or two games or activities have been selected from each section.

Each game contains the following: name, objective, preparation time, duration, equipment, description, variants and recommendations of the panel of experts. This structure is used by many other authors (Brtník & Neuman, 2008; Hrkal & Hanuš, 1998; Kos, 1992; Perič, 2004; Perič et al., 2012). Our panel of experts also concurred with this structure.

Another topic discussed with the panel of experts was our original division of the set based on competitive performance into games for reactions, to improve going downhill, for turns, and for improving climbs, transitions and sprints to the finish line. We believed that this breakdown could help less experienced trainers to work on shortcomings that appear over the course of races. The panel of experts was not taken with this division and gave precedence to dividing up the set based on safety, number of participants and the terrain. So aside from a classic division (Brtník & Neuman, 2008; Hrkal & Hanuš, 1998; Kos, 1992; Perič, 2004; Perič et al., 2012) into games for developing individual skills, in our work you can also find a division of games and activities based on the above criteria.

The names of the games and activities have been borrowed from the original publications. For foreign language sources, a Czech equivalent was sought, otherwise a concise translation was used. Before the name of the author of the game or activity it is stated whether it was “inspired by” or “modified from”. In the case of “modified”, we entirely changed the nature of the game. The game retains only its name and otherwise it has been altered and adapted to roller skis. When using “inspired by” it has been adapted to roller skis. For example, the length of the segments has been extended or greater intervals created, etc. The duration of the games and activities ensued from discussions with coaches. Unfortunately we did not manage to test out the whole set in real situations, thus we can only approximate the duration, but mostly it is 5–10 minutes. The trainers saw this length of time as ideal. The trainees do not get bored during the activity and this helps the training to be more effective. (Perič, 2004; Slepíčka et al., 2009)

We use the time necessary for preparing the game or activity from the original publication or we estimate the time based on our own experience.

The majority of equipment needed for running the games and activities on roller skis is readily available at sporting goods shops and can be used for training sessions on track or in the forest.

The rules and course of the game or activity are clearly explained in the description, along with possible safety risks and variations useable for various training focuses. Some games and activities contain variants that have been filled in by the group of experts or the authors of the work. The recommendations came from a panel of experts and are added at the end of each game. These include aspects that support safety or make the game easier for less proficient individuals.

Coordination Relay (game for developing coordination)

Inspired by Norges Skiforbund (2010)

Objective: to complete the maze as quickly as possible

Preparation time: 4 minutes

Duration: 5 minutes

Equipment: cones, wooden or plastic sticks

Description: Everyone places their poles in the defined area. A target cone is placed within 20 m of the defined area. Teams are made (Figure 2) and the objective is to get through the poles one by one (Figure 1). Wooden or plastic sticks can be used instead of ski poles.

Recommendation: Leave enough space past the finish line to stop; use a flat surface, ideally a large one (parking lot).



Figure 1: poles (sticks) laid out



Figure 2: teams

“Peg Game” (game for warming up)

Inspired by Norges Skiforbund (2016)

Objective: to collect as many pieces of rope as possible

Preparation time: 2 minutes

Duration: 5 minutes

Equipment: clothes pegs, ropes

Description: A playing surface with an area of 30x50 m is created. Each person receives one piece of rope, which are stuck into the waistband (Figure 3). The objective is to collect as many pieces of rope as possible. Only one rope can be taken from an opponent however (Figure 4). The player with the highest amount of pieces of rope wins.

Variant 1: Instead of pieces of rope you can use clothes pegs, which are clipped to their T-shirts.

Variant 2: Instead pegs can be put on opponents. The objective then becomes to get rid of your pegs as quickly as possible.

Recommendation: Play on a single ski, with normal footwear on the other foot; play on a flat surface, ideally a large one (parking lot), without poles.

Recommendation: Play on a flat surface, ideally a large one (parking lot), with/without poles.



Figure 3: example of placement of pegs (ropes)



Picking Up Objects on a Slope (game for developing coordination)

Inspired by Brtník & Neuman (2008)

Objective: to pick up all the objects

Preparation time: 1 minute

Duration: 5 minutes

Equipment: cones, gloves, poles

Description: Several objects are placed on the ground on a 20-30 m downhill segment. Pairs are made (Figure 5). The first pair places the objects on the ground. The task of the second pair is to pick up as many of the objects as possible (Figure 6). Players may not go back to pick up objects.

Variant 1: Teams can be made that compete against each other in number of objects collected.

Recommendations: Conduct going downhill with a straightaway at the bottom; no poles.



Figure 5: forming pairs



Figure 6: picking up objects

Catch with a Frisbee or Tennis Ball in Pairs ((game for developing coordination)

Modified from Perič et al. (2012)

Objective: to throw a ball as many times as possible without falling

Preparation time: 3 minutes

Duration: 5 minutes

Equipment: cones, balls or a Frisbee

Description: Two concentric circles are created. The circles should be 3 m apart and should form a track of at least 50 m. One of the pair stands on the outer circle and the other on the inner circle (Figure 8). The goal is to ride along the track and pass at least 20 times (Figure 7). After completing one round, the pair reports how many times they dropped the ball or Frisbee. Then they switch positions and run the track again. Then they repeat the whole thing in the other direction.

Recommendation: Use a flat surface, ideally a large one (parking lot), without poles.

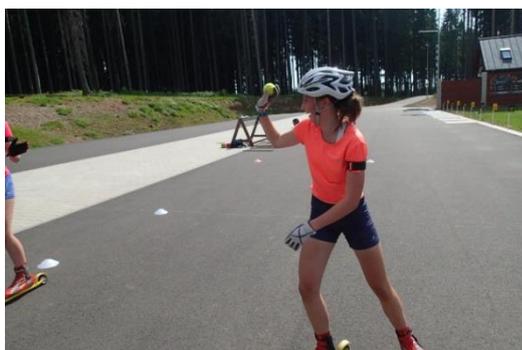


Figure 7: throwing the ball

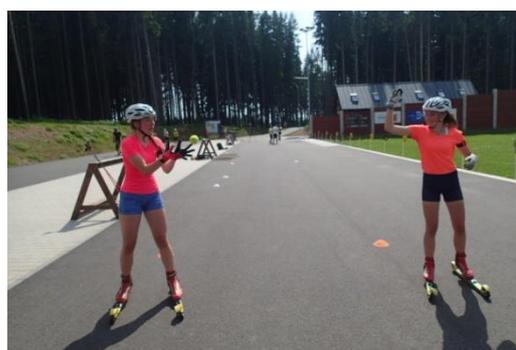


Figure 8: passing while riding

“Norwegian Meadow” (game for developing coordination)

Modified from Kołodziejczyk (1953) Nyomen et al. (2015), Nordahl (2017)

Objective: to complete the given track as fast as possible

Preparation time: 15 minutes

Duration: 30 minutes

Equipment: cones, balls, sticks, mat, rope

Description: A space of 50x15 m is divided up along the shorter side into equally wide corridors. Each corridor contains an obstacle. This could be riding backwards through a gate, riding on one ski, slalom, riding under obstacles, double-poling, going over obstacles, and rolling forward on a mat. The obstacles can be in any order. Sample (Figure 9).

Variant 1: sprint – a single-round individual race, a single-round doubles race (round robin + final race)

Variant 2: time trial of 3, 5, 8 minutes; skiers spread evenly over the track and can pass each other

Recommendation: Use a flat surface, or slightly downhill with a straightaway at the bottom, ideally on a large area (parking lot).

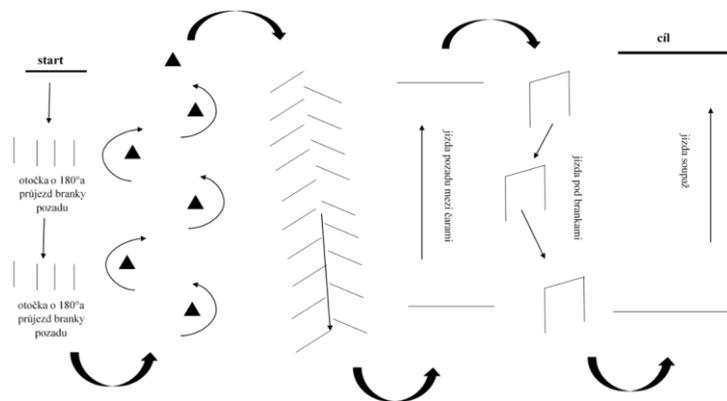


Figure 9: sample obstacle course

“Red and White” (game for developing speed)

Inspired by Brtník & Neuman (2008), Perič (2004)

Objective: to score as many points as possible

Preparation time: 2 minutes

Duration: 10 minutes

Equipment: cones, chalk

Description: A rectangular field is divided into two halves; 1-2 m from this centre line is a parallel line on each side, on which the two teams stand, kneel or do exercises at the coach’s instruction (a number of cones can be used to mark the lines). At regular or irregular intervals the coach calls out one of the team colours (Figure 10). The team that is called out immediately starts chasing the other team (Figure 11). The space for chasing is 20-30 m. However many players are caught by touching within that space, that is how many points the team gets. The team that has more points within the given limit wins.

Recommendation: sufficient space for the competitors to come to a stop; use a flat surface, ideally a large one (parking lot), without poles.



Figure 10: pairs waiting for the command



Figure 11: red chasing white

Dice Rides (game for developing speed)

Modified from Brtník & Neuman (2008), Neuman (2003) and Barth & Bruhl (2005)

Objective: to be faster than the other team

Preparation time: 2 minutes

Duration: 10 minutes

Equipment: cones, dice

Description: A circular or oval track is created. The children are divided up into two or more teams. Each team has one die (Figure 12). Before starting the track, each skier rolls the die (Figure 13). They have to complete the number of laps they rolled. The team that goes through all their players first wins.

Recommendation: Use a flat surface, ideally a large one (parking lot).



Figure 12: dividing into teams



Figure 13: rolling the die

Ski Football (modified sport game)

Inspired by Brtník & Neuman (2008)

Objective: to score more points than the other team

Preparation time: 2 minutes

Duration: 10 minutes

Equipment: cones, a football

Description: The game is played the same as classic football. The skiers take off one ski and their poles. An area of 30x15 m is marked out for the game, with the net made of cones. Goals cannot be higher than knee-level. The goalkeeper cannot catch the ball with their hands. The rules for throw-ins and potential dangerous behaviour are dealt with in the same way as in football.

Recommendation: Play only on one ski, with a normal shoe on the other foot (Figure 14); use a flat surface, ideally a large one (parking lot), without poles.



Figure 14: regular footwear on one foot



Figure 15: playing football on roller skis

DISCUSSION

Roller skis are an increasingly common component of training cross-country skiers. Over the last decade trainers of the “senior” child level have also begun incorporating them into training. When we look at the academic sector, there are many studies on the topic of roller skis for adult categories (Hladnik et al., 2018; Suchý & Kračmar, 2008). We did not find any with a focus on youth categories. Only a few

guides or methodologies marginally mention the positives of roller ski games (Brtník & Neuman, 2008; Neuman, 2003; Nyomen et al., 2015; Nordahl, 2017; Limby, 2013), but not one of them has been tested by anyone. We see this as a major shortcoming and a space for our work.

The selection of the method of unstructured interviews with a panel of experts would appear to be the simplest and most effective variant for this type of research. The original plan was much more extensive. At the start of work on the research we were planning to test the effectiveness of all the games and activities on a group of young athletes through a battery of tests. This ended up proving to be unrealistic for reasons of time. For this reason in the second phase of planning we came up with a panel of experts that would monitor the training sessions containing the games and activities from the set. The availability of the panel members and the great number of activities and games, which would have to be conducted over several months, ended up ruling out this variant as well. For this reason we selected the method described above of guided unstructured interviews with a panel of experts. We are of the opinion that in this manner the panel of experts could consider much more the purpose and effectiveness of each game and activity. On the basis of their long years of coaching practice we expect that the other aspects (safety and the descriptions of the individual games and activities) have been assessed with greater quality than would be the case during direct observation.

A considerable part of the interview with the experts dealt with safety. The panel of experts set this as a priority in the roller ski games. So aside from reading over the description of the games and activities, the discussion with the panel of experts produced many safety adjustments. One of them is conducting the games on a single ski. This slows down the whole game and increases the ease of movement, because stopping at full speed on roller skis is practically impossible. Another recommendation was added to this measure, specifically that the participants make use of classic footwear instead of ski boots. Additional advantages of using a single ski (improving feeling when skidding, increasing the skier's faith in the material, and developing balance) have been described by many authors (for example: Nordahl, 2017; Limby, 2013; Ilavský, 2005; Smith et al., 2009). Another safety measure arising from the panel of experts is limiting the number of players on the field. In this case it depends on the size of the field, which differs from space to space. Each coach should thus have sufficient experience and estimate a safe boundary. The last two measures from the panel of experts were leaving out poles during the contact games (relays, modified sports games). During lack of attention the pole could stab any part of the body. Most frequently this is the thigh, but there are also known cases of stab wounds in the face. For this reason we recommend abiding by the international rules for roller ski races (Rules for Rollerski World Cup, 2016) and run all the games with glasses or ski goggles. The absence of poles can also have a positive impact on technique. Many international handbooks (Limby, 2013; Nyomen et al., 2015) also take this opinion. For this reason we would recommend, in consensus with the panel of experts, completing as many games and activities as possible without poles.